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LIFE SKILLS AND CITIZENSHIP EDUCATION

ASSESSMENT INSTRUMENTS

Field Trial Report | March 2026

IEA

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NFER International

LIFE SKILLS AND CITIZENSHIP EDUCATION

ASSESSMENT INSTRUMENTS

FIELD TRIAL REPORT | March 2026

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Partners

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Acknowledgement

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Institutional development
This report was supported by the UNICEF Middle East and North Africa Regional Office (MENARO) and developed by the International Association for the Evaluation of Educational Achievement (IEA), Hamburg, Germany; the University of Roehampton, London, United Kingdom; and the National Foundation for Educational Research (NFER), Slough, United Kingdom.

The authors would like to acknowledge the valuable technical contributions, reviews and feedback provided throughout the development of this report, which strengthened its analytical rigor and relevance. Reviewers and contributors from UNICEF include Álvaro Fortin, Aferdita Spahiu, Brenda Haiplik, Manuel Cardoso, Bassem Nasir, Alberto Biancoli and Momo Duehring.

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Suggested Citation:
Afana, Y., Hoskins, B., Carrasco, D., Liaw, Y.-L., Romero, M., Savaşcı-Smith, D., Wild, J., Chen, M., Rozman, M., Tieck, S., Waschk, A., Kuhn, L., Brill, F., Griffin, H., & MacGregor-Stubbs, M. (2026). Life Skills and Citizenship Education Initiative – Assessment Instruments: Field Trial Report. UNICEF, Amman.

ACRONYMS

CFA	Confirmatory factor analysis
CFI	Comparative fit index
CST	Cognitive skills test
DIF	Differential item functioning
DME	Data management expert
GPCM	General partial credit model
GRM	Graded response model
ICCS	International civic and citizenship education study
ICILS	International computer and information literacy study
IEA	International association for the evaluation of educational achievement
IIC	Item information curve
ILSAs	International large-scale assessments
IQR	Interquartile range
IRT	Item-response theory
ISC	International study center
ISCED	International standard classification in education
LSA	LSCE student assessment database
LSCE	Life skills and citizenship education
LSG	LSCE student background database

MENA	Middle East and North Africa
NAFs	National adaptation forms
NFER	National foundation for educational research
NRCs	National research coordinators
OECD	Organization for economic cooperation and development
PIRLS	Progress in international reading literacy study
PISA	Programme for international student assessment
RMSEA	Root mean square approximation
SEA-PLM	South-East Asia – primary learning met
SJT	Situational judgement task
SME	Subject matter expert
SRMSR	Standardized root mean square residual
STF	Student tracking forms
TIMSS	Trends in international mathematics and science study
TLI	Tucker-Lewis index
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
W3ST	Within school sampling and student tracking



EXECUTIVE SUMMARY

Developing measures of twenty-first-century life skills to support the redevelopment of the education system in the Middle East and North Africa region

The Life Skills and Citizenship Education (LSCE) initiative is a transformative, UNICEF-led programme aimed at enhancing educational outcomes, employment prospects and the civic engagement of young people in the Middle East and North Africa (MENA) region, by fostering the development of 12 twenty-first-century life skills. Recognizing the roles of measurement and assessment as key features of transforming the education system, UNICEF (in collaboration with the University of Roehampton, the International Association for the Evaluation of Educational Achievement [IEA] and the National Foundation for Educational Research [NFER]) developed 12 assessment instruments to measure the 12 life skills from the LSCE framework.

The ministries of education in the three champion countries of Egypt, the State of Palestine and Tunisia, along with researchers in these countries, played an important role in facilitating and contextualizing the research, and undertaking the data collection.

The life skills instruments aim to support countries in the MENA region to inform education reforms and target interventions, by enabling them to assess – in Grade 7 or Grade 8 – the level and distributions of these life skills across the school population.

To build these measurement instruments, the LSCE measurement team adopted a two-phase field trial approach.

- **Phase 1** (field trial in 2019) focused on developing and trialing assessment instruments for nine of the twelve life skills: creativity, problem solving, negotiation, decision-making, self-management, communication, respect for diversity, empathy and participation. While eight of the nine assessments functioned well and yielded high-quality measurement characteristics, the assessment for communication did not.

- **Phase 2** (field trial in 2024) built upon phase 1 by developing measurement instruments for the remaining three life skills: critical thinking, cooperation and resilience, and by creating a revised measurement instrument for communication, thereafter called (remaining four skills).

The development of these assessment instruments involved a rigorous process, including:

- Defining assessable domains for each skill based on the 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) and the 'Measuring Life Skills in the Context of the Life Skills and Citizenship Education in the Middle East and North Africa' (Hoskins and Liyuan Liu, 2019).
- Conducting rapid reviews of existing measurement tools to identify potentially usable items, acknowledging that many existing measures were developed in Western contexts for adolescents and adults and may not be directly applicable to the MENA region.
- Adapting existing items for linguistic, cultural or age-related appropriateness and developing new items, including innovative situational judgement tests (SJTs), alongside self-reporting items, to provide a broader range of assessment formats.
- Organizing items into blocks and booklets for administration in the field trials.
- Developing and piloting sufficient numbers of items (60 per skill) for the remaining four skills (critical thinking, cooperation, resilience and communication) that can be field trialed. In 2022, IEA and NFER developed these items for the remaining LSCE and piloted them using an interpretive method, by collecting information from students, to improve the quality of newly developed materials. This information was used to assess, as far as possible, how these new materials could be expected to relate to the measures for the existing eight skills (in phase 1). The collected information focused on the students' understanding, identifying potentially confusing contexts and scenarios, and assessing potentially different interpretations of items, along with challenges concerning reading ability and related misunderstandings. Piloting these new items directly with students has the specific aim and rationale to address the above-mentioned needs to reduce the risk of poor psychometric properties in the future field trial.

The field trials (both phases) in Egypt, Tunisia and the State of Palestine allowed for the testing of the developed items and instruments with seventh- and eighth-grade students (12–14-year-olds). The data collected were then subjected to a comprehensive statistical analysis to evaluate the performance of individual items and then the overall instrument.

The item selection process was guided by principles of good assessment, combining statistical information with expert review to ensure the reliability and validity of the final instruments. Thirty items for each life skill were selected from the 45 trialed for each of the 12 life skills final instruments.

Innovation

The main innovations of the LSCE measurement instruments are:

- Use of SJTs: A key innovation was the inclusion of SJT items. SJTs were chosen as they were believed to have the potential to mitigate response biases that are often associated with self-reporting measures, and to better account for cultural differences, compared with cognitive skills tests. They also offered a way to target hard-to-measure behavioral constructs such as communication. The LSCE initiative represents one of the broadest suites of instruments in this conceptual area to have been piloted regionally or internationally, which included SJTs.
- Focus on the MENA region: The instruments were specifically developed and adapted for the MENA context. This involved considering cultural appropriateness and building new items, as existing measures had often been developed in Western contexts.
- The innovation between phases one and two was the introduction of focus group discussions with students to validate content relevance and students' understanding of the assessment items.

  This occurred after the initial development of items for the remaining four life skills in phase 2 (critical thinking, cooperation, resilience and communication) and helped improve the quality of these instruments.

The 12 LSCE instruments will enable ministries of education in the MENA region to gather system-level data on the distribution of life skills in the student population. These data, collected using the LSCE measurement instruments, will help to inform the development and evaluation of policies and interventions aimed at enhancing these crucial twenty-first-century skills among young people in the MENA region. By leveraging the findings when applying the LSCE measurement instruments, policymakers can make evidence-based decisions to strengthen education systems and equip young people in the MENA region with the essential life skills for a successful and engaged future.

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1. INTRODUCTION

INTRODUCTION

1

Since 2018, UNICEF, in collaboration with the University of Roehampton, the International Association for the Evaluation of Educational Achievement (IEA) and the National Foundation for Educational Research (NFER) (hereafter referred to as UNICEF and partners) have developed 12 assessment instruments to measure the 12 life skills of the Life Skills and Citizenship Education (LSCE) framework. The aim of the LSCE project is to produce open-source assessments for all 12 skills which countries can use to help develop the twenty-first-century skills of their young people and identify where interventions are needed. While eight of the nine assessments functioned well in the first field trial (phase 1, 2019) and yielded high-quality measurement characteristics, the ninth – the measure of communication – did not function well in terms of psychometric properties and scale coherence.

In late 2022, UNICEF and partners started developing measurement materials for the remaining three life skills – critical thinking, cooperation and resilience – and new measurement materials for communication. Later on (in 2024), UNICEF and partners developed and implemented the second-phase field trial of the LSCE assessment (phase 2, 2024).

The LSCE assessment, in both phases, targets one age group (12–14-year-old students), equivalent to children in the first grades of lower secondary school (Grade 7 or Grade 8). The field trials were implemented in Egypt, the State of Palestine and Tunisia.

The LSCE assessment instruments comprised different assessment items covering life skills in the domains of learning, employability, personal empowerment and active citizenship. The assessment was supplemented by a student questionnaire related to life skills and citizenship education, and the assessed students' perceived skills.

This report presents the proposed assessment strategies for the two LSCE phases of work by UNICEF and partners for building the items of the remaining four LSCE skills and their field trial, as well as the complete final set of LSCE items for the 12 skills. It builds on the previous assessment strategies and outlines the methodology for the proposed LSCE development.

The report begins by outlining the goals of the LSCE study and then describes the work undertaken in the context of the field trials (phase 1 in 2019 and phase 2 in 2024). Further, the report outlines the item and scale analysis, and the item selection process. The final section of the report provides recommendations for the main study instruments.



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2. OVERVIEW OF THE LIFE SKILLS AND CITIZENSHIP EDUCATION INITIATIVE

OVERVIEW OF THE LIFE SKILLS AND CITIZENSHIP EDUCATION INITIATIVE

2

The Middle East and North Africa (MENA) LSCE initiative is a transformative programme that aims to have a wide-reaching impact on societies in the region, through improving educational outcomes, employment prospects and civic engagement.

The aim of this initiative is to support effective reforms in national education systems across the MENA region, through the development of twenty-first-century skills. The initiative grew from the need for a holistic, lifelong and rights-based vision of education to maximize the potential of all children and youth in the region. It is an approach that recognizes that learning is lifelong and happens through multiple pathways that may be formal, non-formal or informal.

The MENA region continues to face unprecedented challenges in learning, employment, social cohesion, political instability, conflict and lack of economic growth. There is a learning crisis across the region, with poorly performing education systems, rising youth unemployment and a breakdown in social cohesion giving rise to radicalization. Strained education systems in many MENA countries fail to provide young people with sufficient education to succeed in the workplace. While the reforms of the past 20 years have had positive impacts in improving access to education and reducing the gender gap, there is still much to be done (UNICEF, 2017). Youth unemployment was 24.4 per cent in 2023, double the global average of 13 per cent.[1] It is this context that makes the LSCE initiative such a critical project. This chapter will provide an overview of the LSCE conceptual framework before outlining key challenges in the measurement of twenty-first-century skills, and a consideration of the innovations and design decisions taken in response to these challenges.

[1] International Labour Organization, 2024, <DOI: https://doi.org/10.54394/GFEA7064>.

2.1 LSCE CONCEPTUAL FRAMEWORK

The term 'twenty-first century skills' is a broadly used term applied to areas such as life skills, workforce skills, interpersonal skills, digital literacy and non-cognitive skills (Saavedra and Opfer, 2012), reflecting a lack of common understanding (Dede, 2007). These areas are variously referred to as 'transversal competencies', life skills' and 'twenty-first-century skills', and the increasing focus on these areas and their importance in education has been driven by recognition of the changing global context in which children are educated.

The LSCE framework draws upon the four 'pillars of learning' suggested in the Delors Report (UNESCO, 1996) and proposes four dimensions of learning that are interconnected; under which, 12 core life skills are clustered. The framework is the product of consultation aimed at understanding the twenty-first-century skills that are specific and appropriate to the MENA context.

The four dimensions of learning are defined as:

- Learning to know: This dimension addresses the development of the skills for learning creativity, critical thinking and problem solving. It encourages curiosity and an understanding of the wider world.
- Learning to do: This dimension addresses the development of skills for employability; namely, cooperation, negotiation and decision-making.
- Learning to be: This dimension is linked to self-fulfillment, personal growth and self-empowerment through the development of self-management, resilience and communication.
- Learning to live together: This dimension covers social cohesion and the development of active citizenship skills in the areas of respect for diversity, empathy and participation.

The precise configuration is set out visually in *Figure 2.1* below, followed by a more detailed description of each skill area.

Figure 2.1. LSCE conceptual framework



Source: UNICEF, *Reimagining life skills and citizenship education in the Middle East and North Africa: A four-dimensional and systems approach to 21st century skills,* **UNICEF, Amman, 2017, p.7.**

2.1.1 LEARNING: CREATIVITY

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines creativity as follows:

Creativity, or being creative, is the ability to generate, articulate or apply inventive ideas, techniques and perspectives (Ferrari, 2009), often in a collaborative environment (Lucas and Hanson, 2016). In conjunction with critical thinking and problem-solving skills, to which it closely relates, creativity is a major component of purposeful thinking, i.e., a non-chaotic, orderly and organized thought process. Further, being creative is, to a large extent, connected to the learners' cognitive abilities, including their analytic and evaluative skills (Sternberg, 2006). Ideational thought processes are fundamental to creative persons (Kozbelt et al., 2010) but creativity also intersects with social and personal management skills. Therefore, creativity, while also related to the arts, is a pre-condition to innovation and adaptive behaviors and solutions in all life settings, including in learning settings and in the workplace.

UNICEF, 2017, p. 46

2.1.2 LEARNING: CRITICAL THINKING

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **critical thinking** as follows:

Critical thinking is an instrumental and long-standing life skill conducive to academic achievement. By thinking critically, children, youth and all individuals learn to assess situations and assumptions, ask questions and develop various ways of thinking. Critical thinking is a 'meta-skill' through which one learns to think about thinking and develop purposeful thinking processes, such as being able to discern and evaluate whether an argument makes sense or not.

UNICEF, 2017, p. 48

2.1.3 LEARNING: PROBLEM-SOLVING

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **problem-solving** as follows:

A problem-solver has the ability to "think through steps that lead from a given state of affairs to a desired goal" (Barbey and Baralou, 2009). Another essential aspect of purposeful thinking, problem-solving is a high-order thinking process inter-related with other important life skills, such as critical thinking, analytical thinking, decision-making and creativity. More specifically, being able to solve problems implies a process of planning, i.e., the formulation of a method to attain the desired goal. Problem-solving begins with recognizing that a problematic situation exists and establishing an understanding of the nature of the situation. It requires the solver to identify the specific problem(s) to be solved, plan and carry out a solution, and monitor and evaluate progress throughout the activity.

UNICEF, 2017, p. 50

2.1.4 EMPLOYABILITY: COOPERATION

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **cooperation** as follows:

Cooperation, i.e., for an individual being cooperative and acting cooperatively, is the act or process of working together to get something done or to achieve a common purpose that is mutually beneficial (Tyler 2011). It can involve teamwork and active collaboration, which is a form of cooperation and is often used as a synonym. Cooperation is central to many activities in the everyday world encountered by children, youth and all learners in school, at home, at work, in the community, and at national and regional levels. Because cooperation is useful for problem solving and forms the basis for healthy social relationships, it is a core life skill directly related to family, social and political conflict management and resolution in MENA.

UNICEF, 2017, p. 52

2.1.5 EMPLOYABILITY: NEGOTIATION

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **negotiation** as follows:

In its simplest form, negotiation can be defined as a process of communication between at least two parties aimed at reaching agreements on their "perceived divergent interests" (Pruitt, 199). Therefore, while the core life skill 'negotiation' relates to a process, it translates into the ability of an individual to interactively and effectively partake in a negotiation process until its conclusion by and among others, respecting others while being assertive, being cooperative, using communication skills, showing leadership skills while being civil, saying no when one's wellbeing is threatened, etc.

UNICEF, 2017, p. 54

2.1.6 EMPLOYABILITY: DECISION-MAKING

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **decision-making** as follows:

Decision-making skills, or the ability to choose between two or more courses of action, relate to "one of the basic cognitive processes of human behavior by which a preferred option, or a course of action, is chosen from among a set of alternatives based on certain criteria" (Wang, 2007). Decision-making is used by all individuals on a daily basis, as they are regularly faced with situations in which they have to make a judgement about how best to proceed, and also when it is most appropriate to do so. Notably, decision-making has consequences on all individuals' wellbeing through the effects of the choices they make (WHO, 1997).

UNICEF, 2017, p. 56

2.1.7 PERSONAL EMPOWERMENT: SELF-MANAGEMENT

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **self-management** as follows:

A core life skill, highlighted first in its Individual Dimension towards personal empowerment, self-management, or both self-managing and being self-managed, is the individual ability to regulate and monitor one's behaviors, emotions, feelings and impulses. Thus, it constitutes a broad category of related skills that include self-control, self-efficacy and self-awareness, as well as positive attitude, reliability, self-presentation and is strongly linked with the core life skill of resilience. These have wide applicability in all domains of life, from personal relationships at home to peer relationships at school and have been identified as common employability skills applicable to a range of jobs (Blades et al., 2012).

UNICEF, 2017, p. 58

2.1.8 PERSONAL EMPOWERMENT: RESILIENCE

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **resilience** as follows:

Consensus on the meaning of the term resilience has yet to emerge (UNESCO, 2015b), and that may be largely due to its recent broadened use, referring to contexts as varied in their intensity as coping with stress at work to the grave psychosocial impact of child abuse, extremism, violent conflict and displacement, in particular on children and youth. Because it is highly contextualized, being 'resilient' will have different levels of depth for the individual developing and/or displaying that core life skill, especially in MENA. In all cases, however, the life skill of resilience shall be understood, in general terms, as the constructive, personal ability to navigate changing circumstances successfully (American Psychological Association, 2010), thus beyond the restrictive understanding, according to which resilience is constrained to the capacity to survive, accept or resign oneself to an unacceptable situation.

Therefore, being resilient translates into individuals being actively engaged in the process, and in full consciousness, and not being merely passive, by (i) maintaining good mental health while enduring challenges and adversity from daily stressors, but also economic hardship, or terrorist attacks (Waugh et al., 2011) and (ii) "overcoming these challenges that have a negative impact on [one's] emotional and physical wellbeing" (UNESCO, 2017).

UNICEF, 2017, p. 60

2.1.9 PERSONAL EMPOWERMENT: COMMUNICATION

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework (UNICEF, 2017) defines **communication** as follows:

Communication, or being able to communicate, involves the sharing of meaning through the exchange of information and common understanding (Keyton, 2011; Lunenberg, 2010; Castells, 2009). It takes place in the context of social relationships (Schiller, 2007; Castells, 2009) between two or more individuals and is considered an interpersonal skill. While communication enables human interaction and participation in society, the prevalence of new technologies and social media, particularly among youth in MENA, indicates a strong human drive for social communication (Kuhl, 2011; Dennis et al., 2016).

UNICEF, 2017, p. 62

2.1.10 ACTIVE CITIZENSHIP: RESPECT FOR DIVERSITY

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **diversity** as follows:

... the concept of diversity means understanding that each individual is unique and recognizing each other's individual differences. These can be defined along the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other characteristics. Respect for diversity thus implies more than just tolerance, which is related to accepting differences passively, it means acknowledging and promoting the equal worth of people, without condescension.

UNICEF, 2017, p. 64

2.1.11 ACTIVE CITIZENSHIP: EMPATHY

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **empathy** as follows:

Empathy, or being empathetic, is "the ability to comprehend another's feelings and to re-experience them oneself" (Salovey and Mayer, 1990), while never being judgmental.

A key construct in social and developmental psychology as well as in cognitive and social neuroscience, the ability to empathize is important for promoting positive behaviors toward others and facilitating social interactions and relationships. Empathy is involved in the internalization of rules that can play a part in protecting others, and it may be the mechanism that motivates the desire to help others, even at a cost to oneself.

UNICEF, 2017, p. 66

2.1.12 ACTIVE CITIZENSHIP: PARTICIPATION

The 'Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017) defines **participation** as follows:

In its most basic sense, participation or being participative, can be defined as partaking in, and influencing, processes, decisions and activities (adapted from UNICEF, 2001). Therefore, both a contextualized process as well as a core life skill, participation is an action of empowerment in relation to the individual and the community. Consequently, being participative, which is interlinked with the core life skill of creativity, is the contrary to remaining passive at school, at work, and, above all, in society. More than being engaged, learners and individuals who are participative, especially in MENA, actively contribute to a democratic society, by the people, thus exercising their human rights.

UNICEF, 2017, p. 68

2.2 THE LSCE MEASUREMENT INSTRUMENTS

The decision makers who lead the education systems across the MENA region have implemented policy changes to improve educational outcomes for young people. The development of measurement instruments for the LSCE initiative aims to support this goal by facilitating an enhanced understanding of the current levels and distribution of life skills in populations. Further, these data will be used to inform the nature and scope of interventions and then monitor and evaluate their effectiveness. The tools are intended to be used at a system level, rather than to provide insight into an individual's mastery of the different life skills.

During the initial development of the assessment strategy and initial reflection on the format of the assessment instruments in preparation for the LSCE field trials, UNICEF and partners consulted with an advisory team of experts on the potential to include cognitive skills test (CST) items in the assessment, in addition to non-cognitive items. These were considered for the life skills of decision-making and problem-solving, in particular.

Upon reflection, the advisory experts advised excluding CSTs from the measurement instrument. This decision was based in part on the compatibility of situational judgement test (SJTs; an innovative item type) items with the conceptual framework. It was also based on practical considerations of the assessment; namely, that administering cognitive items would increase both the target assessment time and data administration costs through the introduction of multiple-response formats. A further concern was that any cognitive items would need to stand independent of the non-cognitive scales.

Studies in cross-cultural measurement indicate that SJTs may have better validity than CSTs, due to their greater ability to consider cultural differences and predict more variance (Koczwara et al., 2012). SJTs may also have higher levels of participant acceptance and accessibility, as evidence indicates that SJTs provoke more positive reactions among participants than CSTs (Koczwara et al., 2012), while being less inclined to create bias (Lievens et al., 2008).

The assessment instruments' precise specification is outlined in chapter 3. It is important to give due consideration to the innovation and ambition demonstrated by the LSCE initiative in attempting to develop instruments for these content areas. The next section will address this by considering the broader approaches and challenges in measuring transversal skills, before describing these innovations and some critical decisions taken regarding the instrument specification.

For the LSCE field trials, UNICEF and partners determined that a paper-based assessment was the only viable option under the time and resource restrictions stipulated by the project parameters.

2.2.1 Challenges in measuring non-cognitive skills

Despite the importance of life skills and citizenship education in determining life outcomes (Kautz et al., 2014), there have been few attempts to measure young people's abilities in these areas in comparative and international surveys (Chernyshenko et al., 2018). Some recent examples are exceptions. For example, the inclusion of global competence in the 2018 Programme for International Student Assessment (PISA) cycle, the inclusion of creative thinking in the 2022 PISA cycle, the study by the Organization for Economic Co-operation and Development (OECD) on social and emotional skills (2019, 2023), the global competence domain in South East Asia – Primary Learning Metrics and the IEA's International Civic and Citizenship Education Study (ICCS). However, these examples also demonstrate a continuing trend of growing global interest in this area.

The cross-cultural validity of measurement instruments is a vital factor in developing robust assessment tools for comparative purposes (Ercikan and Oliveri, 2016), particularly the extent to which different populations have a shared understanding of the concepts being measured and display these attributes in similar manners (Ercikan and Oliveri, 2016). This may manifest in three types of bias in cross-cultural studies: construct, method and item (van de Vijver and Tanzer, 2004); with non-cognitive measurements performing differently across regions and countries (Rutkowski and Rutkowski, 2018).

Construct bias, in the context of this assessment, refers to a disparity in the conceptualization of the construct being measured by an instrument across cultures. For the measurement of twenty-first-century skills, such as creativity and communication, a mutually shared understanding of these areas is required to avoid inferences from biased scores. For example, cultures may have different views on the appropriateness of certain communication strategies and styles, or their conceptualizations of how creativity manifests itself in behaviors.

Method bias refers to the influence that methodological choices may exert on the findings in a cross-cultural study, and may be generated by characteristics of measurement instruments (He and Van de Vijver, 2013). This may be a result of stimulus materials included in the assessment, response modes, response formats and response styles. Response styles – or the tendency to respond to items systematically, irrespective of content (Baumgartner and Steenkamp, 2001) – presents a particular challenge when the response format is a Likert scale (Harzing, 2006) that may be prone to extreme response style, acquiescent responding and socially desirable responding, leading to cross-cultural variance (Johnson et al., 2005; Harzing, 2006). In responding to an item such as "I feel sorry for someone who is treated unfairly", an individual may see this as a desirable or undesirable response in their society and respond accordingly. Individuals displaying acquiescent response bias would show a greater tendency to agree with items, even if that did not reflect the true picture.

Item bias, which may be detected by differential item functioning (DIF), occurs when an item is interpreted differently by distinct groups, thereby favoring certain groups over others. In other words, certain groups may appear to exhibit high levels of the latent trait measured by the item over other groups, when no difference exists. Rather, the difference is due to

some factor outside the latent trait. Item bias may be caused by linguistic characteristics or translation issues and cultural differences that impact on an item's content or accessibility. This may occur, for example, when an item is in an unfamiliar context, in a particular country or contains references to experiences that would be unfamiliar to respondents from a particular population.

2.3 INNOVATION AND ITEM TYPES

In addressing the challenges set out above – and constraints regarding budgets, technology and infrastructure – the LSCE measurement instruments embraced several innovations in life skills' measurement in an attempt to produce a robust set of valid and reliable instruments. First, across both phases of the LSCE field trials, they combine two distinct areas (life skills and citizenship education) in a single set of measurement instruments produced specifically for the MENA region. Second, they offer an integration of existing measures with newly created items including SJTs that, as outlined below, have the potential to mitigate response biases. Finally, to the authors' knowledge at the time of writing, they comprise the broadest suite of instruments in this conceptual area to have been piloted on a regional or international basis.

The LSCE measurements followed a robust rapid review of existing measurements to assess their suitability for inclusion. These measures were predominantly developed in Western contexts for adolescents and adults. They also frequently draw on frameworks linked to the 'Big Five' (Costa and McRae, 1992; John and Srivastava, 1999), which is a five-factor model representing personality structure dimensionally, and covers the five personality factors of neuroticism, extraversion, openness, agreeableness and conscientiousness. It could not be assumed that these instruments would function well in a new context (He and Van de Vijver, 2013). Therefore, some existing measures were adopted as-is, following expert and cultural review; some existing measures were adapted with small modifications due to linguistic, cultural or age-related concerns and these were both supplemented with newly created items to assemble pilot instruments of 45 items per skill area.

Most of the existing measurements were Likert-scale self-reporting items, as is common in this type of measurement instrument. The advantages of these items include their ease of administration and cost, familiarity and the ability to efficiently gather a large amount of data. However, as noted above, there are concerns around the susceptibility of Likert scale self-reporting items to various forms of bias (social desirability, extremity scores and acquiescent responses). While open-ended response items and performance assessments (including collaboration) were outside the scope of the assessment specification, consideration was given to the potential shortcomings of self-reporting items, with three alternative item formats deliberated over: SJTs, anchoring vignettes and forced-choice items.

SJTs are based upon short situational descriptions in which respondents are tasked with selecting response options that typically involve either ranking courses of action or rating their

effectiveness (Herde et al., 2019). SJTs have been used widely in employment and personnel selection procedures since the 1950s, including for medical admissions testing, although their development for the measurement of twenty-first-century skills has been more recent. They differ from self-reporting items in that they assess procedural knowledge and measure the operationalization of a skill (Lievens, 2017). There is some evidence that they reduce the effect of social desirability bias (see e.g., Kanning and Kuhne, 2006), although this is a nascent field of study (Kaminski et al., 2019). Additional benefits of SJTs include their ability to target hard-to-measure constructs and their high predictive validity (Kyllonen, 2012).

Figure 2.2. Example of a situational judgement test from PISA 2012 (OECD, 2014, p. 369)

Q Suppose that you have been sending text messages from your mobile phone for several weeks. Today, however, you can't send text messages. You want to try to solve the problem.

What would you do? For each suggestion, tick the option that best applies to you.

(Please tick only one box in each row.)

	I would definitely do this	*I would probably do this*	*I would probably not do this*	*I would definitely not do this*
a) I press every button possible to find out what is wrong.	☐ 1	☐ 2	☐ 3	☐ 4
b) I think about what might have caused the problem and what I can do to solve it.	☐ 1	☐ 2	☐ 3	☐ 4
c) I read the manual.	☐ 1	☐ 2	☐ 3	☐ 4
d) I ask a friend for help.	☐ 1	☐ 2	☐ 3	☐ 4

Anchoring vignettes are developed to address the impact of ordinal response categories' subjectivity (e.g., [1] strongly agree, [2] agree, [3] disagree, [4] strongly disagree) (King and Wand, 2007). It is noted that individuals may understand and apply these categories differently, and this effect can be amplified in cross-cultural studies (Hopkins and King, 2010). To counterbalance this, anchoring vignettes ask respondents to rate hypothetical situations or individuals, which are then used to anchor the respondents' ratings and reveal interpersonal incomparability (Hopkins and King, 2010).

Figure 2.3. Example of an anchoring vignette (Primi et al., 2016, p. 40)

1. Low

Aline leaves her belongings in a mess, hates cleaning the house, and usually doesn't complete her homework.

How organized do you think is Aline?

1 = Not at all	2 = A little	3 = Moderately	4 = Very much	5 = Completely

2. Average

Manuela has a good sense for order but sometimes she leaves her room messy for a couple of days. She tends to complete school assignments just in time for the due date.

How organized do you think is Manuela?

1 = Not at all	2 = A little	3 = Moderately	4 = Very much	5 = Completely

3. High

Juliana is very careful and dedicated. She regularly cleans her room, is careful in her homework, and always finishes it well before the deadline.

How organized do you think is Juliana?

1 = Not at all	2 = A little	3 = Moderately	4 = Very much	5 = Completely

Forced-choice items are a series of items that direct respondents to make dichotomous choices, rather than applying a Likert-style response format. Forced-choice items have been demonstrated to produce similar results to anchoring vignettes and improve cross-country correlations in large-scale assessments (Kyllonen and Bertling, 2013).

Figure 2.4. Example of a forced-choice item from PISA 2012 (OECD, 2014, p. 370)

Q **For each pair of statements, please choose the item that best describes you.**

e) *Please tick only one of the following two boxes.*

☐	1 I am planning on pursuing a career that involves a lot of mathemetics	☐	2 I am planning on pursuing a career that involves a lot of science

For the purposes of the overall LSCE measurement instruments, it was decided that the focus would be on developing SJTs. Forced-choice items offer the potential to mitigate biases and response styles, yet they require an increase in reading load and typically create longer instruments. Anchoring vignettes are presented in parts of the literature as a gold standard (e.g., Hopkins and King, 2010); yet, they rely on two assumptions: first, that respondents interpret the vignettes in the same way (vignette equivalency) and, second, that they then respond in the same manner (response consistency). There is a lack of evidence for these assumptions (He et al., 2017), and there is limited research into the impact of vignette wording and how to produce valid vignettes (Grol-Prokopczyk, 2018). Anecdotal evidence from the advisory experts also suggested that anchoring vignettes would require significant development time and extensive piloting. While SJTs raise concerns over literacy load and have similar issues with equivalency to vignettes, they also offer scope to target hard-to-measure constructs in behavioral areas such as communication. For these reasons, UNICEF and partners felt that this would be a more innovative approach, while also presenting a varied and more stimulating experience for the participants. While there were concerns regarding the ease of developing accessible and relevant scenarios for the MENA countries, this was somewhat assuaged by the relative homogeneity of the MENA region. In sum, it was felt that the potential benefits of SJTs in complementing self-reporting items, measuring difficult attributes and constructs, and providing potential for innovation outweighed the benefits offered by forced-choice items and anchoring vignettes. A final consideration was the potential future development of the LSCE instruments into a computer-based format, in which SJTs would offer greater potential for the use of multi-modal stimuli, such as video content.

2.3.1 Development Of Situational Judgement Test Items

SJTs were first widely used in occupational assessments such as military and medical admissions testing, before spreading into commercial human-resource fields. They have only recently been considered in the field of cross-cultural research and comparative studies.

SJTs vary in terms of their characteristics, according to their purpose and development; specifically, item fidelity, stem length, stem complexity, nested stems, response instructions and response formats. Throughout the LSCE instrument development, the developers have endeavored to maintain consistency in the SJTs, while allowing for some variation to identify and confirm hypotheses prevalent in the literature, informing future development (e.g., the effect of different grammatical modalities in response formats).

The typical method for developing SJTs and associated scoring rubrics is through subject matter experts (SMEs) and critical incidents. Critical incidents are situations shared by SMEs or, in the case of workplace assessments, incumbents of similar work positions. These take the form of narrative stories that describe situations encountered in the assessment domain, which test developers review to serve as scenario stems for the SJTs. Once the situational stems are identified, associated potential response items are generated, and appropriate and inappropriate responses are identified. Various and more detailed descriptions of the process of generating and utilizing critical incidents are presented in the literature (e.g., Lievens and Motowidlo, 2016).

The LSCE instrument development process deviated from the traditional method of developing SJTs, as outlined above, due to a combination of factors. First, the use of SJTs in cross-cultural research differs from that in admissions selection and it is challenging to arrive at a critical incident that is relevant across cultures and has a desired outcome. Second, the development of SJT items through a critical incident approach would require the input of a wide range of SMEs or those with experience of incidents in the MENA region relevant to the measurement domains. This would have proven challenging, given the construction of the measurement instruments, timelines and budgets. Finally, the desire to develop SJTs that would retain validity across a range of populations suggest moving away from an SME and critical incident-based development approach towards one more rooted in the conceptualization of the LSCE measurement constructs (see below).

2.3.2 Limitations Of Situational Judgement Test Items

Due to their highly contextualized nature, SJTs risk creating construct bias or a lack of equivalence when utilized across cultures (Lievens, 2006). To some extent, this is minimized when considering the use of SJTs across homogenous regions, but it remains a concern. Indeed, it is noticeable that some SJT items in the LSCE field trials displayed significant measurement invariance, suggesting that not all scenarios were generalizable and culturally relevant.

The literature suggests that SJTs may also be prone to faking and coaching effects, whereby participants are able to identify a desirable answer (Lievens et al., 2008). This is a weakness common to a range of item types and is more associated with the use of SJTs in, for example, medical admissions testing than cross-cultural research. One suggested mitigation is to reduce SJT contextualization and focus on construct-driven SJTs (Lievens, 2017), which is thought to also increase the equivalence of SJTs across multiple populations (Lievens, 2006). As noted previously, the LSCE study minimized the contextualization of SJT scenarios to reduce literacy load and relied on input from psychologists and cross-cultural measurement experts rather than SMEs; both of which are indicative of a construct-driven, rather than traditional approach to SJT development (Guenole et al., 2017).

2.4 CONCLUDING REMARKS

This chapter has provided a brief overview of the LSCE measurement instruments, outlined some of the challenges faced in measuring twenty-first-century skills across cultures, and presented considerations that influenced the assessment specification and inclusion of different item types. It is important to acknowledge that this is an area of growing interest and debate, although examples of measures being developed and utilized for cross-cultural purposes remain rare. As such, the inclusion of SJT items should not be viewed as a panacea or silver bullet for the shortcomings of self-reporting, and analysis from the first phase field trial suggests that SJTs do not always perform better than self-reporting and not all SJTs functioned to the required technical standards. This may be linked to the content or complexity of the life skills being measured and suggests that they may require further development. The assessment specification will be described in greater detail in the following chapters, along with the processes for data collection, analysis and item selection before final instrument recommendations are presented.

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3. INSTRUMENT DEVELOPMENT

INSTRUMENT DEVELOPMENT

3

A key NFER task in this project was developing the instruments measuring the life skills in the conceptual and programmatic framework (UNICEF, 2017) to produce an assessment that would provide a reliable and valid picture of these skills in seventh- and eighth-graders (12–14-year-olds) in the MENA region, which were to be tested in two field trials (i.e., phase 1 administered in 2019 and phase 2 administered in 2024). Instruments for nine skills were developed to be tested in phase 1 (creativity, problem-solving, negotiation, decision-making, self-management, respect for diversity, empathy, participation, communication). Of these, one needed to be redeveloped (communication). Phase 2 tested instruments for the three remaining skills (critical thinking, cooperation, resilience) and assessed a new version of the instrument that produced unsatisfactory results in phase 1 (communication). The overall aim was to create a reliable and valid survey of the 12 life skills, to be made available as an open-source assessment to the MENA countries.

The assessable domains and the assessment instruments were comprehensively reviewed with a view to inform their development for inclusion in the field trials. This review included:

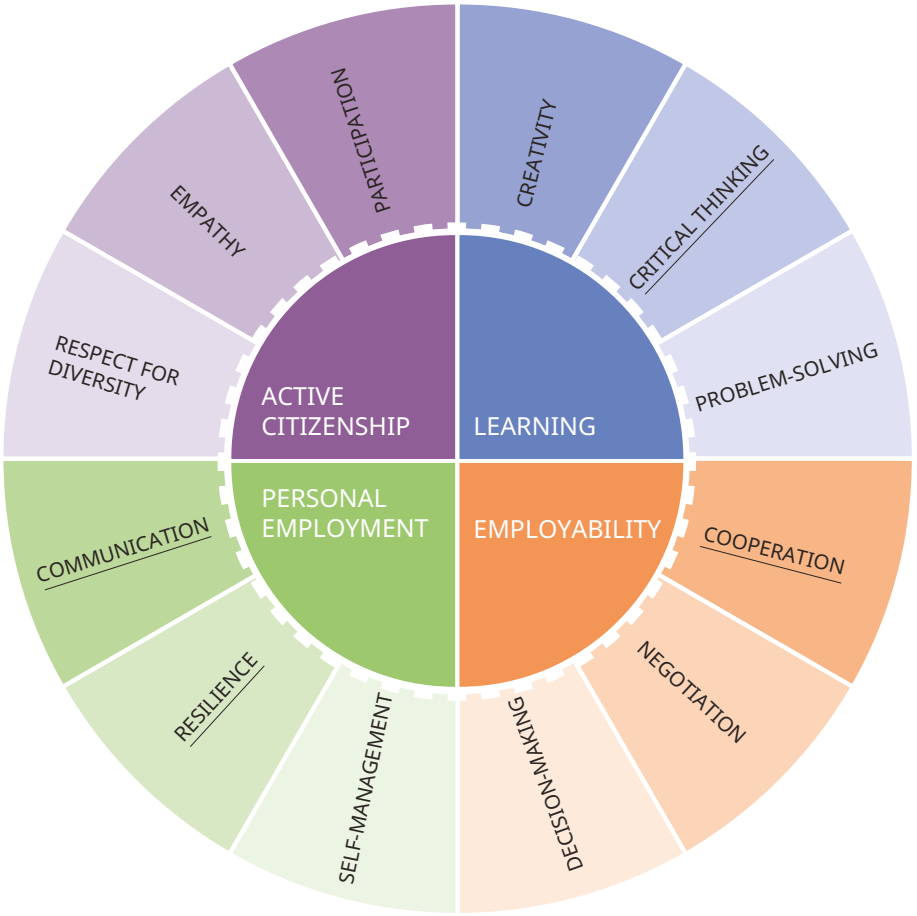
- A review of relevant literature, including Rubin and Martin's interpersonal communicative competence scale (1994);
- Further critical evaluation by the instrument development teams of the characteristics of the communication items; and
- A piloting phase (using a focus-group discussion and interviewing students to collect interpretive feedback from a convenience sample of students responding to 60 items) to select the best 45 items (of the remaining four skills) for the second phase of the LSCE field trial.

Additionally, in phase 2, a report of the results obtained for the communication skills instrument administered in phase 1 (Carrasco et al., 2020) was considered. This report was based on a secondary analysis of the data from the first phase field trial to determine whether it was possible to use the first phase communication instrument to generate a single communication score.

The instruments were to be developed from both new and existing materials. Additionally, in phase 2, a report of the results obtained for the communication skills instrument administered in phase 1 (Carrasco et al., 2020) was considered. This report was based on a secondary analysis of the data from the first phase field trial to determine whether it was possible to use the first phase communication instrument to generate a single communication score.

Figure 3.1 below shows the 12 core life skills divided by the four domains of learning and their distribution, according to the phase in which they were tested (note, underlined life skills were field trialed in phase 2, except for communication, which was field trialed in both).

Figure 3.1. Life skills and domains of learning assessed in the LSCE field trials



3.1 DETAILED INSTRUMENT SPECIFICATION

Population to be assessed:

- The assessment targets one age group (12–14-year-old students), equivalent to children in the first grades of lower secondary school (Grade 7 in phase 1, and Grade 8 in phase 2). The target population of children in the LSCE field trials was selected from Egypt, the State of Palestine and Tunisia. More detailed information about the LSCE target population will be presented in the sampling sections, later in this report.

Language of assessment:

- The assessments must be translated into Arabic and other MENA regional languages as required.

Assessment and item scope:

- The assessments must be easy to administer with clear administrational instructions, thereby ensuring no bias by different administrators or in different schools and countries.
- The assessments must be easy to mark without subjectivity, which may affect item reliability and validity.
- The assessment items need to cover the agreed 12 skill areas.
- For each of the skill areas, the items need to assess non-cognitive constructs.
- The assessment items should be designed to capture the multidimensional nature of life skills, rather than focusing on a single or small subset of dimensions, constructs or traits.

Quantity, format and type of items:

- A total of 45 items per skill area needs to be generated to take to trial, to achieve 30 items per skill area post-trial based upon an anticipated attrition rate of 33 per cent.
- The cognitive and reading load needs to be reasonable and accessible for the population to be assessed.
- The context of each item must be appropriate for the region and pupil age.
- The items will be designed as pencil-and-paper assessments.
- The items will be closed-response types.
- The item formats should vary (e.g., multiple choice and rating scales).
- Items may be self-reporting, scenario-based and other forms. However, to maintain methodological rigor and accuracy for scaling, item formats must remain consistent in a particular skill area (i.e., a skill area can contain only one item format).

Other instruments to be developed for the field trial:

- A student background contextual questionnaire (self-reporting questionnaire).

Grouping of assessment items for field trial design:

- For trialing purposes, the items need to be broken down into blocks of 15 + 15 + 15 (15 minutes per 15 items).
- In the field trial, the assessments will be administered in two sessions of 30 minutes each. This is the total allotted time for the assessment booklet and student questionnaire.

As can be seen, a fairly high attrition rate of 33 per cent was allowed. From a statistical perspective, it was considered that 30 items per life skill would be needed for the main study to ensure sufficient coverage and depth for each life skill. The items must have sufficient balance and distribution across each assessable domain, while fewer than 30 items would result in a risk to final assessment quality and validity. Since assessing life skills is a relatively new area, and many of the items will be written specifically for these assessments and not previously tested, it was important to allow for a fairly high attrition rate. The SJTs are also novel, innovative items with performance unknowns in a field trial. It was recommended that 45 items should be developed per life skill area for field trial testing, to ensure at least 30 items per life skill can be put forward for the main study with sufficient balance and coverage across each assessable domain.

Table 3.1 below provides a summary of the four life skill areas to be assessed and the number of items to be developed. It also shows how the items were grouped together in blocks of 15 to be used to form the booklets, so students could be assessed on several life skill areas.

Table 3.1. Summary of developed materials in LSCE field trials

Dimensions of learning	Core life skills: The 4 skill areas	Number of items required for field trial	Item block 1: 15 items	Item block 2: 15 items	Item block 3: 15 items
LSCE first phase field trial (2019)					
Learning	Creativity	45	CRE1	CRE2	CRE3
	Problem-solving	45	PRO1	PRO2	PRO3
Employability	Negotiation	45	NEG1	NEG2	NEG3
	Decision-making	45	DEC1	DEC2	DEC3
Personal empowerment	Self-management	45	SEL1	SEL2	SEL3
	Communication	45	COM1	COM2	COM3
Active citizenship	Respect for diversity	45	DIV1	DIV2	DIV3
	Empathy	45	EMP1	EMP2	EMP3
	Participation	45	PAR1	PAR2	PAR3
Phase 1 total items		*405*			
LSCE second phase field trial (2024)					
Learning	Critical thinking	45	CRT1	CRT2	CRT3
Employability	Cooperation	45	COP1	COP2	COP3
Personal empowerment	Resilience	45	RES1	RES2	RES3
	Communication	45	COM1	COM2	COM3
Phase 2 total items		*180*			

3.2 DEVELOPING THE ASSESSABLE DOMAINS

The first part of the process for developing the instruments was to develop the assessable domains. The purpose of an assessable domain is to ensure all items are developed in line with rigorous test-development principles. For each of the four life skills to be assessed, a series of statements was developed covering the breadth of the life skill as described in the relevant conceptual domain found in 'Reimaging Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework' (UNICEF, 2017). These statements make up the assessable domain, which informed the scope and parameters for the items to be written, those taken from existing instruments, or items adapted from exis¬¬ting instruments. The number of statements developed for each life skill was dependent on ensuring breadth of coverage to adequately assess the life skill, which meant there could be different numbers of statements per assessable domain of each life skill.

In the conceptual and programmatic framework, the starting point for each life skill area was the sections 'definitions and components' and 'relevance in MENA'. These provided a comprehensive definition for each life skill area.

To develop the assessable domains, the concepts and skills that needed to be covered under each life skill were identified, as well as the areas that could not be covered in this assessment; the latter were not included in the assessable domain. These were areas outside the given assessment specification, such as evaluating spoken language or compositional text. The specification is for closed-response items that are easy to mark and, therefore, skills such as expressing a reasoned argument orally or in writing cannot be covered by a closed-response item on a paper assessment. This does not lessen the importance of these skills, but it takes them out of the equation for an assessable domain for this type of assessment. In this example, another mode of assessment, such as a group debate or extended writing, would be required.

The assessable domains set out the concepts and skills from the conceptual and programmatic framework assessable in the assessment specification. The 45 items developed for each skill area assess a breadth and balance of content within the given domain; in assessment terms, it represents a 'sampling' of the constructs underlying that domain.

After the first drafts of the assessable domains were written, they were reviewed and revised by experts in the field of each life skill. The items chosen from existing materials for each life skill were then mapped to the statements in the assessable domains, as described in the following sections. The domains then underwent a further review against the items to make final adjustments to the language and to ensure fitness for purpose.

3.3 REVIEW OF EXISTING INSTRUMENTS

In the first phase of LSCE field trial, the nine life skill areas to be assessed were chosen as they all had some existing materials that had the potential to be used for this assessment. The assumption was that around 60 per cent of materials would be derived from existing assessments, and 40 per cent would be written specifically for these assessments. Prior to any item writing, it was therefore essential to start by reviewing the existing materials.

The instruments considered for review were those listed in the LSCE draft review papers that were provided to NFER by Professor Bryony Hoskins. Each review paper included a table of measurement instruments that were shortlisted in terms of their overall suitability for the purposes of the 'Life Skills and Citizenship Education Initiative in MENA'.

In order to conduct the review, NFER considered the suitability of the available shortlisted materials in relation to the assessment specification. A judgement was made as to whether a given assessment item might be: (1) suitable without adaptation, (2) suitable with adaptation, or (3) unsuitable for use in this assessment. It is important to note that material in category (3) may, in fact, be of high quality and useful within other assessment settings and contexts; we are not making a judgement about its inherent worth.

In methodological terms, we followed the rapid review procedure in both LSCE phases. As mentioned earlier, the communication items did not 'collectively' function adequately in the phase 1 field trial. Based on the conclusions of the field trial analysis in phase 1 (2019), it was decided that further development of communication items should be included in phase 2, informed by a review of the trialed items alongside the psychometric information, and further review of the cultural contexts in which the assessments will be used. *Figure 3.2* below shows the procedure for the rapid review and the criteria for suitability for inclusion.

The four life skill areas to be assessed in phase 2 (three newly developed skill areas for phase 2, and one redeveloped skill area) all had some existing materials with potential to be used for this assessment.

Figure 3.2. Rapid review process

NFER considered all instruments shortlisted as 'medium or high suitability' in the LSCE draft review.

NFER reviewed all the instruments in this category that:

- Were open-source and available to view
- Had appropriate formats (e.g., closed-question formats)
- Addressed the assessable domain

Instruments were reviewed against the following criteria:

- Age appropriateness
- Cultural appropriateness
- Content based on school, rather than home contexts
- Possibility of gender preference
- Appropriateness of cognitive load

The outcomes of the rapid review are described in detail in the Assessment Strategy Report. *Table 3.2* below summarizes the number of potentially usable items. For each life skill, the total number of items needed for the field trial is 45. Therefore, the percentage of potentially useable items in the table below is based on the ratio of the 45 items needed and the useable items found.

Table 3.2 Potentially usable items from the rapid review

Life skill area	Total number of reviewed items	Total number of reviewed potentially usable items	Percentage of potentially useable items	Total number of potentially usable without adaptation	Total number of potentially usable with adaptation	Number to be written from scratch
Creativity	80	27	60%	19	8	18+
Problem-solving	52	52	>100%	14	38	20+
Negotiation	20	20	44%	0	20	25+
Decision-making	159	65	>100%	15	50	20+
Self-management	304	186	>100%	50	136	20+
Communication (phase 1)	42	42	93%	20	22	10+
Respect for diversity	66	18	40%	6	12	27
Empathy	118	118	>100%	61	57	20+
Participation	366	59	>100%	15	44	20+
Critical thinking	28	15	33%	0	15	30+
Cooperation	35	20	44%	8	12	25+
Resilience	241	61	>100%	0	61	0-10
Communication (phase 2)	152	95	>100%	23	72	10+

As shown above, there was substantially more material than needed in some areas; whereas, for others, most of the material needed to be generated from scratch. From this initial review, an estimation was made of the number of new items that would need to be written. At first, this number may appear higher than expected. However, it is not only the quantity of items that is important, but also the balance and suitability across the conceptual domain, to ensure adequate coverage of the assessable domain. The existing items are also all self-reporting, and the assessment specification requires a proportion of scenario-based item types. All scenario-based items had to be written from scratch. The final consideration was that, although all the existing materials reviewed were open-source, written consent from the author or publisher was needed in order to use individual items in a new assessment for which item performance may differ. Some items were considered suitable but only if adaptations were made. Permission was needed to make any necessary changes, which further reduced the final number of usable existing items.

3.3.1 Mapping Existing Materials And Finalizing The Assessable Domains

Following the review to identify suitable existing materials, the next stage of the process was to map all the chosen existing materials to the assessable domain. The chosen materials consisted partly of those that were usable as they were, and partly of those that needed some adaptation. Materials were only chosen after full permission had been granted by the instrument author(s) or there was confirmation that the material was open-source. In some instances, adaptation was needed to ensure the wording was suitable for the target audience of seventh-graders in the MENA region. In other instances, the wording needed to be amended to create some uniformity in the assessment. All 45 items for each life skill, and across the suite of life skills developed in phases 1 and 2, needed to come together as a coherent whole. It was important that the items did not appear as disparate items taken from different sources. The response scales also needed to match, with groups of items having matching response scales, i.e., strongly agree, agree, disagree, strongly disagree. Even if the wording could remain identical to the original item, the response scale sometimes needed to be amended for consistency, as it would be confusing for students to have to consider slightly differing response scales each time.

Each chosen item was carefully read and considered against the statements for the relevant assessable domain. It was then attributed to the most appropriate. This allowed us to identify areas of the assessable domain that were not well covered by items and for which new items would need to be written. It also allowed NFER to test the wording of the assessable domains and determine if the written statements were appropriate and items could be attributed. Any suggested changes or comments to the statements in each assessable domain were noted, and the assessable domains were reviewed again by our team of experts (see Appendix D for names) and finalized with agreement from IEA.

Table 3.3, below, shows the life skills measured, and the measurable attributes covered in each of the life skills.

Table 3.3. Life skills measured in the instrument and their measurable attributes

Assessable domain	Attribution
Creativity (tested in phase 1)	Creative experiences and achievements
	Interest in actual or intended creative activities
	Attitudes towards creativity
	Generation, articulation or application of inventive ideas, techniques and perspectives
Problem-solving (tested in phase 1)	Recognition and identification of problematic situations
	Understanding and application of problem-solving strategies
	Attitudes towards problem solving
	Use of problem-solving strategies to resolve conflict
Negotiation (tested in phase 1)	Recognition of divergent interests and conflicting views
	Identification and development of mutually beneficial agreements and solutions
	Cooperative communication and resolution of conflicts in an effort to reach a conclusion
	Clear communication and ability to assert one's views and interests, while recognizing and respecting others' viewpoints
Decision-making (tested in phase 1)	Identification of objectives or goals
	Approach to deciding between alternative choices
	Systematic collection of information and assessment of beliefs/ values/attitudes
	Responsibility for decisions, and timeliness in making and executing decisions
	Critical consideration of impact (on others) when making decisions
	Consistency in perceptions and awareness of biases
Self-management (tested in phase 1)	Awareness and understanding of oneself and appropriate behaviors in a given situation
	Setting and working towards achieving personal and academic goals through self-efficacy and a positive attitude
	Evaluation, regulation and monitoring of one's behaviors, emotions, feelings and impulses
	Management and improvement of motivations/coping behaviors and stress in relation to difficult contexts

Respect for diversity (tested in phase 1)	Respect for equality
	Tolerance
	Recognition of how diverse identities and other factors influence the ability to live together
	Managing, negotiating and resolving conflict in a non-violent way
	Critically engaging with and deconstructing stereotypes of social groups
	Caring about and actively promoting the values of respect for diversity
Empathy (tested in phase 1)	Cognitive imagination and comprehension regarding the thoughts and beliefs of other people
	Sympathy, compassion, concern and action to support other people
	Effectively understanding and re-experiencing the emotions, feelings and needs of other people
	Emotional regulation
Participation (tested in phase 1)	Participation in the decision-making of the school
	Actual/intended participation at school/community/work
	Interest in social and civic issues
	Actual/intended participation in civic engagement
	Attitudes towards participation
	Self-efficacy in the context of participation
Critical thinking (tested in phase 2)	Separating facts from opinion
	Recognizing assumptions and bias
	Questioning the validity of evidence
	Demonstrating inquisitiveness and open-mindedness
	Exercising reflexivity and reflective judgement
	Maintaining a positive disposition towards critical thinking
	Understanding multiple perspectives
Cooperation (tested in phase 2)	Respecting different opinions and perspectives
	Being receptive and positively responding to feedback
	Understanding and resolving conflicts
	Developing and cultivating good relationships
	Working inclusively and effectively with others
	Demonstrating a positive disposition towards prosocial processes
	Working towards a common goal

Resilience (tested in phase 2	Persevering when personal resources are being taxed or exceeded
	Identifying opportunities offered by changing circumstances
	Maintaining a positive attitude when personal resources are being taxed or exceeded
	Maintaining focus on goals when personal resources are being taxed or exceeded
	Utilizing appropriate behaviors and coping strategies when responding to changing circumstances
	Demonstrating openness to accept help and support when personal resources are being taxed or exceeded
Communication (tested in phases 1 and 2)	Recognizing that communication involves the sharing of meaning
	Understanding of communication codes for different social contexts
	Using a range of communication methods across different social contexts
	Asserting communicative rights and establishing equality in dialogue
	Demonstrating interest in and responsiveness to others
	Managing interactions effectively

As mentioned previously, the assessment of life skill communication in phase 1 did not demonstrate satisfactory measurement properties. Consequently, the assessable domain and the assessment instrument were comprehensively reviewed with a view to informing their redevelopment for inclusion in phase 2. Following a review of further literature, and discussion with assessment development specialists, the revised attributions are now conceptually more similar to those outlined in Rubin and Martin (1994), yet also include an acknowledgement of the importance of receptiveness and listening skills, and implied interactivity. In addition, efforts have been focused on identifying problematic specific measurement aspects of the original development in LSCE phase 1 and removing them in the final redevelopment for phase 2.

3.4 DEVELOPING NEW MATERIALS

New items were written for each of the life skill areas to fill gaps in the assessable domain coverage. As previously discussed, items were not just self-reporting as in the existing materials, but several innovative items were also developed in the style of SJT, which would allow students to display their skill and understanding of a given concept by making decisions based on a hypothetical scenario. In phase 1, SJTs were written for four out of the nine assessed life skill areas. For phase 2, SJTs were developed for each of the four remaining life skill areas, aiming to include no fewer than three SJTs in the field trial instrument for each skill. The number of individual items for each SJT ranged between four and seven, following on from the scenario text. This meant that if some items did not work well in the field trial, there may still be enough items relating to a context that could be carried forward for the main study.

NFER's expert consultants advised caution in respect of SJTs as there is limited research evidence about their use for measuring life skills in educational contexts. The SJTs in this assessment were developed from scratch and had not previously been trialed and tested (unlike some of the items used from existing materials) as a means of assessing life skills, so their performance in the field trials would be unknown. Therefore, this could result in a lower degree of reliability in their technical functioning. SJTs are based on a situation that students must read to answer several accompanying questions. This gives a higher reading load, compared with the self-reporting items, with which some students may struggle. It would also be important to ensure the hypothetical situation is culturally appropriate and based on a context familiar to all students.

In addition, it was necessary to keep in mind that the assessments are not designed to assess students' understanding in relation to a given set of criteria.

As such, the function of the SJTs in phase 2 was to complement and enrich the measurement provided by the self-reporting items. It was hoped that, when taken together, the combination of the self-reporting items and the SJTs would provide a more valid measure of student skills than that obtained by either format used alone. Feedback from the initial phase of the LSCE instruments' development showed concerns regarding the scoring of socially desirable responses, which may have also contributed to the poor psychometric properties of the SJTs overall compared with the conventional items in the instruments found in phase 1. One particular concern was the hierarchy of response categories with respect to the construct measurement for some SJTs, as it was arguable and ambiguous. Consequently, for the remainder of the skills assessed in phase 2, item developers have been clearer about desirable and non-desirable responses, and this should be apparent in the items, all of which are four-option Likert scales, based on the likelihood of acting or responding in the way described.

Item writing commenced by the NFER team and NFER's consultants. All items underwent a rigorous review process by our expert consultants. The items were then edited and put through NFER's quality assurance process for proofing and final handover. Once all the item listings of the 45 items for each life skill were complete, the items for each life skill were organized into three blocks of 15 items, ready for translation and booklet construction.

3.5 CONTEXTUAL QUESTIONNAIRES

The direct assessments were supplemented by contextual information collected from students and school leaders. This information is intended to provide a basis for a form of triangulation in the main study to enhance the concurrent validity of measures and provide information about broader aspects that play a part in the development of twenty-first-century skills in each participating country. The information will help inform policy relating to twenty-first-century skills. Existing international contextual questionnaires were used as a basis for development, such as the student and school questionnaires from the following studies: ICCS 2016, TERCE, TIMSS 2015, PIRLS 2016. NFER consulted with the steering committee and consultant experts in the development of the questionnaires and items.

The contextual questionnaires focused on three core domains:

- Non-cognitive outcomes (e.g., students' learning motivation, attitudes, beliefs and aspirations)
- Individual conditions (e.g., students' cultural, ethnic and socioeconomic background, home languages)
- Structural and process characteristics of the institutional context (e.g., teaching practices and learning opportunities, length of time life skills teaching has been in place, school policies for LSCE)

An important consideration in questionnaire development was the length considered manageable for respondents to address potential student fatigue. For this reason, the number of items in the student questionnaire was minimized and participants were given 25 minutes to complete the questionnaire.

Of note: The school and student contextual background questionnaires were first developed by the NFER and IEA in phase 1, and then Roehampton University used the feedback from the first phase, and modified the questionnaires to be piloted again in phase 2.



4. SAMPLE DESIGN

SAMPLE DESIGN

4

Conducting a field trial in the context of cross-national comparative studies typically serves two main purposes. First, it ensures that sufficient responses are collected for each item in all instruments, assessments and questionnaires alike, to support reliable psychometric validation. Second, it allows the study consortium (IEA and NFER) to test the sampling and operational procedures to determine the most suitable sampling plans for the main assessment and to refine approaches to local fieldwork. Both objectives were successfully achieved through the implementation of phase 1 (2019) and phase 2 (2024) of the LSCE field trials sampling and data collection.

Building on these objectives, this chapter describes the sampling implementation across both phases of the LSCE field trials. It outlines how participating countries planned and executed their national samples and highlights key similarities and differences between the two phases. The chapter is accompanied by Appendix A, "Characteristics of National Samples," which provides detailed information on sample design (coverage, exclusions, stratification, and within-school sampling) and participation rates for each country in both the 2019 and 2024 field trials.

In summary, the sampling design followed a two-stage process. In the first stage, schools were stratified and selected with probabilities proportional to their size, based on the number of students in the target grade. Replacement schools were identified to address potential non-participation. In the second stage, one or more classes from the target grade were selected within each participating school with equal probability by the IEA staff. Further details on the sampling process are provided throughout this chapter. In the following subsections, each participating educational system in LSCE will be referred to as 'country' for simplicity.

4.1 TARGET POPULATION DEFINITION

An important element in ensuring cross-country comparability of survey results is the establishment of a common understanding of the target population. For both phases of the LSCE field trials, the intended target population consisted of students aged 12–14 years, which typically corresponds to seventh graders. To ensure this age cohort remains consistent across study phases, the LSCE international target population was defined as follows: all students enrolled in the grade representing seven years of schooling from the first year of International standard classification in education (ISCED)[2] Level 1, provided their mean age at the time of assessment is at least 12.5 years.

Application in phase 1 (2019)
In the phase 1 field trial, which took place in April 2019, participating countries applied this definition by targeting Grade 7 students. Field trial experience showed that this definition was feasible and appropriate, and age distributions were broadly consistent with expectations. Students in phase 1 had a median age of 13 years (12.92 years), with a range from 9 to 15 years.

Application in phase 2 (2024)
For the phase 2 field trial, which took place at the beginning of the scholastic year in October 2024, the targeted grade was adjusted to eighth graders rather than seventh graders. This decision was made through consultations with sampling experts to ensure that the age-based target population remained homogeneous across study phases. Students participating in phase 2 had a median age of 13 years (13.33 years), with a range from 10 to 15 years. As such, the change in the target grade during phase 2 seems successful in maintaining alignment with the intended target population.

Results from both study phases show that the LSCE instruments worked well for students in either Grade 7 or Grade 8. While the tools were first designed for Grade 7, Grade 8 students in phase 2 also met the required reading and comprehension levels. Future LSCE studies may, therefore, consider using either grade, depending on assessment timing and national school systems.

Definitions of sampling units in phase 1

'School' definition:

- A school is one whole unit with a defined number of teachers and students, which may include different programmes or tracks. The definition of 'school' should be based on the environment that is shared by students, usually a shared faculty, set of buildings, social space, and often a shared administration and charter.
- Schools eligible for LSCE are those that enroll students in the target grade.

'Student' definition:

- The target population in LSCE consists of all students enrolled in the grade that represents seven years of schooling, counting from the first year of ISCED Level 1, provided that the mean age at the time of assessment is at least 12.5 years.

[2] http://www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx



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Definitions of sampling units in phase 2

'School' definition:

- The definition of 'school' in phase 2 followed the same principles as in phase 1. Schools were eligible for LSCE if they enrolled students belonging to the target grade for the 2024 field trial.

'Student' definition

- For phase 2, the LSCE international target population continued to consist of students enrolled in the grade representing seven years of schooling from the first year of ISCED Level 1, provided that the mean age at the time of assessment is at least 12.5 years. For the 2024 field trial, however, the targeted grade was adjusted to Grade 8 rather than Grade 7.
- This adjustment was made to ensure that participating students remained within the intended age cohort of approximately 12–14 years.

These definitions were successfully applied in both phases and can be retained for future LSCE implementation without modification.

4.2 COVERAGE AND EXCLUSIONS

In some rare situations, larger groups of schools and students may need to be removed from the international desired target populations for political, operational or administrative reasons. Such removals are referred to as 'reduced population coverage' when they involve systematic limitations on the scope of the target population. In contrast, 'exclusions' refer to specific schools or students omitted based on clearly defined criteria, such as geographic inaccessibility, very small school size, or student characteristics such as functional disabilities or language barriers. This distinction ensures clarity and consistency when describing adjustments to the target population, while efforts are made to keep such exclusions to a minimum.

Therefore, it is important to carefully track, document and report exclusions to make readers aware of the findings' potential limitations. Such rules can be developed in alignment with practices used in other contemporary large-scale assessments.

For example, national research coordinators (NRCs)[3] may wish to exclude schools for the following reasons:

- They are geographically inaccessible
- They are extremely small sizes.
- They offer a curriculum or school structure radically different from the mainstream educational system
- They provide instruction only to students in excluded categories, as defined below

NRCs might further need to exclude some of the students within the sampled schools from the assessment, if they would be unable to respond reasonably to the assessment. Thus, NRCs were asked to adapt the following rules to make them workable in their country.

The international within-school exclusion rules are specified as follows:

- Students with an intellectual disability: These are students who, in the professional opinion of the school principal or other qualified staff members, have intellectually disabilities or who have been psychologically evaluated as such. This includes students who are emotionally or mentally unable to follow even the general instructions of the assessment. Students should not be excluded solely because of poor academic performance or normal disciplinary problems.
- Students with a functional disability: These are students who are permanently physically disabled in such a way that they cannot perform in the LSCE assessment situation. In other words, any student able to respond should be included in the assessment.

[3] An NRC is the main contact person in the participating country and is responsible for providing the necessary information for school sampling. For more information on NRCs, see chapter 6.1.1.

- Non-native language speakers: These are students who are unable to read or speak the language(s) of the assessment and would be unable to overcome the language barrier of the test. Typically, a student who has received less than one year of instruction in the language(s) of the assessment could be excluded, but this definition may need adaptation in different countries.

Application in phase 1 (2019)

Appendix A1 presents the type and scope of reduced coverage and exclusions in the phase 1 field trial. Two of the three participating countries conducted the field trial only in selected regions, resulting in low overall coverage. Countries assured, however, that the chosen regions reflected the variety of schools and students required for the field trial, so this was not problematic. For the field trials, full national coverage was pursued. While this was feasible for Tunisia and Egypt (where regions were purposefully chosen), the State of Palestine indicated potential challenges in including schools in Gaza, United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) schools, and some remote schools in the West Bank.

Application in phase 2 (2024)

In phase 2, Egypt and Tunisia again conducted the field trial only in chosen regions, and the State of Palestine limited the schools in parts of the West Bank only. These arrangements resulted in rather low coverage for each participant. However, the countries assured us that the chosen regions cover the variety of schools and students of the respective country according to the field trial requirements. As a result, this was not an issue for the phase 2 field trial. Appendix A2 presents the type and scope of reduced coverage and exclusions in the phase 2 field trial for the three participating countries.

Looking ahead, for the future main survey, it will be important to develop clear reporting standards so that any reduced population coverage (for example, when implementation is limited to certain regions or when operational constraints prevent full inclusion) is communicated transparently and can be properly considered when interpreting the results.

4.3 SCHOOL SAMPLING

The IEA sampling team was primarily responsible for overseeing all aspects of sampling in both phases of study, including the development and approval of national sampling plans to ensure compliance with assessment requirements. These plans were created in collaboration with NRCs from each participating country.

School sampling design

Both phase 1 and phase 2 of the LSCE field trials used a two-stage stratified random sampling design with cluster sampling. This approach was considered the most appropriate for achieving the survey objectives and is consistent with sampling practices used in large-scale assessments. In the first stage of sampling, schools were stratified and selected with probabilities proportional to their size, i.e., based on the number of students in the target grade. The number of schools allocated to each stratum was proportional to the expected number of students within that stratum. Replacement schools were designated for the initially selected schools in case of non-participation.

This sampling design required comprehensive lists, or 'sampling frames', of all schools offering the target-grade education in each participating country. As noted earlier, certain exceptional exclusions were permitted, such as schools with unreasonably high data collection costs (e.g., schools in remote areas), schools exclusively serving students with special education needs (e.g., those mentally or physically unable to participate), or schools where instruction is conducted in languages other than the assessment language, resulting in high translation costs. In both phases, all countries successfully applied different stratification variables, primarily focusing on school types that accounted for factors such as student gender, urbanization and organizational structure. The variables were identified through extensive discussions with the IEA sampling team and NRCs (see Appendix A for further details). In both phases, high-quality school frames were received, containing all necessary information (e.g., size measures, stratification variables and exclusion notifiers).

The only procedural difference between the two phases concerned the target grade:

- Phase 1 (2019): The sampling frame consisted of schools with Grade 7.
- Phase 2 (2024): The sampling frame consisted of schools with Grade 8, following the LSCE decision to maintain the intended age cohort across phases.

Aside from this adjustment to the target grade, the national sampling plans in both phases followed the same principles and applied the same technical requirements.

Replacement schools

During the school sampling process, one replacement school was assigned to each sampled school in phase 1, while two replacement schools were assigned to each sampled school in phase 2. When a sampled school was unwilling or unable to participate, its replacement school was asked to participate. Replacement schools with similar features as the respective sampled schools (i.e., they were of similar size and belonged to the same stratum) were assigned to minimize non-response bias effects.

In the phase 1 field trial, two countries required only a few replacement schools, while one country needed replacement schools for nearly half of the selected schools. While this was acceptable for the field trial, it could pose a significant threat to data validity in a possible main survey. Despite the best efforts being made, it is difficult to ensure that replacement schools do not systematically differ from the original sampled schools that declined to participate.

In the phase 2 field trial, Egypt used three replacement schools, two being first replacements, and one being a second replacement; the State of Palestine required only one; and Tunisia did not need any replacements. This demonstrates the participating countries' understanding of the importance of using the originally sampled schools and effectively applying this principle, reflecting a strong initial sampling design and high participation rates through careful planning and coordination. The experience from phase 2, with more careful planning and higher participation rates, has better prepared the countries for the main survey.

Sample sizes

For the phase 1 field trial, the target sample size was 20 to 24 schools, yielding approximately 1,400 students per country, which was considered sufficient for psychometric item analysis. Sample sizes were adjusted upwards to account for expected non-response. All three countries successfully met the sampling requirements; with Egypt achieving 1,681 students across 20 schools, Palestine achieving 1,344 students across 20 schools (slightly below the target) and Tunisia achieving 1,543 students across 20 schools.

In phase 2, the target was a sample of 20 to 30 schools, yielding approximately 1,200 students per country. Phase 2 field trial sample sizes were also adjusted upwards to account for expected non-responses. Consequently, the sampling expert selected a sample of 20 to 30 schools per country and defined rules for class sampling to yield about 1,400–1,500 sampled students. All three countries successfully met these requirements, with Egypt achieving 1,692 students across 22 schools, the State of Palestine achieving 1,245 students across 24 schools, and Tunisia achieving 1,338 students across 26 schools. However, the State of Palestine's achieved sample was slightly smaller due to discrepancies between initial student estimates and actual enrolment figures once the school year began.

Further details about sample sizes in both phases can be found in Appendix A.

4.4 WITHIN-SCHOOL SAMPLING

In both phases of the study, the second stage of sampling involved selecting one or more target-grade classes from each chosen school. The overall approach was consistent across phases: a set number of target-grade classes was selected in each school, and all eligible students within those classes were invited to participate.

Within-school sampling in phase 1

In phase 1, two, three or all Grade 7 classes within selected schools were chosen for participation. Within each selected classroom, all students were asked to participate in the survey. Class lists were prepared by the national teams, and class sampling was carried out and documented by IEA using IEA software that automatically applied the correct selection algorithms (selecting classes with equal probability within schools) and tracked the sampling procedures. Two countries provided high-quality class lists, while one country submitted lists that were outdated in many schools. This required late adjustments (such as adding or removing classes), highlighting a potential risk for data quality.

Although class-level exclusions were technically possible, no classes were excluded in phase 1, and only a very small number of students within sampled classes were excluded. NRCs did not report on excluding schools for special-needs students.

Within-school sampling in phase 2

In phase 2, one or more Grade 8 classes were selected within each sampled school. Target-grade classes were selected with equal probability using the within-school sampling (W3ST) macro. As in phase 1, all students in the selected classes were invited to participate, ensuring sufficient sample size and inclusion of all classmates.

Class lists were again prepared by national teams. Class sampling was performed and documented by IEA using the W3ST macro, which automatically implemented the correct selection algorithms and tracked all sampling steps. IEA also provided student tracking forms and instrument labels, and NRCs oversaw materials distribution and supported test administrators throughout the process. As in phase 1, only a small number of students within the sampled classes were excluded.

Further details on within-school sampling can be found in Appendix A.

4.5 PARTICIPATION RATES

Achieving high response rates at all LSCE sampling stages was a key element for yielding reliable and comparable results. It was crucial to aim for participation rates as close to 100% as possible, with any non-responses being unsystematic to avoid introducing bias. Participation rates were monitored at all sampling stages and for the individual participants, i.e., for schools, classes and students.

Participation rates in phase 1

In phase 1, two countries achieved excellent school participation rates, while one country relied heavily on replacement schools. Although this was acceptable for the field trial, extensive use of replacement schools could jeopardize the validity of data in the main survey. In terms of student participation, the State of Palestine and Tunisia had rates above 90%, while Egypt had a lower rate of 82%, with some classes experiencing particularly low participation.

Participation rates in phase 2

In phase 2, the response rates showed notable improvement. All three countries made minimal or no use of replacement schools, as explained in the section above, and achieved 100% participation rates after replacements. Egypt achieved 100% participation, and Tunisia achieved nearly the same without using any replacement schools. The State of Palestine had a 75% minimum class participation rate and a 93.3% overall student participation rate. Tunisia's overall student participation was 92.1%. These outcomes reflect successful efforts to minimize the use of replacement schools, with minimal non-response bias.

Further details regarding the participation rates can be found in Appendix A.

Moving forward, high participation rates should remain a priority for the main survey. It is essential to consult country partners early on the importance of participation, provide strategies and tools to increase response rates, and ensure proper tracking of participation across all stages of the survey.

4.6 CONCLUSION

LSCE field trial sampling-wise successfully achieved its objectives across both phases, demonstrating high participation rates and effective sampling strategies. In phase 1, while most countries achieved strong participation, one country faced challenges, relying more heavily on replacement schools than expected. Despite this, the results were still considered acceptable for the trial. In phase 2, the process improved significantly, with all participating countries minimizing the use of replacement schools and achieving higher participation rates. The outcomes from both phases reflect the robustness of the sampling design and the effective collaboration between the IEA sampling team and NRCs.

Considering both the experiences and the outcomes from both phases, the IEA sampling team recommends focusing on following key areas to ensure the success of a potential main survey.

1. Target grade and population: The definitions of the target grade were successfully applied in both phases and can be retained for the main survey without modification.
2. Coverage and exclusions: It will be important to develop clear reporting standards for the main survey, especially if there is reduced population coverage. For example, when implementation is limited to certain regions or when operational constraints prevent full inclusion. Transparent communication about these limitations will help ensure the results are interpreted correctly.
3. Sampling and sample sizes: The sampling design used in both phases followed the same principles, with a two-stage stratified random sampling approach. The sample size for the main survey should be determined based on assessment design (rotated versus non-rotated instruments), precision requirements, and expected non-response and design effects. The field trial data can provide valuable insights for decision-making, but it should be cross-checked with data from other similar surveys, as the field trial data is not fully representative or highly precise. In cases of uncertainty, LSCE could also adopt this approach: many surveys use sample sizes equally effective as a "simple random sample of size 400 to 800," which translates to a cluster sample of approximately 150 schools, with one class sampled and tested from each school.
4. Within-school sampling: In the field trial, in both phases IEA undertook the class sampling activities. For the main survey, this can be managed by the national team within each country using the W3ST macro provided by the IEA. This would require thorough training but would also build capacity within national teams.
5. Participation rates: Achieving high participation rates is critical for any main survey. It is crucial to consult country partners early on the importance of participation, provide strategies and tools to increase response rates, and ensure proper tracking of participation across all stages of the survey, including schools, classes, and students.
6. Methodological considerations: Sound methodologies would be essential to enable reliable inferences from the sample to the target populations. This would involve tracking selection probabilities, computing design weights as the inverse of selection probabilities, and applying adjustments at each stage to account for non-responses. Estimation weights would combine all weighting factors and adjustments to ensure accurate representation. Additionally, to address the complexities of sampling variance in such surveys, methods such as Jackknife Repeated Replication (specifically JK2) can be used, consistent with international large-scale assessments. Sampling experts would derive the necessary variables for this method, and tools such as IEA's IDB analyzer could be adapted to support researchers in correctly applying these techniques when analyzing the data.

Overall, the field trial results provide valuable insights and lessons that can be applied to the main survey. By refining methodologies, establishing clear procedures, and setting clear expectations for participation and sampling, the LSCE study will be well prepared for successful implementation.



5. NATIONAL INSTRUMENT PREPARATION

NATIONAL INSTRUMENT PREPARATION

5

This chapter summarizes the process of preparing national versions of the LSCE field trial instruments in both phases. The process was adapted from the workflow and procedures used in the IEA's large-scale assessments (e.g., TIMSS, PIRLS, ICILS and ICCS) and consisted of the following steps:

- Preparing a reference version
- Adapting the reference version to the national context of the participating countries
- Validating the national adaptations
- Conducting translation verification
- Assembling assessment booklets and conducting layout verification

This process, involving IEA and NFER experts and independent translators and translation verifiers, facilitated the creation of high-quality national versions of the LSCE FT instruments. The materials that underwent this process included the following.

- In phase 1, the LSCE field trial assessment items were organized in 27 blocks corresponding to the nine skill areas (three blocks for each skill area, with 15 items in each block). The assessment booklets were 18, each consisting of 60 items from four blocks (see Appendix C1).
- In phase 2, the LSCE field trial assessment items were organized in 12 blocks corresponding to the four skill areas (three blocks for each skill area, with 15 items in each block). The assessment booklets were 12, each consisting of 60 items from four blocks (see Appendix C2).
- The LSCE field trial background questionnaires (the school questionnaire was administered in phase 1 only, and the student questionnaire in both phases).[4]

[4] The school coordinator manual and the test administrator manual did not undergo the procedure described in this chapter. Instead, it was solely the countries' responsibility to prepare national versions of the manuals. This process included translating the English source versions into Arabic and adapting them to the national context.

5.1 PREPARING AN ARABIC REFERENCE VERSION

To facilitate the creation of national versions of the LSCE field trial instruments, the IEA provided countries with a translated reference version in addition to the English source version. The purpose of the reference version was to streamline the process of preparing national instruments and to ensure similarity between the translations used in the participating countries. As all participating countries administered LSCE in Arabic, the IEA produced a single Arabic reference version, which was provided to countries prior to the adaptation process.

The preparation of the Arabic reference version incorporated the participating countries' feedback. After that feedback was implemented, the IEA then shared the final Arabic reference version with the participating countries.



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5.2 THE NATIONAL ADAPTATION PROCESS

To ensure the study instruments' appropriateness for the participating countries' cultural, linguistic and educational characteristics, the NRCs were required to adapt the Arabic reference version of the LSCE field trial instruments to their countries' national contexts. To facilitate this process, the IEA provided countries with national adaptation forms (NAFs) accompanying the instruments' Arabic translations. The NAFs were Microsoft Excel files that structured the documentation of each country's adaptations to the assessment instruments and the background questionnaires. Countries were required to record all national adaptations in the NAFs. National adaptations included structural adaptations, the required non-structural adaptations, and optional changes to the instrument text.

Structural adaptations refer to changes to the instrument's overall structure, such as removing dimensions and categories from a question or an entire question from the questionnaire. For the LSCE field trials, structural adaptations were allowed only for the background questionnaires. If a country wanted to make a structural adaptation to a questionnaire, the NRC was requested to document the desired change in the corresponding NAF.

Non-structural adaptations are localizations whose implementation is necessary to ensure the instruments are applicable to each country's educational context. The IEA prefilled the NAFs with the terms and phrases in the instruments that required adaptation to the national context. These terms and phrases were clearly identified in the NAFs, in the Arabic reference version and in the English source version. When countries documented their adaptations of these terms in the NAFs, they were also required to provide the English back translation of the adapted text and an explanation of the adaptation, where necessary.

In addition to structural and non-structural adaptations, countries were allowed to make optional changes to the instruments' text. Optional national adaptations consisted of all additional changes to the Arabic reference version that countries deemed necessary to render the LSCE field trials instruments appropriate for their national context. These changes included synonyms and alternative wording. For these optional adaptations, the IEA requested that countries provide the following details about the adapted text in the NAF:

- The international item and question number
- The text from the international English source version and the Arabic reference version
- The adapted text
- The English back translation of the adaptation
- An explanation or justification for the adaptation

Regarding all types of adaptations, the IEA instructed NRCs to keep changes to a minimum to ensure international comparability of the assessment items and the background questionnaires. Throughout the national adaptation process, NRCs used both the international English source version and the Arabic reference version of the LSCE FT instruments. On process completion, the NRCs submitted the adapted LSCE FT instruments (item listings and questionnaires) and NAFs to the IEA for review.

5.3 ADAPTATION VALIDATION

The IEA was responsible for reviewing all national adaptations that countries documented in the NAFs. The review was done by IEA experts in educational assessment who also have knowledge of the Arabic language. During the review, the experts checked the appropriateness of each national adaptation and judged whether it would change the intended meaning of the item or question. Depending on this evaluation, the IEA would then approve or reject the national adaptations. All approved national adaptations were subsequently implemented in the instruments. In case of rejections, countries were asked to reconsider their national adaptation and provide an alternative wording. In all cases, NRCs had the final say about the adaptations, as they bore responsibility for the national versions of the LSCE field trials instruments. After the review of all national adaptations was completed, the IEA moved the materials forward to the booklet assembly and layout verification stages.

5.4 BOOKLET ASSEMBLY AND LAYOUT VERIFICATION

Layout verification of the LSCE field trials instruments was done by the IEA. The purpose of this process was to ensure that the national versions of the assessment instruments and the background questionnaires complied with the layout and design of the international source version developed by the consortium. For any deviations, IEA staff asked the NRCs to make the necessary changes. During this process, the IEA also assembled the assessment booklets, using the verified texts from the item listings. On approval of the layout of the national instruments and completion of booklet assembly, the LSCE field trial assessment instruments and the background questionnaires were returned to the countries, ready for administration.



6. FIELD OPERATIONS

FIELD OPERATIONS

6

Successful administration of the LSCE assessment depended heavily on the contributions of the study's NRCs and national center staff. As is the situation with all large-scale cross-national surveys, the assessment administration, overall coordination and logistical aspects presented significant challenges for each participating country.

Therefore, the LSCE international study center (ISC) at the IEA Hamburg developed internationally standardized field operation procedures to assist the NRCs and aid uniformity in assessment administration activities. The IEA designed these procedures to be flexible, to simultaneously meet the needs of individual participants and the IEA survey standards' high-quality expectations.

All national centers received guidelines on the survey operations procedures for each stage of the assessment. The guidelines advised on contacting schools, listing and sampling classes and students, preparing materials for data collection, administering the assessment and creating data files.

6.1 OVERVIEW OF RESPONSIBILITIES

6.1.1 National Research Coordinators

For all countries participating in LSCE, appointing an NRC was one of the initial steps when establishing the study in their country. The NRC acted as the main contact person for all those involved in LSCE in the country and represented the country at the international level.

NRCs oversaw overall study implementation at the national level. They also implemented and adapted internationally agreed-upon procedures for the national context, under the guidance of the international project staff and national experts.

6.1.2 School Coordinators And Test Administrators

To facilitate successful LSCE administration, the IEA required the establishment of two roles in countries: the school coordinator and the test administrator.

Their work involved preparing for the assessment administration in schools and carrying out the data collection in a standardized way.

In cooperation with school leaders, national centers identified and trained school coordinators for all participating schools. The school coordinator could be a teacher or other staff member. In some cases, national centers appointed external school coordinators from their staff members. The school coordinators' responsibilities included the following major tasks:

- Identifying eligible students belonging to the target population to allow the national center to perform in-school sampling
- Arranging the date(s) and modalities of the assessment sessions with the national center
- Distributing instruments and related materials needed for assessment sessions and ensuring they were always kept in a secure place and confidential
- Working with the school leader, the test administrator and the affected teachers to plan and administer the student assessment

To minimize the burden on the participating schools and to encourage standardization in administering the assessment sessions, test administrators were recruited to administer the assessment in the sampled schools.

Test administrators could be staff members of the national center or of the participating schools but should not be a teacher of the sampled class in which they administered the assessment. Test administrators were expected to have experience working with students in the target-age cohort, good communication skills, clear pronunciation and pedagogical experience.

Test administrators' main tasks comprise the following

- Attending the test administrator training conducted by the national center
- Complying with all guidelines as outlined in the test administrator manual and the administration script
- Cooperating with the school coordinator
- Carrying the test booklets and questionnaires into schools
- Administering the sessions to the correct students, as indicated by the student tracking form
- Timing the administration sessions
- Responding to students' questions
- Completing the student tracking form
- Returning the completed booklets and questionnaires to the national center.

6.2 SURVEY OPERATIONS UNITS AND MANUALS

The IEA team released the LSCE survey operations procedures guidelines to the NRCs in five units, each of which was accompanied by additional materials, including manuals for use in schools and for test administrators. This material was organized and distributed chronologically according to the study stages.

The five units and the accompanying manuals comprised the following:

- Unit 1 (sampling schools) specified the actions and procedures required to develop a national sampling plan in compliance with the international LSCE sample design.
- Unit 2 (working with schools) contained information about how to work with schools to plan for successful administration of LSCE instruments.
- Unit 3 (instrument preparation) described the process of national adaptations, layout verification and production of the LSCE instruments in the country.
- Unit 4 (data collection) provided guidelines for selecting and training test administrators.
- Unit 5 (data entry) dealt with post-data collection processes and tasks. These included, but were not limited to, data capture from the booklets and questionnaires, and data quality control.

- The NRC manual provided general information on NRCs' responsibilities, study background, communication structure and study ethics.
- The school coordinator manual (subject to translation) described the role and responsibilities of the school coordinators, who were the main contact person in each participating school.
- The test administrator manual (subject to translation) described the role and responsibilities of the test administrators.
- The administration script (subject to translation) included detailed instructions for the test administrators to ensure the assessment sessions were conducted identically in all schools.

6.3 WORKING WITH SCHOOLS

After NRCs had obtained a list of the schools sampled for LSCE (for more information on sampling procedures, see chapter 4), it was important for the study's success that national centers established good working relationships with the selected schools. NRCs were responsible for contacting the schools and encouraging them to take part in the assessment, a process that often involved obtaining support from national or regional educational authorities or other stakeholders, depending on the national context.

School coordinators were asked to provide all required information about their respective schools and coordinate the date, time and place for the student assessment. School coordinators were also responsible for obtaining parental permission as necessary, liaising with the test administrator to coordinate the assessment session, and coordinating completion of the student tracking forms. School coordinators also ensured that assessment materials were received, always kept secure and returned to the national center after the administration.

6.4 ADMINISTERING THE ASSESSMENT

Distributing the printed materials to the schools required the national centers to engage in careful organization and planning. National centers sent the packaged assessment booklets, student questionnaires and accompanying materials (as needed) to the test administrators. National center staff also provided schools with the school questionnaire, parental consent forms and student tracking forms, and asked them to confirm the materials' receipt. School coordinators then distributed the materials while also ensuring they were kept in a secure place until the assessment date.

In accordance with international guidelines and requirements, and local conditions, national centers assigned one test administrator per sampled class. Their responsibilities included distributing materials to the appropriate students, leading students through the assessment and accurately timing the sessions.

The student tracking forms indicated the assigned booklet for each sampled student. Test administrators were requested to document student participation on the student tracking forms. During assessment session administration, test administrators were asked to provide instructions to students. Some of these instructions had to be read aloud, as provided in the administration script, to ensure the assessment was conducted identically in all schools.

The time allotted for each part of the assessment session was standardized across countries. Students were allowed 30 minutes to complete each of the two parts of the booklet. In the first phase of LSCE field trial, students were given 25 minutes to complete the student questionnaire and were allowed to continue if they needed additional time, compared with 15 minutes in the first phase. Test administrators were required to document the starting and ending time of each part of the assessment session on the session report form. Table 6.1 details the time allotted to the different parts of the assessment session.



After the administration was completed, the school coordinators were responsible for collecting and returning all materials to their respective national center for data entry.

Table 6.1. Timing of the LSCE assessment sessions

Administration of assessment session	Time
Instructions	2–5 minutes
Administering the assessment booklet (first part)	30 minutes
Break	5 minutes
Administering the assessment booklet (second part)	30 minutes
Administering the student questionnaire	approx. 25 minutes (15 minutes in phase 1)
Total for assessment sessions	**approx. 95 minutes (85 minutes in phase 1)**

6.5 FIELD TRIAL PROCEDURES

In the three participating countries, the field trial of LSCE phase 1 was conducted in April 2019, and phase 2 in October 2024. There were no major problems arising during data collection in either phase. The LSCE study was well-received in the field, which resulted in high participation rates.

The field trials were crucial for the development of the LSCE assessment instruments and tested the LSCE survey operations' procedures. The operational resources and procedures described in this chapter were used during the field trials under conditions approximating, as closely as possible, those of a possible main study data collection.

6.6 ETHICAL CODE OF CONDUCT AND PRACTICE

IEA is committed to the highest ethical standards in all research activities, and ethical considerations are embedded in detailed research quality assurance processes. IEA has a code of conduct and practice that complies with established social research and market research guidelines (IEA Code of Conduct, 2024: www.iea.nl/publications/iea-code-conduct).

We believe that the code of conduct and practice for the purpose of this study requires that we:

- Obtain valid, informed consent from all participants before they participate in research. IEA provides a consent form that needs to be signed and returned if parents or guardians do not give permission for their child to participate in the LSCE field trial.
- Protect the confidentiality of research participants' identities and store confidential information securely.
- Anonymize all quotes and other material obtained from participants in all reports and publications arising from a study (e.g., by using identity scrambling).
- Take appropriate action to identify and remove barriers to participation.
- Interpret, report and disseminate research findings openly, honestly and accessibly, protecting against distortion and bias.
- Take appropriate follow-up action on any disclosures made by students during the field trial that raise concerns about the student's well-being, in accordance with our codes of practice.
- Consider and appropriately deal with all data protection issues.
- Take all reasonable steps to minimize the risk of personal (physical and mental) and social harm to study participants and researchers.

There is a particular focus on these groups in the code of practice, given the amount of work IEA does with children, students and young people. There is also a strong focus on minimizing the burden on teachers and schools who participate in our projects.

We also have strict measures in place to ensure the safety and security of our staff (i.e., the project manager and NRCs) and the national team working with the NRCs in participating countries (such as test administrators and school coordinators). Prior to any travel by team members, we undertake a full risk assessment, based on advice from the German and Dutch Ministries of Foreign Affairs and our respective insurance companies. This identifies risks across topics such as health, crime, terrorism and natural disasters; and assesses either what mitigations and contingencies are required or, in some cases, determines that travel is too risky and should not proceed. This decision requires sign-off from senior management.



7. DATA PROCESSING

DATA PROCESSING

7

To achieve high-quality data, IEA implemented a series of data-processing steps that included checks to ensure the consistency of national database structures and guarantee the comparability of international variables across national datasets. IEA staff reviewed all national databases in cooperation with national centers and did further investigations when needed. The review process was followed by a series of thorough checking procedures that led to the creation of the final LSCE field test database.

This chapter describes the procedures for checking the LSCE field test data and the creation of its database, as implemented by the data processing team at IEA. The main goals of these procedures were to ensure that:

- All information in the database conformed to the internationally defined data structure (i.e., the IEA standards of database structure)
- The content of all datasets and documentation appropriately reflected national adaptations to background contextual questionnaires (i.e., LSCE databases reflected national adaptations)
- All variables used for international comparisons were comparable across countries (after harmonization, where necessary)

7.1 TRACKING CLASSES AND STUDENTS AT SAMPLED SCHOOLS

The LSCE generated data exclusively from paper instruments (student and school questionnaires, student tracking forms). In general, there was one student tracking form per class (i.e., schools with more than one sampled class received a tracking form for each class). The form included all students to be assessed, as well as their birth dates, gender, exclusion status and participation status (*see Figure 7.1*).

Each student was assigned an assessment booklet and a student questionnaire. The national centers provided each sampled school with assessment booklets for the sampled classes and corresponding student questionnaires, and the school questionnaire. The national centers also provided schools with a student tracking form, which provided information about which students should participate in the study. The form also enabled the administrators to indicate student participation, for subsequent verification at the national centers and, later, at the IEA to track the classes and students during data processing.



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The data from the instruments (booklets and questionnaires) were entered into data files using the IEA Data Management Expert (DME) software by the national centers' staff, so that they could be transformed for processing and analysis. This process resulted in a predefined three-table structure, containing one record per respondent with all variables or data processing, analysis and reporting. The students' responses were stored in two databases: one for the responses in the booklets and the other for the responses in the questionnaires. The third database was for recording information in the student tracking forms. As mentioned earlier, in the first phase of the LSCE field trial, an additional database was produced for the answers to the school questionnaire.

Figure 7.1. Student tracking form example (from LSCE phase 2)

LSCE2.2 - Student Tracking Form - Grade 8

School Name:	Country:	Date of Test:		
		DD	MM	YYYY
ثانوية ..... للبنات	CCC	07	10	2024

(a)	(b)	(c)	(d)
School ID	Class ID	Class Name	Language of Test
1001	100103	C	Arabic

	1	2	3	4		5	6	7	8	
	Student Name or Number	Student ID	Checksum	Date of Birth		Gender	Exclusion Status	Booklet	Participation Status	
				MM	YYYY				Assessment Session	Questionnaire Session
	سماح يوسف	10010301	59623	11	2006	2		5	1	1
	ريما البنا	10010302	23478	12	2007	2		6	1	1
	مي العمري	10010303	35126	03	2005	2	1	7	1	3
	حسنة السيد أحمد	10010304	45893	02	2006	2		8	1	1
	...	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...
	سميرة عبدالله عمران	10010331	79521	01	2006	2		12	1	1

Date of Test: Please enter the number indicating the day of the month under DD and number indicating the month under MM
Gender (column 5): 1 = Male; 2 = Female
Exclusion Status (column 6): 1 = Student with functional disabilities; 2 = Students with intellectual disabilities; 3 = Non-native language speakers
Participation Status (column 8): 1 = Participated; 2 = Participated with special accommodation; 3 = Absent; 4 = No parental permission; 5 = Left school permanently

7.2 DATA ENTRY AND VERIFICATION OF INSTRUMENTS

Each national center was responsible for transcribing the information from any paper-based instrument into computer data files using the DME software. National centers entered responses from the paper instruments into data files created from an internationally predefined codebook. The codebook contained information about the names, lengths, labels, valid ranges (for continuous measures or counts) or valid values (for nominal or ordinal questions), and missing codes for each variable in each of the instruments.

Before data entry started, national centers were required to adapt the codebook structure to reflect any approved adaptations made to the national instrument versions (e.g., a not-administered question). The IEA verified these adapted codebooks, which then served as templates for creating the corresponding datasets.

To ensure consistency across participating countries, the basic rule for data entry in the DME required national staff to enter data 'as is' without any interpretation, correction, truncation, imputation or cleaning. Decisions on any inconsistencies remain after this data-entry stage were delayed until data cleaning.

The rules for data entry included the following:

- Responses to categorical questions to be generally coded as '1' if the first option was used, '2' if the second option was marked, and so on
- Responses to 'tick-all-that-apply' questions to be coded as either '1' (ticked) or '0' (not ticked)
- Responses to numerical or scale questions (e.g., school enrolment) to be entered 'as is' without any correction or truncation, even if the value is outside the originally expected range
- Likewise, responses to filter questions and filter-dependent questions to be entered exactly as filled in by the respondent, even if the information provided is logically inconsistent
- If responses were not given at all, were not given in the expected format, were uncertain or in any other way dubious (e.g., selection of two options in a multiple-choice question), the corresponding variable to be coded as 'omitted or invalid'

Data entered with the DME were automatically validated. The respondents' identification numbers (IDs) were validated with a five-digit code: the checksum provided in the instruments' labels. A mistype in either the ID or the checksum resulted in an error message that prompted the data-entry person to check the entered values. The DME data-verification module also enabled identification of problems such as inconsistencies in identification codes and out-of-range or otherwise invalid codes. Data-entry individuals had to resolve problems or confirm potential problems before they could resume data entry.

7.3 ENSURE THE CREDIBILITY OF THE NATIONAL DATABASES

Ensuring the integrity of the international database required close cooperation between the IEA and national centers. Quality control comprised several steps. During the first step, IEA staff checked the data files provided by each country. They applied a set of cleaning rules to verify data validity and consistency and then documented any deviations from the international file structure. Having completed this work, IEA staff sent queries to the national centers, either to confirm the IEA's proposed data-editing actions or to provide additional information to resolve inconsistencies. After all modifications had been applied, staff at the IEA rechecked all datasets. This process of editing the data and implementing corrections was repeated as many times as necessary to ensure that data were consistent in and comparable across countries.

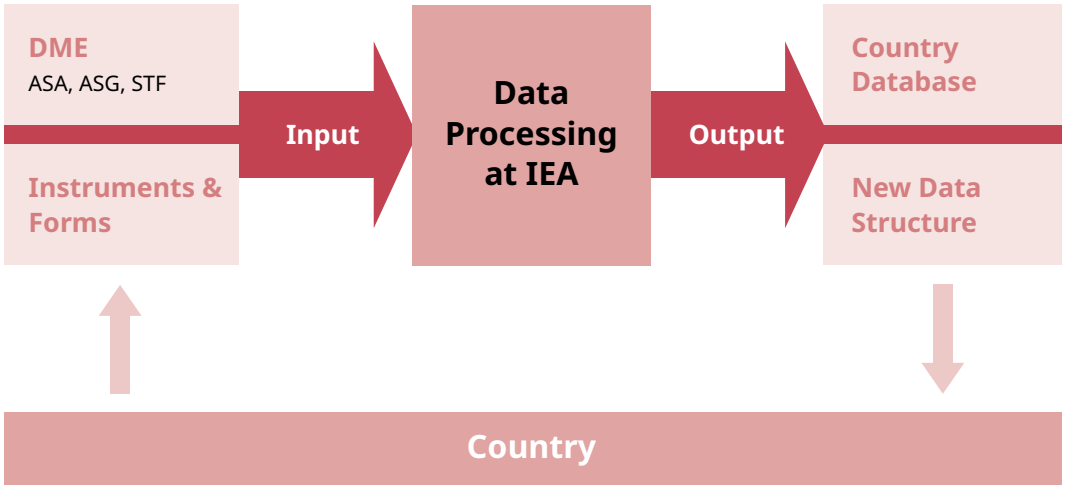
After the national databases had been verified and formatted according to the international file format, the data was handed to the IEA analysis and scaling team, which then produced and subsequently reviewed the basic item statistics. In a subsequent step, the IEA analysis and scaling team estimated item performance and did the LSCE field test assessment scaling (see chapter 8 for scaling methods and procedures). After completing the item analyses and scales, the IEA took the final steps of preparing the international database for distribution and release to UNICEF.

7.4 PREPARING NATIONAL DATA FILES

The main objective of the data-cleaning process was to ensure that the data adhered to international formats, that school and student information could be linked across different survey files, and that the data reflected the information collected in each country in an accurate and consistent manner.

The program-based data cleaning consisted of several activities, as summarized and explained in the following sections. All these activities were carried out in close communication with the national centers, which provided the IEA with the DME files and documents that were the input of the data processing *(see Figure 7.2).* The DME data files contained the information entered from the student questionnaires (student background database ASG) and from the assessment booklets (student assessment database ASA). Additionally, the IEA received the national centers' final administered instruments and tracking forms (STF), along with the NAFs.

Figure 7.2. Overview of data processing



7.4.1 Checking Documentation And Structure

For each country, data cleaning began with an exploratory review of its data-file structures and data documentation (i.e., NAFs, national instruments and student tracking forms). IEA staff began data cleaning by comparing the tracking information and the student-level database with the corresponding student data. During this step, the IEA also checked the data from the school-level database and compared it with the student-level database.

The first checks identified differences between the international and the national file structures. To keep track of adaptations, the national centers were asked to complete NAFs while adapting the international codebooks before these were sent to the IEA for approval. Where necessary, IEA staff modified the structure and values of the national data files to ensure the resulting data remained comparable across countries.

After IEA staff had ensured that each data file matched the international format, they applied a series of standard data-cleaning rules for further processing. The IEA employed cleaning programs that could identify and correct inconsistencies in the data.

7.4.2 Cleaning Identification Variables

Each record in a data file needs a unique identification number. The existence of records with duplicate IDs in a file implies an error. If two records in an LSCE database shared the same ID and contained the same data, IEA staff deleted one of the records and kept the other in the database. If both records contained different data and IEA staff found it impossible to identify which record contained the 'true data', they removed both records from the database. The IEA tried to keep such losses to a minimum; deletions were rare.

Although the ID cleaning covered all data from all instruments, it focused mainly on the student files (i.e., assessment and questionnaire). In addition to checking the unique student ID, it was crucial to check variables

pertaining to student participation and exclusion status, as well as each student's date of birth and assessment date to calculate the student's age at the time of assessment. The student tracking form was an important tool for resolving inconsistencies in the database.

7.4.3 CHECKING LINKAGES

In LSCE, data about students and their schools appeared in three different files at the respective levels. Therefore, it was vital to have correct linkage of these records to provide meaningful data for analysis and reporting. Linkage was done through an IEA-created hierarchical ID system provided to the countries. Student ID values in the student assessment file had to be matched correctly with those in the background file. Ensuring that student records linked to their corresponding schools was also important.

The hierarchical ID system implemented in the LSCE field trial was as follows (*see Figure 7.1):*

IDSCHOOL (identifies a school in a country): 1001 – unique identifier in school dataset

IDCLASS (identifies a class in a school): 100103

IDSTUD (identifies a student in a class): 10010301 – unique identifier in student datasets

7.4.4 Resolving Inconsistencies In Questionnaire Data

The rate of inconsistent responses in questionnaire data files varied considerably among countries. However, none of the national datasets were free of inconsistent responses. The IEA determined the treatment of inconsistent responses on a question-by-question basis, using all available documentation to make an informed decision. IEA staff also checked all questionnaire data for consistency across the responses given (i.e., in and between questions).

For example, question 3 in the principal questionnaire (in phase 1 only) asked for the total school enrolment (number of boys and number of girls, respectively). It was noted that for single-sex schools, some data consisted of a valid number in one of the question parts and "omitted" in the other. In such cases, the IEA recoded the "omitted" value to "zero". In the case that a school was not a single-sex school and there was no additional information from the national center, IEA staff recoded those cases as "invalid".

Filter questions, which appeared in some questionnaires, directed respondents to a particular sub-question of the questionnaire. The IEA applied the following cleaning rule to these filter questions and the dependent questions that followed: If the answer to the filter question is "no" or "not applicable" and the answer to the dependent question is "omitted", IEA staff recoded the omitted dependent questions to "logically not applicable".

7.4.5 Resolving Inconsistent Tracking And Questionnaire Information

Two different sets of LSCE data indicated student age and gender. The first set was the tracking information provided via student tracking forms, while the second set had the responses given by students in the student questionnaires.

IEA staff compared these two sources of information as a quality-control measure. In some cases, data across these two sets did not match, and a decision was needed. If any information on gender or birth (year and month) was missing in the student questionnaire but the student participated, then these data were copied over from the student tracking form to the student questionnaire, if available. If discrepancies were found between existing tracking and questionnaire gender and age data, the national centers were questioned, and IEA staff implemented the correction accordingly.

However, in some cases where the national center could not decide, the IEA considered the responses from the students. In other cases, the national center decided that the tracking information provided to the IEA was accurate and should be considered as final. In such cases, where the national center assured the accuracy of the tracking forms, the IEA copied over the tracking information to replace the questionnaire responses.

7.4.6 Handling Of Missing Data

Two types of entries were possible during data capture: valid data values and missing data values. Missing data can be assigned a value of omitted, invalid or not administered during data capture. The IEA applied additional missing codes to the data to facilitate further analyses. This process led to three distinct types of missing data in the final international database:

- Omitted or invalid: The respondent had a chance to answer the question but did not do so, leaving the corresponding item or question blank. Alternatively, the response was non-interpretable or out of range.
- Not administered: The item or question was not administered to the respondent, which meant that the respondent could not read and answer the question. The not-administered missing code was used for those assessment variables that were not in the sets of modules administered to a student, either deliberately (due to the rotation of booklet modules) or, in a very few cases, due to technical failure in printing (i.e., a text was misprinted and not readable). The missing code was also used for those records included in the international database, but which did not contain a single response to one of the assigned questionnaires. This situation applied to students who participated in the assessment but did not answer the student questionnaire. The not-administered code was also used for individual questionnaire items that were not administered in a national context because the country removed the corresponding question from the questionnaire.
- Logically not applicable: The respondent answered a preceding filter question in a way that made the following dependent questions not applicable to him or her.

7.5 THE LSCE Field Trial INTERNATIONAL DATABASE

The LSCE international database incorporated all national data files from participating countries. The data processing and validation at the international level helped to ensure that:

- Information coded in each variable was internationally comparable
- National adaptations were reflected appropriately in all variables
- All entries in the database could be linked to the appropriate respondent
- Only those records considered as participating remained in the international database files
- Indirect disclosure of individuals was prevented by applying confidentiality measures, such as scrambling identification variables or removing some of the personal data variables that were needed only during field operations and data processing

After the data quality was approved by the analysis and scaling team, the IEA scrambled the IDs of the LSCE field trial data. This confidentiality measure was taken due to the IEA rules of personal data protection. The anonymized data of the LSCE field trial comprised the following files:

LSGCCC[5].sav = Student questionnaire data

LSACCC.sav = Student assessment data

LCGCCC.sav = School questionnaire data (applied in phase 1 only)

[5] CCC = country ISO alpha3 code (EGY: Egypt; PSE: the State of Palestine; TUN: Tunisia).

Content of the student questionnaire data file:

IDCNTRY: Country ISO[6] numeric code
IDSCHOOL: Unique school identification code
IDCLASS: Class identification code
IDSTUD: Unique student identification code
STUDAGE: Student age
TOKEN_ASG: Questionnaire data availability (1=No data available; 2=No data available and instrument lost; 3=Data available)
SQ<#>: Student contextual background questions in the student questionnaire

Content of the student assessment data file:

IDCNTRY: Country ISO numeric code
IDSCHOOL: Unique school identification code
IDCLASS: Class identification code
IDSTUD: Unique student identification code
IDBOOK: Assessment booklet number assigned to the student
Assessment Items: All LSCE field trial assessment items

Content of the school questionnaire data file:

IDCNTRY: Country ISO numeric code
IDSCHOOL: Unique school identification code
LSCEPQ<#>: School contextual background questions in the school questionnaire

[6] International Organization for Standardization (ISO) numeric codes: Egypt = 818; the State of Palestine = 275; Tunisia = 788 (https://en.wikipedia.org/wiki/ISO_3166-1_numeric, Accessed: 20 August 2019).

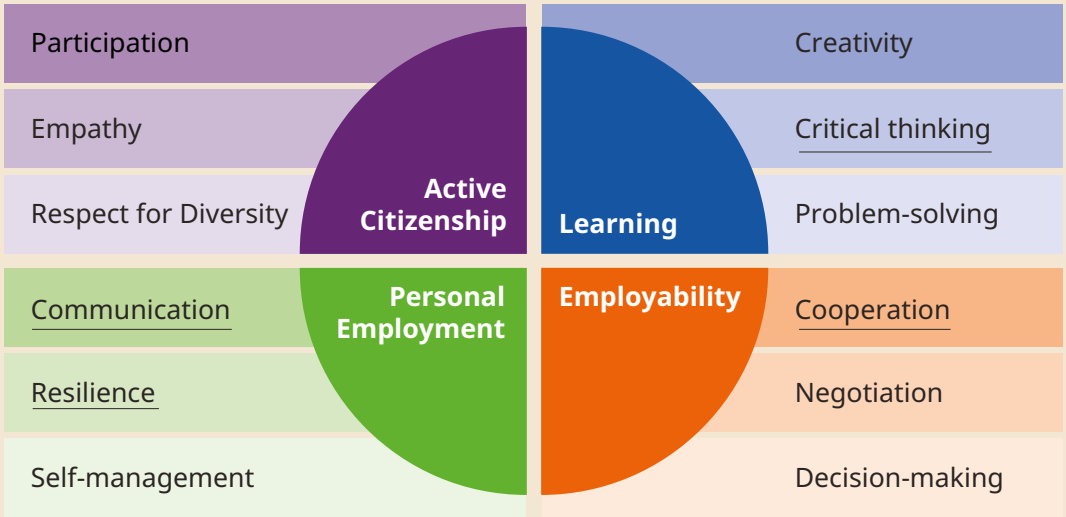
8. ITEM AND MODEL ANALYSIS

ITEM AND MODEL ANALYSIS

8

The purpose of the LSCE field trial was to develop and trial items in an instrument measuring several life skills[7] in the MENA region. Each of the defined life skills is part of one of four domains of learning: active citizenship, learning, personal empowerment and employability, which are differentiated by color in *Figure 8.1* below. Of the 12 life skills, nine were assessed during the LSCE phase 1 field trial, omitting critical thinking, resilience and cooperation. In phase 2, these three skills were added, along with a re-administration of communication. Three countries – Egypt, Tunisia and the State of Palestine – participated in the field trial, and their data were analyzed to determine which items in the field trial instrument were promising for future iterations of the life skills instrument.

Figure 8.1. Life skills and domains of learning for the LSCE field trials (underlined life skills field trialed in phase 2, except communication, which was field trialed in both LSCE phases).



This chapter details the statistical analysis conducted to determine the viability of the field trial instrument and to recommend the 30 most promising items for each life skill for use in future instrument iterations. It also details how each life skill was modelled and measured, and what information the analysis considered to determine skill viability and the quality of each item measuring the skill.

[7] As defined by UNICEF's (2017) *Reimagining Life Skills and Citizenship Education in the Middle East and North Africa Conceptual and Programmatic Framework.*

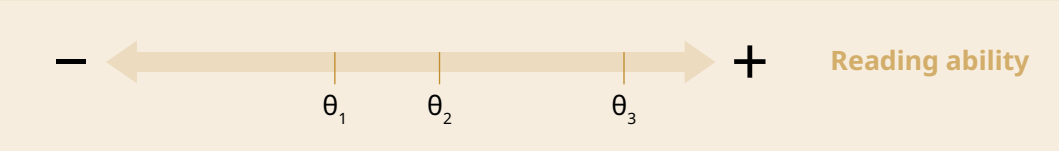
8.1 MEASURING THE LIFE SKILL LATENT TRAITS

Each life skill in the LSCE project is considered a latent trait, defined in psychological literature as an ability or characteristic in a person that is reflected in their actions, attitudes or beliefs (Borsboom, 2005). In the context of assessment, the word 'latent' refers to the unobservable nature of the trait being measured. The idea of this unobservable nature is perhaps better understood with an example. Suppose one would like to measure an individual's mathematics knowledge in geometry. Unlike an observable individual trait, such as height, there is no possibility of directly measuring geometric knowledge. While measuring tapes accurately and completely measure an individual's height, there is no tool to accurately and completely measure one's geometric knowledge. Items on a geometric assessment are developed to measure certain components of geometric knowledge but, depending on wording, the temperature in the room and other factors, one cannot expect that a geometric assessment with various items completely measures geometric knowledge or that it does so in the exact same way for all individuals. Therefore, the term 'unobservable nature' refers to the fact that a latent trait cannot be directly measured. Rather, in psychometric fields such as education, latent traits are estimated, typically by developing several items aimed at gathering information about an individual's latent trait ability. These items are then statistically modelled to form a latent variable, which represents some numeric measure of the latent trait.

8.1.1 Representation Of A Latent Trait

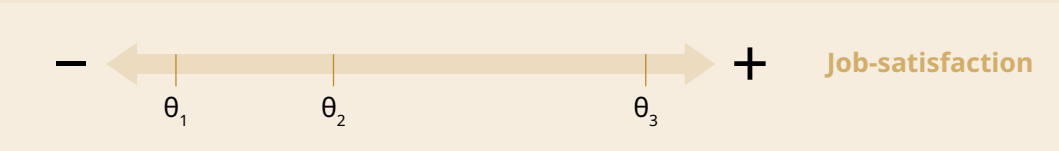
For measurement, a latent trait is conceptualized as a continuum, typically represented as a horizontal line. As an example, consider *Figure 8.2,* which represents the continuum of the cognitive latent trait 'reading ability' and the measurement of three individuals. The measurement of a latent trait is often denoted as θ_i, where i represents an individual. When measuring cognitive latent traits, θ is often described as an individual's 'ability' on the latent trait and results in a numeric representation of the individual's ability. As there are no units for latent traits, the continuum's range is from negative to positive infinity. However, a latent continuum is typically examined between negative and positive three, as a latent trait is assumed to be normally distributed in the population and set to a mean of zero and standard deviation of one, meaning individuals with a latent trait ability outside this range are extremely rare. In the present example, numeric units are not presented, for simplicity. In the following example with three individuals – Aanisah, Muhtadi and Zahrah – where Aanisah is individual one (i = 1), Muhtadi is individual two (i = 2) and Zahrah is individual three (i = 3*), Figure 8.2* 'maps' their reading ability levels on the latent trait's continuum. In this example, Aanisah and Muhtadi have similar levels of reading ability, while Zahrah has a considerably higher level of reading ability.

Figure 8.2. Example of a latent trait continuum of reading ability for three individuals



For non-cognitive latent traits, θ may be referred to as an individual's latent trait 'level' or 'endorsement', with the latter used especially when measuring attitudes or concepts such as democracy. Considering a non-cognitive latent trait, such as job satisfaction, and individuals Dymek (i = 1), Sevinc (i = 2), and Zakwan (i = 3), *Figure 8.3* maps their job satisfaction on the latent trait's continuum. Assuming a scale similar to the example presented in *Figure 8.2,* Dymek has quite a low level of job satisfaction, while Sevinc's level is on the lower side and Zakwan's level is quite high.

Figure 8.3. Example of a latent trait continuum of job satisfaction for three individuals



8.1.2 Numerically Estimating A Latent Trait

To obtain a numeric estimation, content experts consider the desired scope of measurement for the latent trait and develop items that cover this scope. For example, when measuring the mathematics ability of students who have learned geometry but not yet trigonometry, items would be developed to measure the geometric attributes of mathematics ability but not trigonometry. Often, content experts consider different attributes of the latent trait and develop several items for each to ensure proper coverage of the latent trait. Items may be questions or prompts that elicit a response from an individual. Response options to these items are then either numerically coded or scored such that low to high numbers correspond to low to high levels of the latent trait. Theoretically, an individual's level of the latent trait is reflected in their responses to items aimed at measuring this latent trait. In other words, the individual's true latent trait ability or endorsement influences their responses to the items. These responses are then statistically analyzed to calculate a latent variable that estimates the individual's true latent trait level.

The number of items to properly reflect a latent trait has no upper or lower limit, it being important that enough items are included to capture all the intended attributes of the latent trait. In addition, the items should be able to measure the latent trait for a diversity of people: individuals with high, middle and low ability or endorsement of the latent trait. However, typically, even the least complex latent traits cannot be measured with just one item, and even two or three may be too few. Conversely,

a single latent trait is considered unidimensional, meaning an individual's responses to items are influenced by only a single trait. Using too many items may complicate the dimensionality of the measured latent trait, if the individual is taxed with demonstrating an additional trait, such as concentration skills when completing a particularly long assessment. The life skill latent traits in this study are relatively complex, and several intended attributes are measured in each skill. Therefore, a goal of retaining 30 items of the original 45 was set for the field trial item selection. However, to reiterate, 30 items is not a magic number that speaks to the quality of the scales. Rather, it was a stated goal for the field trial, while recognizing that better life skills models are possible with more or fewer items.

There are several options for statistically analyzing items to estimate a latent variable. Two of the most widely used analytic methods are item-response theory (IRT) and confirmatory factor analysis (CFA). The two methods are similar but have different foci: IRT focuses on the item level, while CFA focuses on the latent variable level. Since the focus of the LSCE field trial was item selection, IRT was chosen, as it provides additional statistics for items based on their characteristics in the structure of the latent variable. In other words, in addition to descriptive statistics for the items, IRT offers additional evidence of item quality, including how well the item differentiates between individuals with different levels of the latent trait and a measure of the information an item contributes to the overall estimation of the latent variable.

8.1.3 The Estimation Model For Life Skills

All items in the field trial instruments are considered ordinal variables, meaning each has four response options that are ordered. The order reflects the degree of agreement or endorsement of an item's statement or question. For example, if the four response options are: 'strongly disagree', 'disagree', 'agree' and 'strongly agree', then the respondent indicates the level of endorsement of a statement by indicating their agreement. Items with multiple, acceptable response options are called 'polytomous' items. For polytomous items of an ordinal nature, there are several IRT models that may be used to estimate a latent variable. After careful examination, the graded response model (GRM; Samejima, 1969; 1996) in the IRT framework[8] was chosen to analyze the life skills. The GRM has two important characteristics that distinguish it from other polytomous IRT models: (1) it estimates item discrimination; and (2) it allows the response scales for each item to vary while keeping the order of the responses. Regarding point (2), allowing response scales to vary means that the distances between two response options such as 'strongly agree' and 'agree' on the latent trait continuum is not assumed to be the same for each item. This is appropriate for items untested with a certain population, and items with different response options (Embretson and Reise, 2000). Other IRT models have similar advantages, such as the general partial credit model (GPCM). However, the GPCM does not guarantee that the response categories maintain their ordering (Muraki, 1992).

[8] Of note, the GRM is mathematically equivalent to a categorical CFA model, which would be the appropriate model had CFA been chosen as the primary analytic method (Kamata and Bauer, 2008; Meade and Lautenschlager, 2004; Muthén and Asparouhov, 2002).

Another consideration leading to the decision to use GRM was that the field trial instrument consisted of two types of items: self-reporting items (all with four response categories, but varying wording of the options in the same latent trait) and SJTs that come in a variety types depending on the purpose of the instrument (National Research Council, 2015). For the LSCE field trials, item stems presented a situation to the respondents, and each subsequent item presented a possible course of action. For each action, respondents selected an option indicating the likelihood of endorsing a particular course of action (e.g., I would definitely do/probably do/probably not do/definitely will not do). This structure was similar to self-reporting items, and the number of response options (four) was the same for both self-reporting and SJT items. All response options, whether self-reporting items or SJTs,[9] were rated using four-point Likert scales. Using this method, both types of items were combined into a single GRM model for each life skill.[10]

8.1.4 Graded Response Model Parameters

IRT models provide two types of parameters: person and item parameters. The person parameter is θ_i, which is the individual's estimated score on the latent variable, as discussed above in section 8.1.1. In brief, an individual's latent trait level determines the probability that the individual will respond in a certain way to a particular item. For example, if an individual believes highly in democratic government, then they are more likely to select 'strongly agree' for items with statements supporting strong democratic governments, and they are more likely to select 'strongly disagree' for items with statements that do not support strong democratic governments. Item parameters represent several aspects of how a person's latent trait levels influence the probability that the person will provide a certain response.

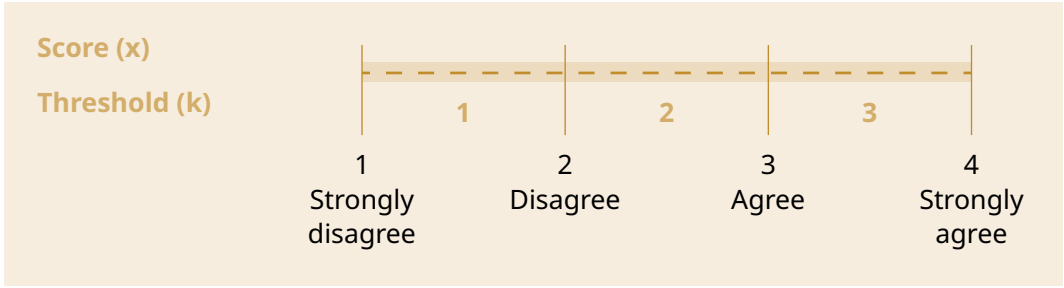
Item parameters vary depending on the type of IRT model implemented. For a GRM, item j with K categories is modelled by a discrimination parameter a_j and K--1 threshold parameters, $\delta_{j1},\ldots,\delta_{j(K-1)}$. The discrimination parameter provides information about how well an item differentiates, or discriminates, between individuals of different latent trait levels. A high discrimination parameter indicates that the item differentiates well between individuals with low, medium and high levels of the latent trait. In other words, an individual with a low level of the trait is more likely to respond with a category indicating that low level, while an individual with a medium level responds with a category at the medium level, and an individual

[9] An alternative method of scoring Likert-type SJT items is to have content experts rank the response options from most to least desirable. The response option chosen by content experts as the most desired would be coded 4, the second-most 3, the third-most 2 and the least desirable 1. The response options, 4 to 1, would align on the latent trait continuum in the same way as the scoring method used in the field trials, with the difference being that the response options wording would not form the ordered scale. Of note, there are other possible alternative scoring methods.

[10] Various methods are used to combine different item types (e.g., Haberkorn, Pohl and Carstensen, 2016; Lau and Wang, 1998; Thissen, Pommerich, Billeaud and Williams, 1995). As both the self-reporting and SJT items had the same number of response categories, the primary consideration was whether it was appropriate to combine different item types that measure the same latent trait into a single model (Ericikan et al., 1998, p. 138). As this appears throughout the IRT literature, it was deemed appropriate to combine self-reporting items with SJTs. However, as a caution, the results of separate models by item type to those of a model combining item types were compared. As the results led to the same decisions regarding item selection, and separate and combined models exhibited good fit statistics and reliability (except for communication), single models combining item types were used for decision-making regarding item selection.

with a high level responds with a category indicating a high level. A threshold is a point at which the probability switches from being more probable to providing one response to being more probable of providing a different response. For an item with four response options (x=1,2,3,4)) where an individual selects a category from 'strongly disagree' to 'strongly agree', there are three thresholds ((k = 1,2,3) between the categories *(see Figure 8.4).*

Figure 8.4. Example of a four-category item



The GRM specifies the probability of an individual responding in category x_j or higher compared to responding in categories lower than x_j. According to the GRM, the probability of obtaining x_j or higher is dependent on the person parameter θ and given by the equation,

Equation 8.1

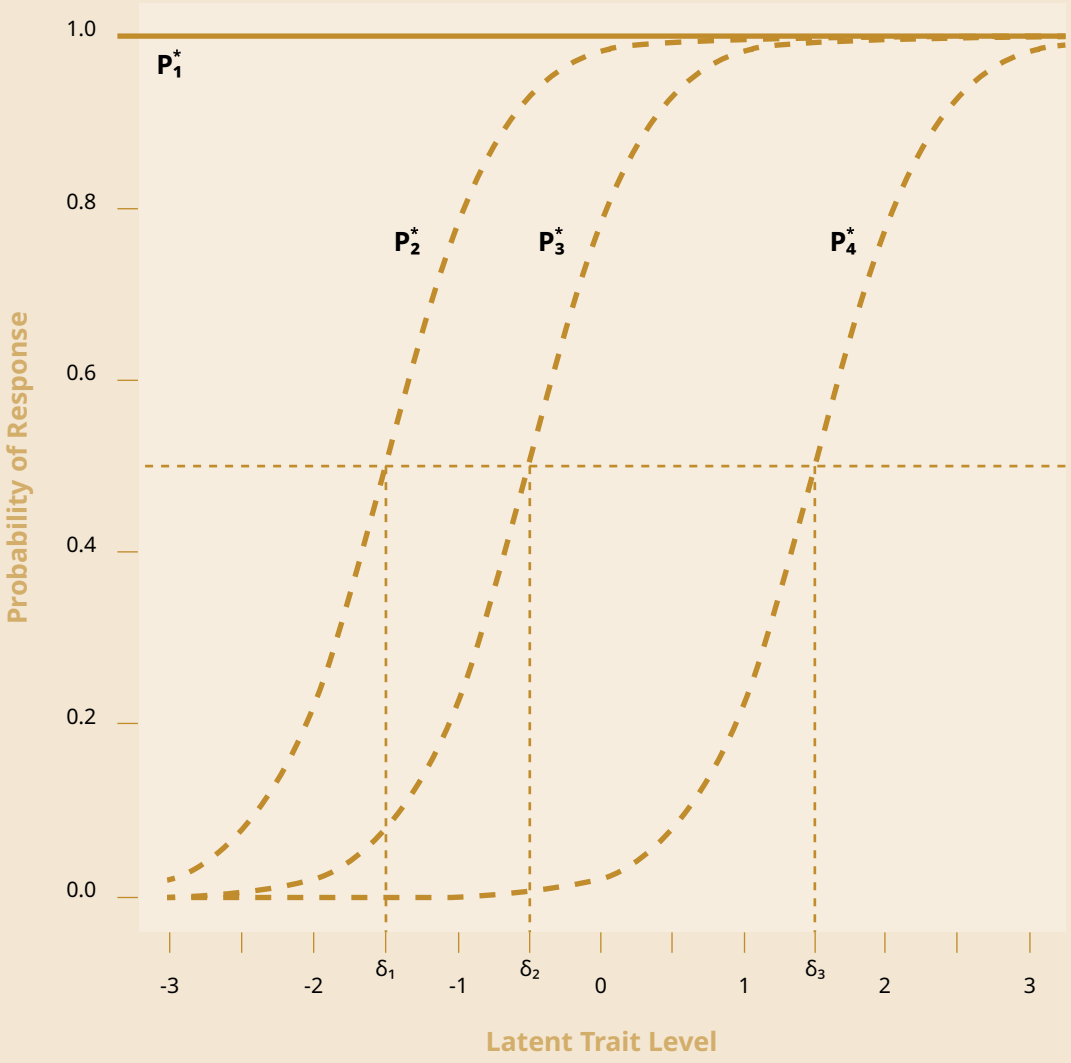
$$P^*_{x_j}(\theta) = \frac{exp\left[a_j\left(\theta - \delta_{x_j}\right)\right]}{1+exp\left[a_j\left(\theta - \delta_{x_j}\right)\right]}$$

where $P^*_{x_j}(\theta)$ is the probability of scoring in or above response category x of item j, a_j is item discrimination, and δ_{xj} is the threshold parameter for category xj, which can be viewed as the boundary between categories x_j and x_{j+1} (or a lower category on the latent continuum and the next higher category), and θ is the person parameter. A star (*) is added to P to indicate it represents the cumulative probability of selecting a category for the item, and not the probability of selecting a particular category for the item.

As a further look into thresholds, *Figure 8.5* presents an example of a single hypothetical item's cumulative probability curves of a four-point Likert, "Strongly disagree" is coded numerically as "1" in the dataset, represented as x_j = 1, "Disagree" represented as x_j = 2, "Agree" as x_j = 3, and "Strongly agree" x_j = 4. The x-axis represents the latent continuum, and the y-axis represents the cumulative probability (with a lower bound of zero and upper bound of one, corresponding to zero and 100 per cent, respectively) that an individual will respond a certain categorical response or higher. Therefore, by this definition, $P_1^*(\theta)$ is equal to one as the probability of providing a response of x_j = 1 or higher is 100 per cent, assuming an individual responds to the item. In other words, it is 100 per cent probable an individual will provide a response of x_j =1,2,3,or 4, as those are the only response options. The term $P_1^*(\theta)$ specifies the probability of responding in categories x_j =2,3,or 4, but not x_j =1; $P_1^*(\theta)$ specifies the probability of responding in categories x_j =3 or 4, but not x_j =1 or 2; and $P_4^*(\theta)$ specifies the probability of responding in

category x_j = 4, not x_j =1,2,or 3. Figure 8.5 also shows the points of inflection (i.e., the points at which certain responses become more probable than others) of the cumulative probability curve located at the thresholds, δ_{xj}). Recall from Figure *8.4* above that for items with four response categories, there are three thresholds between the four categories. The probability of selecting "Disagree" (x_j = 2) or higher is 0.50 (i.e., 50 per cent) at δ_1, the probability of selecting "Agree" (x_j = 3) or higher is 0.50 at δ_2, and the probability of selecting "Strongly agree" (x_j = 4) is 0.50 at δ_3. The slopes of the cumulative probability curves at δ_{xj} are equal within an item j and are proportional to the discrimination parameter, a_j. The higher the discrimination parameter, the steeper the cumulative probability curve.

Figure 8.5. Example of cumulative probability curves for a polytomous item



The GRM is known as an indirect or difference model, as the probability of endorsing a response category is not calculated directly from *Equation 8.1.* Instead, the probability of an individual endorsing a particular category *xj* is calculated by the difference between the cumulative probabilities for adjacent categories. That is,

Equation 8.2

$$P_{x_j}(\theta) = P^*_{x_j}(\theta) - P^*_{x_j+1}(\theta)$$

Therefore, the probabilities of responding in each of the four categories can be expressed as follows.

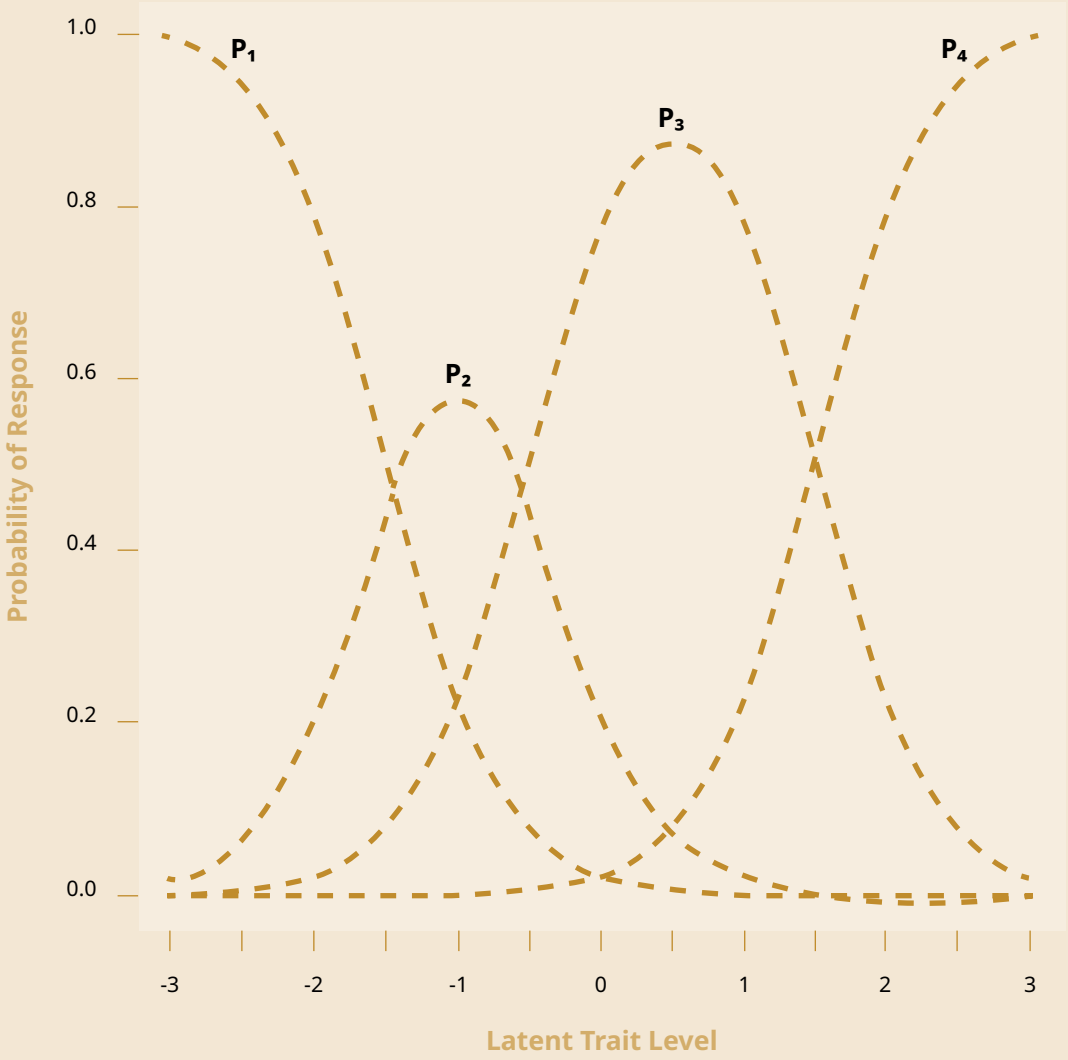
Equation 8.3

$$P(x_j = 1|\theta) = P^*_1(\theta) - P^*_2(\theta) = 1 - P^*_2(\theta)$$

$$P(x_j = 2|\theta) = P^*_2(\theta) - P^*_3(\theta)$$
$$P(x_j = 3|\theta) = P^*_3(\theta) - P^*_4(\theta)$$
$$P(x_j = 4|\theta) = P^*_4(\theta)$$

Figure 8.6, below, presents the category response curves for the same hypothetical item used as an example in *Figure 8.5.* Similarly, the x-axis represents the latent continuum, and the y-axis represents the probability that an individual will respond with a certain categorical response. Starting from the left, notice that the probability of an individual providing a response of 'strongly disagree' (x_j = 1) decreases as the individual's latent trait level increases. Each of the four response categories has its own curve and when an individual's latent trait level rises above negative 1.50, the probability that they will respond with 'strongly disagree' to the item is now less than the probability that they respond with 'disagree' (x_j = 2). This probability rises and then falls as an individual's latent trait level rises until it is overtaken by the probability to respond with 'agree' (x_j = 3), and then 'strongly agree' (x_j = 4). The higher the discrimination parameter, a_j, the narrower and more peaked the category response curves. A curve with a greater slope of rise and fall better differentiates, or discriminates, between individuals at different latent trait levels as the probabilities of category response rise and fall with the curve. Conversely, less peaked, or flatter, curves do not differentiate as well between individuals as the probabilities are nearly the same for individuals with different latent trait levels.

Figure 8.6. Example of an item response curve for a polytomous item



8.1.5 Item Information

In addition to item parameters, IRT modelling estimates an information function, which provides the precision of measurement over the range of the latent trait continuum. Information functions can be estimated for each item, or the aggregation of all items as the latent variable (referred to in IRT literature as 'test information'). At the item level, the item-response curve can be transformed into an item-information curve (IIC), which indicates the amount of psychometric information for an item along the latent trait continuum (Embretson and Reise, 2000). For polytomous items, each category provides information and the information function for responding in a particular category *x* can be written as follows,

Equation 8.4

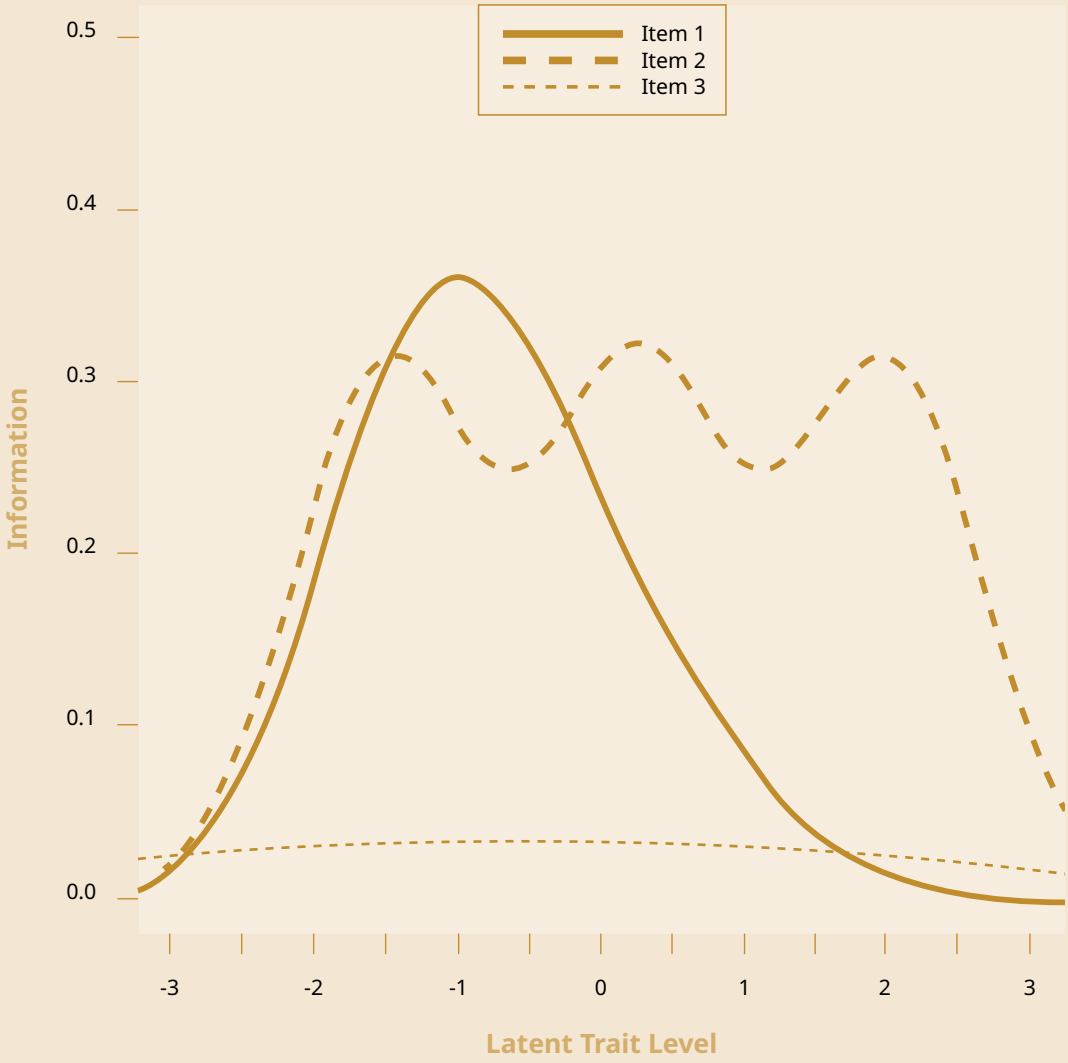
$$\mathbf{I_j(\theta) = \sum_{x_j=1}^{m} \frac{P_{x_j}^{*}(\theta)^2}{P_{x_j}(\theta)}}$$

where $I_j(\theta)$ is the information for item j at the latent trait level θ, $P_{xj}(\theta)$ is calculated as above in Equation 8.2, θ, $P_{xj}^{*}(\theta)$ is the first derivative of the category response curve evaluated at a particular latent level. The item information is the sum of the response categories from one to m, which is the number of response categories.

The amount of item information can be plotted against the latent trait level, θ, as in *Figure 8.7,* where the x-axis represents the latent continuum as discussed above, and the y-axis represents the measure of item information. IICs for polytomous items can have multiple peaks and can spread over a broader extent of the latent trait continuum (Samejima, 1997). The information curve's shapes and values depend strongly on the discrimination parameter. When discrimination is high, the item provides more information on the estimated latent trait, and maximal information is concentrated near its thresholds. Items with low discrimination parameters provide less information across the latent continuum, resulting in an IIC that is flat and scattered along the latent trait continuum. The higher the information measure at a particular latent trait level, the lower the standard error of the latent trait estimate at that level. If the information is low at a certain latent trait level, then the item is not well suited for measuring that level of latent trait.

As an example, *Figure 8.7* shows the information function for three items. For item 1, the thresholds are close together (as there is only one peak), resulting in an IIC that is unimodal and peaked. Item 1 provides the greatest amount of information for distinguishing among individuals at the latent trait level $\theta = -1$. For item 2, the thresholds are spread further apart, and each category adds information at different locations. Thus, the IIC for item 2 has multiple peaks and is spread over a broader extent of the latent trait continuum. Item 3 is a less discriminating item and provides a small amount of information across a broader range, indicating this item is not well suited for measuring this specific latent trait.

Figure 8.7. Example of an item information curve for a polytomous item



Analyses of the descriptive statistics and IRT statistics provided from the GRM model were used to aid in the item selection process, described below. However, IICs of all items for both the 45- and 30-item models would require many pages of text. Therefore, the maximum information an item reached, along with the latent trait level at which maximum information was reached, is presented in the items' IRT statistics for both models in tables in *Appendix B*. Of note, if the maximum item information is relatively low (e.g., 0.1 or lower) then the IIC is most likely very flat over the entire latent trait continuum, suggesting a poor item. Additionally, the information in the tables does not reveal items with multiple peaks. For such items, the maximum information simply represents the highest peak. However, given that the overall goal of the field trial analysis is item selection and identifying items with acceptable statistics to develop a good measure of a life skill and is not focused on the intricacies of item performance, the omission of the IICs was considered acceptable.



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8.2 ANALYSIS

8.2.1 Booklet Rotation And Data Preparation

Phase 1 (2019)

As many of the items were newly developed for the first phase field trial instrument, the aim was that each item would have responses from around 200 individuals per country. In addition, to ensure that no students were overburdened by the number of items they would have to answer, only 60 items were given to each student.

Each Life Skill instrument contained 45 items each, for a total of 405 items from the nine instruments. Given that many items were created for the field trial rather than being taken from existing instruments and that the target population of students in the MENA region had not responded to items focused on Life Skills in a large scale, one goal of the field trial was to explore how well items from Life Skills within the same Domain of Learning behaved together. Therefore, the 45 items from each Life Skill were divided into three 15-item blocks. A single booklet contained two blocks each from two Life Skills, for a total of 60 items.

For the Domains of Learning with two Life Skills assessed, three booklets were made so that each 15-item block was tested with all other 15-item blocks from the two Life Skills. These booklets were given to at least 100 students in each country so that each item received around 200 responses in each country, as mentioned above.

For Active Citizenship, with three Life Skills, a more complicated booklet rotation design, of nine booklets, was required. This necessitated that only 50 students respond to each of the nine Active Citizenship booklets to achieve the desired 200 responses per item in each country (see Appendix C1 for a graphical representation of booklet rotation).

This implies that, of the total sample of 1,350 individuals in each country, around 200 individuals would respond to any given item. The actual sample sizes obtained were 1,681 students in Egypt, 1,344 in Palestine and 1,543 in Tunisia.

Of note, the valid response rate for the field trial was quite good. For the pooled sample, item missingness reached a maximum proportion of 0.025 for two items; for Egypt, maximum missingness was 0.043 for one item; for the State of Palestine it was 0.041 for one item; and for Tunisia it was 0.036 for one item. As these numbers are small, they are not presented in any tables in Appendix B1. The valid responses (*n*) for each item, pooled and by country, are reported in the descriptive statistics tables in Appendix B1.

As a result of the sampling design, each Life Skill was analyzed with confidence that the items for each Life Skill and within each Domain of Learning had been tested with the same groups of students. The focus of the analysis was on Life Skills and how items performed within each Life Skill. However, other analyses, such as correlations between items from different Domains of Learning was not possible (nor the focus of the field trial) without data imputation[11]

[11] This could be accomplished through comparisons of student similarity based on the background questionnaires, which every student was asked to complete regardless of the item booklet they received.

The country data sets were combined, and items were reverse coded using SPSS (Version 24). In addition, that data was weighted so that each country's data contributed equally to the model parameters. Data was analyzed using *R* software (version 3.5.1), using the packages *psych* (version 1.8.12; see Revelle, 2011 for an overview of the package) for descriptive analyses and *mirt* (version 1.30; see Chalmers, 2012 for an overview of the package) for IRT analyses. All response options for both self-report and SJT items were coded so that the numeric coding, low to high, corresponded to low to high ability/endorsement of the latent trait.[12] For example, for an item with four response options with categories "Strongly agree," "Agree," "Disagree," and "Strongly disagree," where "Strongly agree" indicates a higher level of the latent trait, the response options were coded 4, 3, 2, and 1, respectively. In some cases, items were worded such that a response of "Strongly disagree" indicates a higher level of the latent trait. Such items are "reverse" coded 1, 2, 3, and 4 such that a higher numeric value (e.g., 4 for the response "Strongly disagree") indicate a higher level of the latent trait. Items that were reverse coded appear in Table 8.1 for each *Life Skill*. Of note, there were no items that were reverse coded for *Creativity*.

Table 8.1. Items with reverse codings in LSCE phase 1 (2019)

Communication	Decision Making	Empathy	Negotiation	Participation	Problem Solving	Respect for Diversity	Self-Management
PCO0018	EDM0002	CEM0012	ENG0001	CPA0039	LPS0025	CRD0003	PSM0033
PCO0019	EDM0003	CEM0018	ENG0003	CPA0041	LPS0026	CRD0004	PSM0040
PCO0021	EDM0005	CEM0024	ENG0005		LPS0036	CRD0006	PSM0042
PCO0031	EDM0006	CEM0026	ENG0006		LPS0038	CRD0042	PSM0043
	EDM0008	CEM0030	ENG0010			CRD0043	PSM0044
	EDM0009	CEM0035	ENG0018			CRD0045	
	EDM0011	CEM0036	ENG0020				
	EDM0012	CEM0041	ENG0029				
	EDM0013		ENG0030				
	EDM0014		ENG0033				
	EDM0015		ENG0034				
	EDM0016		ENG0038				
	EDM0018		ENG0040				
	EDM0020		ENG0043				
	EDM0021		ENG0045				
	EDM0022						
	EDM0042						
	EDM0044						

[12] For original coding please see Chapter 7, Section 7.2.

Phase 2 (2024)

In phase 2, with only four scales administered, the target was increased to around 400 responses per item per country. Each life skill instrument contained 45 items, for a total of 180 items across the four life skills.

To ensure students were not overburdened, each booklet was limited to 60 items, with students responding to items from only two life skills. To achieve this, LSCE used a matrix sampling approach, dividing the item pool into 12 student booklets, with each student completing one booklet. The 45 items from each life skill were first split into three 15-item blocks. Each booklet included four blocks, representing two of the four life skills. This design ensured that every item appeared in four different booklets, allowing student responses to be linked across booklets during data analysis. These booklets were given to at least 100 students in each country so that each item received around 400 responses in each country, as mentioned above (see Appendix C2 for a graphical representation of booklet rotation). This implies that, of the total sample of 1,350 individuals in each country, around 400 individuals would respond to any given item. The actual sample sizes obtained were 1,692 students in Egypt, 1,245 in the State of Palestine and 1,338 in Tunisia.

As a result of the sampling design, each life skill was analyzed with confidence that the items for each life skill and in each domain of learning had been tested with the same groups of students. The analysis focused on life skills and how items performed in each one. However, other analyses, such as correlations between items from different domains of learning, were not possible (nor was it the focus of the field trial) without data imputation.

The country data sets were combined, and items were reverse-coded using R (version 4.3.2). In addition, those data were weighted so that each country's data contributed equally to the model parameters. Data were analyzed using R software (version 4.3.2), using the packages psych (version 2.4.12; see Revelle, 2011 for an overview of the package) for descriptive analyses and mirt (version 1.43; see Chalmers, 2012 for an overview of the package) for IRT analyses. In phase 2, the recoding procedure was not applied as the focus of the field trial was item selection rather than creating scale scores; therefore, the original response order was retained. For example, 'strongly agree', 'agree', 'disagree' and 'strongly disagree' remained coded as 1, 2, 3 and 4, respectively. Similarly, for items with response options such as 'very likely', 'likely', 'unlikely' and 'very unlikely', the coding remained as 1, 2, 3 and 4. The two scoring methods applied in phase 1 and phase 2 reflect opposite orientations of the final latent trait continuum when scale scores are created. Nevertheless, since IRT treats items as categorical variables, the distances between response thresholds do not affect the analysis.

In the scales, negatively worded items are intentionally included alongside positively worded items to enhance measurement quality. This practice helps prevent response biases, such as response sets or automatic answering tendencies, and ensures balance between positively and negatively worded items. When negatively worded items appear in the same scale, they must be reverse-coded (e.g., 4, 3, 2 and 1 for 'strongly agree', 'agree', 'disagree' and 'strongly disagree') to align all items in the same direction for measuring the latent trait. For example, in the communication scale, positively worded items such as "I use appropriate words for different situations" or "I let others have an opportunity to speak" are coded 4 (strongly agree) to 1

(strongly disagree). In contrast, negatively worded items such as "You stop taking part in the discussion altogether" or "You encourage someone else in the group to interrupt" must be reverse-coded. This ensures consistency in measuring the underlying construct. Items that were reverse-coded appear in *Table 8.1,* below, for each life skill.

Table 8.2. Items with reverse coding in LSCE phase 2 (2024)

Communication	Cooperation	Critical thinking	Resilience
PCO0005	ECP0002	LCT0005	PRS0007
PCO0011	ECP0008	LCT0006	PRS0013
PCO0012	ECP0010	LCT0009	PRS0015
PCO0016	ECP0011	LCT0013	PRS0017
PCO0017	ECP0013	LCT0018	PRS0034
PCO0018	ECP0016	LCT0021	PRS0043
PCO0020	ECP0020	LCT0024	PRS0044
PCO0021	ECP0022	LCT0027	
PCO0033	ECP0023	LCT0028	
PCO0035	ECP0024	LCT0030	
PCO0036	ECP0031	LCT0034	
PCO0037	ECP0034	LCT0036	
PCO0040	ECP0035	LCT0040	
PCO0045	ECP0042	LCT0042	
	ECP0043	LCT0044	
	ECP0044		

To ensure that the life skill models were appropriate for the target population in the MENA region, each life skill was analyzed with pooled data from three sampled countries (Egypt, the State of Palestine and Tunisia) and modelled for each individual country. To ensure that items and life skills performed similarly among the various populations sampled, item and model invariance was tested between the three sampled countries.

8.2.2 Descriptive Statistics

Descriptive statistics for the items were observed to understand the nature of the item data. First, response frequencies were examined for missing response categories. A missing response category for the entire sample or a certain sub-sample indicates that the response option is not relevant for the population or sub-population, and the item should be re-examined for its appropriateness in the instrument. In phase 1 of the LSCE field trials, for the entire instrument (405 items), only three items were missing response categories: item LCR0031 from Creativity in the State of Palestine (see Appendix

B2), and items PCO0003 and PCO0007 from Communication in Tunisia (see Appendix B2). In these cases, the category missing responses reflect the lowest end of the response categories on the latent trait continuum, resulting in non-reliable threshold statistics (see Appendix B2). As a result, all these items were recommended for removal from the instrument. In phase 2, the entire instrument (180 items) had no missing response categories, meaning each response category was used in every item. However, if responses were missing in a certain category, it could result in unreliable threshold statistics.

Other descriptive statistics presented in Appendix B2 include the number of valid cases (n), measures of central tendency and measures of dispersion. As all items are ordinal, appropriate measures of central tendency include the median and mode, while the measure of dispersion is the interquartile range (IQR).[13] These statistics did not factor directly into item selection but may provide clues when an item performs poorly; for example, by observing the extent of variance present in an item by examining the measure of dispersion. Items with low variance typically do not differentiate well among the latent trait levels of survey respondents. Of note, normally distributed items are not an assumption of IRT.

8.2.3 IRT Item Statistics

8.2.3.1 Examining item parameters

The discrimination parameter was the primary parameter examined for item selection to understand how effectively an item differentiates between individuals with different levels on the latent trait. According to Toland (2014), the discrimination parameter is an indicator of the relationship between the item and the latent trait variable. Higher values indicate a strong relationship and vice versa. It is not desirable to have items with negative discrimination parameters (Crocker and Algina, 2008), as this means individuals with higher endorsement of the latent trait show lower endorsement of the item, suggesting the item might need to be reverse-coded. As all the respective items were reverse coded before the analysis, a negative discrimination parameter shows a complicated relationship of the item with the latent trait. In other words, a negative discrimination factor implies that the item responses do not behave in an ordered manner as expected. For cases where this was true, items were flagged and suggested for deletion. Baker (2001) classifies discrimination under a normal ogive model as 'none', 'very low', 'low', 'moderate', 'high', 'very high' and 'perfect'; ranging from 0.00, 0.006–0.20, 0.21–0.37, 0.38–0.78, 0.79–0.99, greater than or equal to 1.00, and positive infinity, respectively. Of note, this classification system was developed for two- or three-parameter logistic model,[14] where the discrimination parameters are more easily interpretable. However, in the absence of clear criteria, we used this system as a guide for item selection, not a rule.

8.2.3.2 Examining item fit statistics and item information

An item fit statistic was examined to assess the discrepancy between the selected IRT model and item response data. The most frequently used item fit statistics are based on the chi-square distribution. For assessing item fit in LSCE, Yen's Q1 statistic (Yen, 1981) was used, which depends on the comparison of empirical probabilities with the model-predicted probabilities. The probability of a correct response is

[13] The formula for the IQR is $Q_3 - Q_1$, where Q_3 is the third quartile, or median of the upper half of the distribution, and Q_1 is the first quartile, or median of the lower half. Since the data range from one to four in value, the maximum IQR is three.

[14] For more information on two- or three-parameter logistic models (2-PL and 3-PL, respectively), see Embretson and Reise, 2000.

observed for 10 latent trait intervals. The latent trait intervals are determined to have equal frequency, and the expected probability represents the mean of the probabilities of a correct response within an interval. A significant *p*-value (at or below 0.05) would suggest that the item does not fit the chosen model. Desjardins and Bulut (2018) suggest that item fit statistics should be used with caution, and that decisions on item selection should not be made solely on this information. In addition, IICs were visually examined. Items with mostly flat IICs were considered unreliable and were flagged, as flat curves suggest the item provides limited information about the estimated latent trait and is associated with larger standard errors.

8.2.3.3 Testing Differential Item Functioning

Differential item functioning (DIF) analysis was used to determine whether responses on any items differed for groups, defined as the three participating countries, after controlling for differences in a person's latent trait. The existence of DIF suggests that the item parameter estimates are not invariant across groups (similar to measurement invariance for a latent variable model). In other words, an item exhibiting DIF is not related to the latent trait in the same way between the groups and is, therefore, an unreliable measure of the latent trait in the pooled model. In phase 1, DIF was evaluated by country to identify items that function differently across the three participating countries. In phase 2, DIF was further evaluated by gender, using the pooled international data, to assess whether items exhibited differential functioning between male and female respondents.

DIF is tested using the multiple-group model estimation approach, employing nested-model comparisons based on likelihood ratio or information statistics (e.g., Akaike information criterion [AIC] and Bayesian information criterion [BIC]) (Thissen, Steinberg and Wainer, 1988; Chalmers, Counsell and Flora, 2016). Various item parameters (e.g., discriminations and thresholds) are constrained to be equal across groups in one model (the constrained model) and free to differ in another (the unconstrained model). The null hypothesis tested by the likelihood-ratio test is that there is no significant difference in model fit between the two models. Ideally, when item parameters are unconstrained and allowed to vary across the groups, the two parameter estimates should be identical, indicating that the item is performing the same over groups. Otherwise, items requiring unconstrained parameters across groups suggest the item functions differently with respect to the latent trait across groups.

Depending on the starting model (constrained or unconstrained), constraints can be dropped or added. This study applied a drop scenario starting with a constrained model, where the item parameters for a group of anchor items were constrained to be identical across groups, and the remaining items were tested for invariance. For each tested item, the most restrictive model (i.e., all the parameters for tested items are equal across groups) was identified first and compared with a less restrictive model where the constraints to the item parameters are removed. The threshold *p*-value is set at its traditional value of 0.05. If the *p*-value is less than 0.05, then the more restrictive model is rejected, meaning the less restrictive model fits significantly better, suggesting the item exhibits DIF.

8.2.4 IRT Scale Statistics

8.2.4.1 Examining model fit, dimensionality and reliability

Several model statistics[15] were used to evaluate model quality, with model fit indices used to determine how well each theoretical life skill was supported by the empirical data (Hu and Bentler, 1999). For this study, several fit indices were examined to determine acceptable model fit and are described below in *Table 8.3.* Both comparative fit index (CFI) and Tucker–Lewis index (TLI) examine 'goodness of fit', while root mean square error approximation (RMSEA) and standardized root mean square residual (SRMSR) inspect model 'misfit'. Therefore, a model was deemed acceptable if one of CFI or TLI was acceptable, and one of RMSEA or SRMSR was acceptable.

If these indices indicate good model fit, the assumption of unidimensionality is supported, justifying the application of a unidimensional IRT model. If fit indices fall below acceptable thresholds, a multidimensional structure should be considered.

Table 8.3. Description of fit indices

Fit Index	Description	Criterion
CFI	Index of the model-to-data goodness of fit: The index compares the targeted factor structure model and the baseline model (all relationships fixed to zero). A higher value indicates a better model fit.	≥0.90
TLI	Index of model-to-data goodness of fit: The index gives the distance between the targeted factor structure model and the baseline model as a proportion of the distance between the baseline and the target model. A higher value indicates a better model fit.	≥0.90
RMSEA	Index of the model-to-data misfit: The index value indicates the degree of model misspecification. It approaches zero as the fit of the model improves.	≤0.08
SRMSR	Index of the model-to-data misfit: The index value indicates the degree of model misspecification in terms of the model average of squared residuals between the observed covariances and the model-implied covariances as well as differences in the observed and model-implied item intercepts. The value is provided in a standardized metric ranging from zero to one, with smaller values indicating better model fit.	≤0.06

In addition, model reliability was examined to determine the quality of the model. IRT analysis provides empirical reliability measures, which is conditional on model values. This is different from Cronbach's alpha, which uses the covariances of items and variance of the total score. While the range is the same, setting a criterion of an 'acceptable' reliability statistic is challenging (as it is for Cronbach's alpha; see Nunnally, 1978). For example, for cognitive models a criterion may be set to 0.8 or 0.9. However, for non-cognitive latent trait models this criterion is likely too high (Helmstadter, 1964; Kline, 1993) and, for this study, acceptable reliability was set to those models with a statistic above 0.70.

[15] Since each life skill had only 30 of 45 items responded to by any one student, data were imputed using the *M2* function of the mirt package to calculate model statistics.

8.2.4.2 Cross-national and between-gender comparisons

To ensure that interpretations of the latent variables are equivalent across diverse groups, each life skill was tested for measurement invariance; specifically, whether items functioned equivalently across the diverse target populations in the MENA region and between genders. If a model is invariant, it implies that its meaning remains consistent across different population groups. Three levels of measurement invariance were evaluated in this study: (1) configural invariance, which indicates that the structure or composition of the model is the same across different groups of populations (to be more specific, configural invariance indicates that the model is measured by the same set of items across populations); (2) metric invariance, which indicates that not only the structure of the model is the same across groups but the magnitude of the association between the model and items are also the same (specifically, a one-unit change of the model score result in the same amount of unit change in the items for all groups); and (3) scalar invariance, which suggests that not only the structure of the model and the magnitude of the association between the latent construct and items are the same across groups, but also the mean scores of the items are the same across groups, thus the absolute value of the latent construct (both the means and associations are equal) can be comparable across groups. Therefore, scalar invariance implies that the models are most similar, followed by metric invariance that requires less constraints and then configural invariance.

To determine the level of measurement invariance exhibited, the changes in model fit indices were examined, starting with the least restrictive model, as follows:

- The configural level of invariance was established if the model passed the following criteria: CFI ≥0.90 or TLI ≥0.90 and RMSEA ≤0.08 or SRMSR ≤0.06.
- The metric level of invariance was established if the difference in the fit indices between the metric and configural models passed the following criteria: ΔCFI <0.010 or ΔTLI <0.015 and ΔRMSEA >-0.015 or ΔSRMSR >-0.03 (Chen, 2007).
- The scalar level of invariance was established, if the difference in the fit indices between the scalar and metric models passed the following criteria: ΔCFI <0.010 or ΔTLI <0.015 and ΔRMSEA >-0.015 or ΔSRMSR >-0.01 (Chen, 2007).

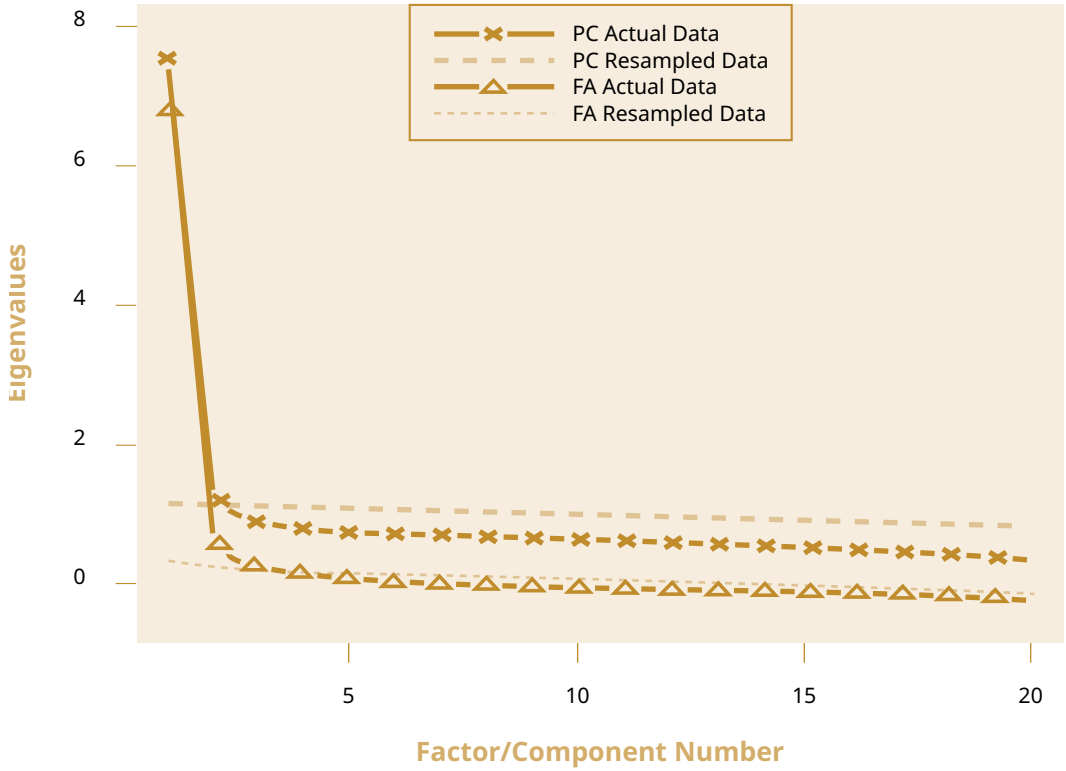
Of note, if a model reached scalar invariance, this implies the most constrained model was supported by the data and DIF was not examined among the model's items.

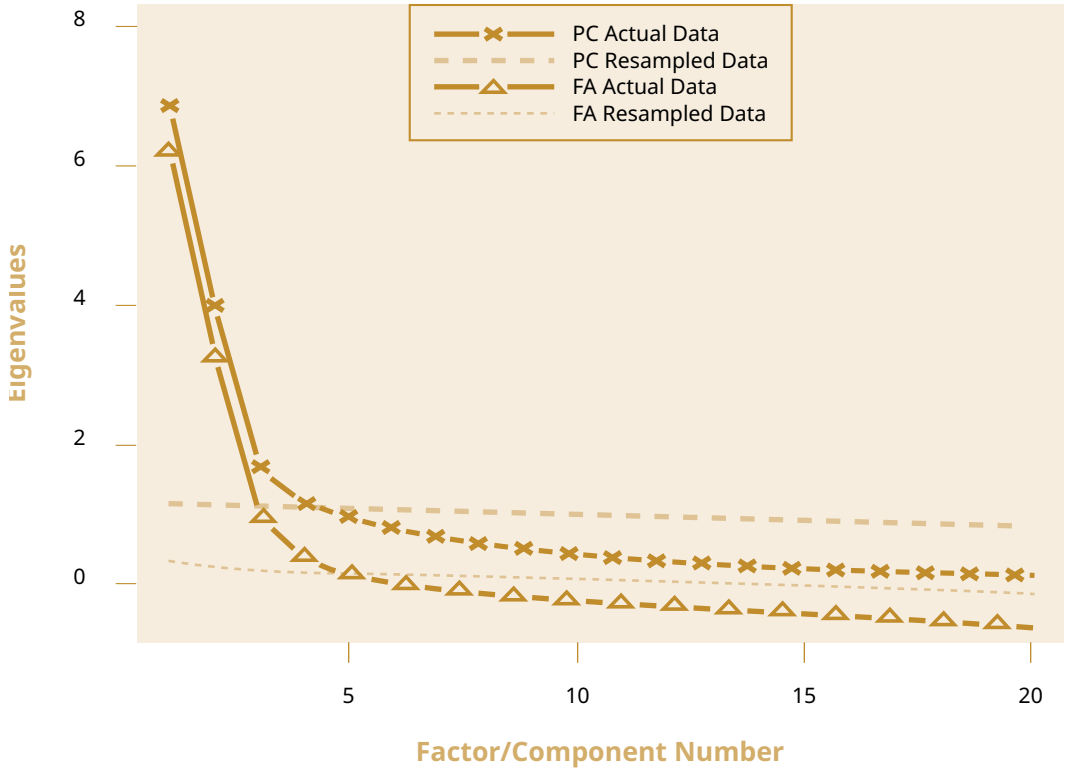
8.2.4.3 Assessing model dimensionality

Due to the large number of items in each Life Skill, and that many items were being tested for the first time, we assumed many factor-analytic techniques would suggest more than one factor (Duncan, 1984). Therefore, we tested one-factor models and only looked at the suggested factor structure to see if the fit was poor. Exploratory factor analysis is commonly used to determine the dimensionality of data. However, parallel analysis (Horn, 1965) is one of the methods most recommended to deal with the number of valid dimensions, by comparing the observed eigenvalues to those resulting from random matrices. Eigenvalues are a measure of the amount of variance accounted for by a factor. *Figure 8.8* represents parallel analysis comparing factor analysis and principal component analysis solutions to the real data as well as resampled data. The *x*-axis represents the number of possible factors that explain the common variations in a set of variables. The *y*-axis represents eigenvalues, which measure the amount of variation in the total sample accounted for by each factor. If a factor has a low eigenvalue, then it is contributing little to the explanation of variances in the variables and may be ignored as redundant with more important factors. The red lines are the resampled eigenvalues, under the assumption that there is not any relation between variables. Thus, factors (indicated by the letter *x* or triangles) above this line should be considered important explanatory factors in the model. Through comparing the ratio of eigenvalues, the left panel in Figure 8.8 shows that one or two common factors were measured by the variables whereas the right panel shows that three, four or five factors were extracted, depending on the degree of tolerance allowed.[16]

[16] As the items were ordinal, the polychoric correlation matrix was used for eigenvalue decomposition.

Figure 8.8. Parallel analysis examples





8.3 LIMITATIONS

One challenge when using IRT techniques is the issue of appropriate sample size. Reeve and Fayers (2005) noted that no definitive answer to the question of sample size exists (see also Morizot, Ainsworth and Reise, 2009; Thorpe and Favia, 2012), but that several considerations lend some insight. More complex IRT models require more parameter estimation, for which a larger sample is needed. Regarding a GRM, the authors note that while some have used this model successfully with as few as 250 respondents, 500 is the number recommended to ensure accurate parameter estimation (see also Embretson and Reise, 2000). However, sample size cannot be considered in isolation to the number of items; since each item has its own parameters, more items require more parameter estimation, for which a larger sample size is desired for accuracy. In addition, for polytomous models with response categories, more categories produce more parameter estimations. The goal of the study also matters, as to evaluate questionnaire properties (e.g., item parameters), a smaller sample size may suffice to understand response behavior. However, generating accurate IRT latent variable estimates or to calibrate items for an item bank requires a much larger sample size (e.g., 500). If IRT assumptions are met and the model fits the data well, or the relationship between items and the construct are strong, then smaller sample sizes are acceptable. Additionally, for each item there should be several respondents who respond in each category for accurate estimation.

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9. ITEM SELECTION PROCESS

ITEM SELECTION PROCESS

9.1 THE MEANING AND PURPOSE OF ITEM SELECTION IN RELATION TO THE STUDY AS A WHOLE

9

The overall purpose of post-field trial item review and selection is to determine the most appropriate assessment items (i.e., questions and sub-parts of questions) for use in the final instruments. Although item selection takes place at a relatively mature stage of the assessment development process, it is of paramount importance that it is carried out with close reference to the original study aims, item specifications and assessable domains agreed at the start of the project (Rodriguez, 2016). These are detailed in chapter 3. The selection of items was, therefore, conducted in accordance with these pre-determined criteria and full recognition of the construct to be assessed.

As noted in the introductory sections of this report, for each skill area, a total of 45 items were taken to trial, with the aim of achieving 30 items per skill area post-trial, based on an anticipated attrition rate of 33 per cent. This built-in attrition is an essential part of the assessment development design. Even though each item is reviewed pre-trial, there are some issues relating to item performance that can only be considered after the assessment has been assembled and trialed. Overall, item selection can be regarded as a process of refining the assessment by selecting items that measure the aimed construct and omitting items that may lead to construct-irrelevant variance.

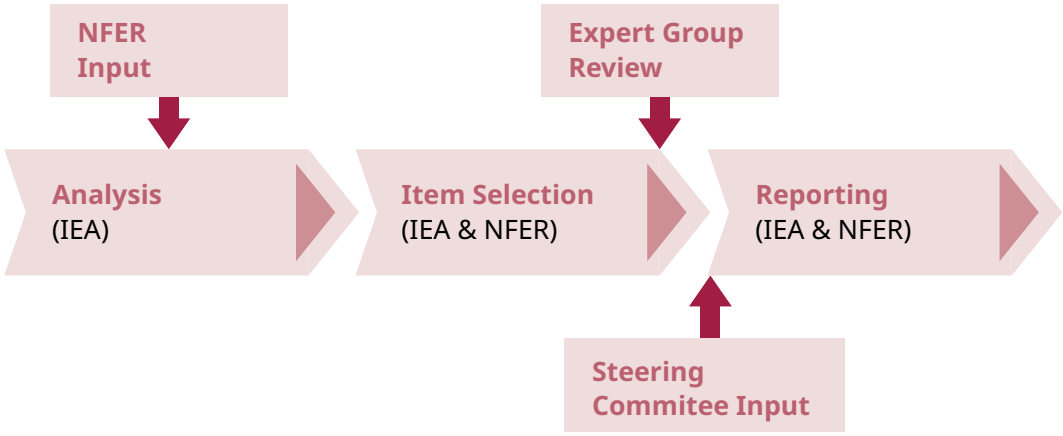


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9.2 OUTLINE OF ITEM SELECTION PROCESS

The item selection decision-making process followed the principles of good assessment that underpinned the entire development process. For each life skill, statistical information on item performance, together with expert review, was the basis on which to include or exclude given items from the final recommended selection, with due regard to the constructs of reliability and validity. The selected items were reviewed by an expert group before being submitted to the steering committee for further evaluation. To facilitate discussion and address any questions, representatives from the IEA, NFER and the steering committee convened for a meeting. Following this discussion, the steering committee (UNICEF and the University of Roehampton) conducted a final review of the item selection and ultimately endorsed the consortium's recommendations. The process was sequenced as represented in the high-level overview set out in *Figure 9.1*, below.

Figure 9.1. A high-level overview of the item selection process in the context of analysis and reporting



As a result of statistical analysis, IEA proposed a series of technical recommendations for each life skill area, on an item-by-item basis. These outputs documented and identified items that may be problematic for statistical reasons (see chapter 8) and, therefore, may be less suitable for inclusion in a scale or a final instrument; it also documented items that functioned well in the trial. It is important to note that an item may be recommended as a contender to be dropped from a scale but still be important to the overall instrument. Such an item could, therefore, be kept in the instrument, subject to the outcome of a process of expert judgement described below.

The next stage of the process involved consultation and review of the proposed scales and overall instruments by assessment specialists in the field. The statistical data and recommendations produced by the IEA were systematically examined, item by item, by assessment developers at NFER, in collaboration with experts' consultation that provided expertise in scholarly content and psychometrics. The experts critically evaluated the extent to which the items in each life skill aligned with the intended conceptual constructs and assessable domains. Additionally, the steering committee provided input from content, statistical and cultural perspectives to ensure the final selection's robustness and relevance.

9.3 ITEM SELECTION CRITERIA

For each life skill area, this process of scrutiny aimed to identify a total of 30 items that UNICEF and partners could recommend for inclusion in the final instrument. To evaluate and assess the evidence, the following item selection criteria were used when considering which items to recommend for inclusion or exclusion:

- Ensure items broadly cover the scope and definition of each life skill.
- If an item does not work well in the scale model, it may be kept if it provides valuable information on the life skill.
- Item reduction: Omit items that may provide duplicate information, do not yield much information, etc., to make the instrument length more manageable (note that, a reduction was mentioned regarding items that do not work well, although an additional reduction may be considered to meet this criterion if necessary).
- Consider the future value of items: if an item may be considered useful regarding the long-term vision of the instrument, i.e., it may be expected to provide information in later cycles or be important to cross-cycle analysis (e.g., an item that references the use of social media).
- The item's role in reliability (see chapter 8) and construct validity analysis (the extent to which the item contributes to a valid representation of the construct to be assessed by the instrument; see further Zeiky, 2016).
- The item's role in cross-national analysis and gender DIF, i.e., whether the item functions equivalently across the diversity of target populations in the MENA region and between male and female respondents.

The elimination pre-selection list was based on the following psychometric criteria used to identify problematic items:

- Negative discrimination values
- Negative factor loadings
- Low factor loadings: items were flagged if their factor loading was below a stricter threshold of <0.2 to ensure sufficient contribution to variance explanation.
- Flat information curve: items were flagged if the standard deviation of their item information curve (IIC) was below 0.05; this benchmark was fine-tuned through expert review.
- Impact on Cronbach's alpha: items were considered for removal if deleting them led to an increase in Cronbach's alpha. However, the magnitude of the increase was not a determining factor, as most items remained in both the pre-selection and final selection. Furthermore, a low Cronbach's alpha was



already associated with higher-priority criteria, reducing the need to use its increase as a key factor in removal decisions.

- Country DIF and gender DIF: a stepwise procedure was used to assess DIF by iteratively removing items and comparing model fit. Items were flagged for DIF if the p-value from the likelihood ratio test was below 0.001.
- High kurtosis: items were flagged if absolute value of the kurtosis exceeded 3, as high values indicate low variance, while low values suggest the presence of large error variance.

Items were ranked based on the total number of identified issues from the pool analysis and country-level analysis, with the 15 items having the highest number of issues prioritized for removal. This statistical pre-selection resulted in 15 items being identified for elimination, which were then reviewed in consultation with NFER and the expert group, where content-related aspects were incorporated to refine the final selection.

Beyond individual item characteristics, additional scrutiny was applied to the overall functioning of each SJT. Specifically, each SJT task was required to include at least three items, avoid consisting solely of reverse-worded items, and capturing different perspectives to ensure a balanced and comprehensive assessment.

9.4 CONCLUDING REMARKS

This chapter has documented the robust procedure adopted to select items from the field trials. However, it is important to recognize that life skills' measurement is in its infancy and is a complex content area to assess. Although the stated objective of item selection is to develop valid instruments from a wider pool of items, the ability to do this depends on the viability of the field trial data after analysis. Therefore, however carefully the item selection process was followed, the possibility remains that analysis of field trial data revealed that some areas could not be assessed reliably or that further development and trialing would be advisable. In presenting the recommendations that resulted from the item selection process, the chapter that follows will address this consideration in more detail.



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10. ITEM SELECTION RECOMMENDATIONS

ITEM SELECTION RECOMMENDATIONS

10

The previous chapters (8 and 9) outlined the systematic process of item selection. This rigorous scrutiny aimed to identify, for each of the 12 life skill areas, a total of 30 suitable items (from the 45 items trialed in the field trials) that UNICEF and partners recommend for inclusion in the finalized life skills instrument. These items are available upon request from the UNICEF MENA regional office (mbrossard@unicef.org). This application process ensures the appropriate use of the LSCE instruments in future studies.

Items were initially ranked according to the total number of identified issues from both the pooled international data analysis and the country-level analysis, as detailed in section 9.3, Item Selection Criteria, which outlines the criteria for detecting the most problematic statistical performance. The maximum number of identified issues can be 26. These issues, observed across the pooled international data analysis and the analyses for three countries, include negative discrimination values, negative factor loadings, low factor loadings, flat information curves, an impact on Cronbach's alpha, and high kurtosis. In addition, country DIF and gender DIF were examined only in the pooled international data analysis. This statistical pre-selection resulted in 15 items being identified with the highest number of issues for elimination. As the item selection was reviewed scale by scale, the threshold number of issues varied by scale. Subsequently, the preselected items were reviewed in consultation with NFER and the expert group, during which content-related aspects were incorporated to refine the final selection recommendation.

These recommendations, along with the rationales underpinning them, are presented in detail in the subsections below. The items provided in the next sections are examples from LSCE phase 2 of the 15 items excluded from each life skill, which will provide the reader with information about the types of items that have been developed for the 12 life skill instruments. The life skill item recommendations are organized according to the three dimensions of learning from phase 2: learning (critical thinking), personal empowerment (communication and resilience), and employability (cooperation). For each life skill with item-level recommendations and rationale for exclusion, one table presents the 15 items proposed for exclusion.

10.1 DIMENSION OF LEARNING: LEARNING

10.1.1 Recommendations For Critical Thinking

Table 10.1 presents the 15 items recommended for exclusion from the finalized instrument for the life skill of critical thinking. Among these, LCT0027, LCT0034 and LCT0042 exhibited negative loading and discrimination in the State of Palestine and were subsequently reviewed for potential translation issues. However, the review confirmed that the translation was accurate, with no identified problems.

Table 10.1. The 15 items recommended for exclusion from the finalized instrument for the life skill of critical thinking

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
1	LCT0005*	I get confused when I have to think about many different ideas in class.	S-R	F	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
2	LCT0009*	I tend to agree with the opinions of those around me.	S-R	D	Negative loading in all models; low loading in Tunisia; flat ICC in all models	Statistical grounds
3	LCT0011	I like to form my own opinions rather than just agreeing with other people.	S-R	D	Low loading in all models; flat ICC in all models	Statistical grounds
4	LCT0018*	You agree and choose only tall people to be on your team.	SJT	A	Low loading in all models; flat ICC in all models	Statistical grounds
5	LCT0021*	You think your friend only says this because they are tall.	SJT	B	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
6	LCT0024*	When I discover some new information I trust that it is correct.	S-R	B	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
7	LCT0027*	I get frustrated when it takes a long time to solve a problem.	S-R	F	Negative loading in the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
8	LCT0028*	I am most interested in listening to people's ideas that are similar to my own.	S-R	G	Negative loading in all models; flat ICC in all models	Statistical grounds
9	LCT0030*	I think that if most other people agree with me, I am probably right.	S-R	C	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
10	LCT0033	I find it easy to explain the problems with my classmates' ideas.	S-R	C	Low loading in Egypt; flat ICC in all models	Statistical and content grounds
11	LCT0034*	You listen to music when doing your homework because it sounds like a good idea.	SJT	A	Negative loading in the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
12	LCT0036*	You ignore your friend because you think it's unlikely that listening to music helps people concentrate.	SJT	D	Low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
13	LCT0040*	You decide to use the information from the book that was published most recently.	SJT	B	Negative loading in all models; low loading in Egypt; flat ICC in all models	Statistical grounds
14	LCT0042*	You decide to use information only from the internet because it is more accurate than information in books.	SJT	B	Negative loading in the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
15	LCT0044*	You decide to use the information from the book that is simpler to understand.	SJT	B	Negative loading in all models; low loading in Tunisia; flat ICC in all models	Statistical grounds

Note: Items marked with an asterisk (*) in the table indicate reverse-worded items.

10.2 DIMENSION OF LEARNING: PERSONAL EMPOWERMENT

10.2.1 Recommendations For Communication

To summarize the exclusions made based on item evaluations, *Table 10.2,* below, presents the 15 items recommended for exclusion from the finalized instrument for the life skill of communication.

Table 10.2. The 15 items recommended for exclusion from the finalized instrument for the life skill of communication

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
1	PCO0005*	When I am sure I am right I ignore what others say.	S-R	E	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
2	PCO0007	I am confident talking to people I don't know well.	S-R	E	Negative loading in Egypt; low loading in all models; flat ICC in all models	Statistical grounds
3	PCO0011*	You speak louder so that your classmates listen to you.	SJT	D	Negative loading in the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
4	PCO0012*	You repeat your ideas until you are sure your classmates have heard them.	SJT	D	Negative loading in all models; low loading in Egypt and Tunisia; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
5	PCO0017*	You interrupt and start talking about your weekend.	SJT	E	flat ICC in Tunisia and the State of Palestine	Items from the same SJT task (PCO0017 – PCO0023) were removed together
6	PCO0018*	You interrupt and ask someone else in the group to talk about their weekend.	SJT	F	Low loading in Tunisia; flat ICC in all models	Items from the same SJT task (PCO0017 – PCO0023) were removed together
7	PCO0019	You ask questions to try to make them finish the story.	SJT	D	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
8	PCO0020*	You encourage someone else in the group to interrupt.	SJT	F	Flat ICC in all models	Items from the same SJT task (PCO0017 – PCO0023) were removed together
9	PCO0021*	You don't interrupt but start talking with another friend in the group.	SJT	F	Low loading in all models; flat ICC in all models	Statistical grounds
10	PCO0022	You ask them to finish the story quickly so others in the group can talk.	SJT	D	Negative loading in Egypt; low loading in all models; flat ICC in all models	Statistical grounds
11	PCO0023	You wonder whether you also take over conversations.	SJT	D	Low loading in all models; flat ICC in all models	Statistical grounds
12	PCO0030	I recognize when a person is listening to me, but not understanding.	S-R	D	Low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
13	PCO0033*	I find it difficult to talk about issues that upset me.	S-R	A	Negative loading in Egypt; low loading in all models; flat ICC in all models	Statistical grounds
14	PCO0036*	You avoid talking about the issue ever again in the future.	SJT	D	Negative loading in the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
15	PCO0040*	You talk about yourself more than others talk about themselves.	SJT	E	Low loading in Tunisia and the State of Palestine; flat ICC in all models	Statistical grounds

Note: Items marked with an asterisk (*) in the table indicate reverse-worded items.

10.2.2 Recommendations For Resilience

Table 10.3 below presents the 15 items recommended for exclusion from the finalized instrument for the life skill of resilience.

Table 10.3. The 15 items recommended for exclusion from the finalized instrument for the life skill of resilience

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
1	PRS0003	I can usually find some good in any situation.	S-R	B	Flat ICC in all models	Statistical grounds
2	PRS0004	I rarely give up when working on difficult tasks.	S-R	D	Negative loading in Tunisia; low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
3	PRS0007*	I am easily distracted when a task is difficult.	S-R	D	Low loading in all models; flat ICC in all models	Statistical grounds
4	PRS0009	I can stay calm during difficult times.	S-R	E	Flat ICC in all models	Statistical grounds
5	PRS0010	The harder something gets the more interesting I find it.	S-R	D	Flat ICC in all models	Statistical grounds
6	PRS0012	You ask your teacher for feedback so that you can do better next time.	SJT	F	Flat ICC in all models	Statistical grounds
7	PRS0015*	You tell your friends that the competition was unfair.	SJT	E	Low loading in Egypt and the State of Palestine; flat ICC in all models	Statistical grounds
8	PRS0019	You have a break from the topic and try to understand it another time.	SJT	E	Low loading in all models; flat ICC in all models	Statistical grounds
9	PRS0028	I'm a person who does not get downhearted easily.	S-R	A	Flat ICC in all models	Statistical grounds
10	PRS0031	If I don't know how to deal with a difficult situation, I know I can find someone to help me.	S-R	F	Flat ICC in Tunisia and the State of Palestine	Statistical and content grounds
11	PRS0034*	You look for a way to avoid giving the class talk.	SJT	A	Flat ICC in all models	Statistical grounds
12	PRS0036	You speak to your teacher about your concerns.	SJT	F	Flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
13	PRS0040	You list the tasks you need to do for the project from most important to least important.	SJT	E	Flat ICC in all models	Statistical grounds
14	PRS0042	You complete the project and accept that it may not be your best work.	SJT	A	Negative loading in Tunisia; low loading in all models; flat ICC in all models	Statistical grounds
15	PRS0044*	You decide not to complete the project and accept the consequences.	SJT	A	Flat ICC in all models	Statistical grounds

Note: Items marked with an asterisk (*) in the table indicate reverse-worded items.

10.3 DIMENSION OF LEARNING: EMPLOYABILITY

10.3.1 Recommendations For Cooperation

Table 10.4, below, presents the 15 items recommended for exclusion from the finalized instrument for the life skill of cooperation.

Table 10.4. The 15 items recommended for exclusion from the finalized instrument for the life skill of cooperation

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
1	ECP0011*	You suggest that each person designs and builds a different part of the bridge.	SJT	C	Negative loading in all models; low loading in Egypt; flat ICC in all models	Statistical grounds
2	ECP0016*	You complain about the classmate to the others you are working with.	SJT	D	Low loading in the State of Palestine; flat ICC in all models	Statistical grounds
3	ECP0018	You ask your classmates to explain why they did not ask for your opinion.	SJT	B	Flat ICC in all models	Items from the same SJT task (ECP0018 – ECP0023) were removed together
4	ECP0019	You accept your classmates' decision, as they are the majority.	SJT	A	Negative loading in Egypt; low loading in all models; flat ICC in all models	Statistical grounds
5	ECP0020*	You complain about your classmates to students in your class.	SJT	D	Low loading in all models; flat ICC in all models	Statistical grounds
6	ECP0021	You try to convince your classmates to change their decision.	SJT	C	Negative loading in Egypt; low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
7	ECP0022*	You ask to work with different people in your class.	SJT	E	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
8	ECP0023*	You stop working on the preparation of the class talk with your classmates.	SJT	F	Low loading in all models; flat ICC in all models	Statistical grounds
9	ECP0024*	I always focus on my own work first even when my classmates might need my help.	S-R	F	Negative loading in Egypt and the State of Palestine; low loading in all models; flat ICC in all models	Statistical grounds
10	ECP0031*	I am very competitive with others and I want to be the best.	S-R	E	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
11	ECP0033	I enjoy it when other students question my ideas.	S-R	A	Negative loading in all models; low loading in all models; I flat ICC in all models	Statistical grounds
12	ECP0034*	You find another student who can take over the part.	SJT	C	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds

No.	Item ID	Item	S-R or SJT	Attri-bution	Statistical comments	Summary consortium rationale for exclusion
13	ECP0041	You discuss the criticism with the rest of the group and let them decide what to do next.	SJT	B	Low loading in all models; flat ICC in all models	Statistical grounds
14	ECP0042*	You tell the other group members to accept the criticism.	SJT	A	Negative loading in all models; low loading in all models; flat ICC in all models	Statistical grounds
15	ECP0043*	You ignore the student and focus on your own work.	SJT	C	Low loading in all models; flat ICC in all models	Statistical grounds

Note: Items marked with an asterisk (*) in the table indicate reverse-worded items.

10.4 CONSIDERATION OF CROSS-COUNTY COMPARISON

The life scales were designed for cross-national analysis, theoretically allowing for comparisons of results across different education systems. When comparing scales across groups, it was crucial to ensure that they held an equivalent meaning in each comparison group. Construct bias could arise due to differences in cultural norms and interpretations of various phenomena. Some of these issues were addressed through consistent national adaptations, while additional analyses assessed the level of cross-cultural construct invariance and the cross-national validity of measurement models, i.e., the extent to which the items functioned equivalently across the diverse target populations in the MENA region.

Initially, country DIF was assessed using the mirt::DIF function in R. In the multi-group GRM framework under IRT, model invariance across the three countries was assumed. Due to the absence of prior knowledge regarding a set of anchor items, a sequential elimination ('drop') procedure was implemented to iteratively test each item's invariance across the three countries.

Further analysis (Carrasco and Hoskins, 2025) applied alignment methods (Muthén and Asparouhov, 2014), providing additional evidence that country DIF were not problematic. This approach specified a multi-group graded response model with a probit link while accounting for school-level clustering. Countries were weighted equally to ensure balanced contributions to the estimates. Alignment methods aimed at minimizing discrepancies in response model parameters across groups, facilitating valid comparisons of latent means.

A single model was estimated per life skill using the selected items, and the proportion of item parameters that could be held common across countries was evaluated. A commonly used guideline suggested that at least 75 per cent of response model parameters should be invariant across groups to ensure comparability of latent means (Muthén and Asparouhov, 2014). The preliminary results indicated that the proportion of common parameters exceeded this threshold for all (12) assessed life skills (with average of 95 per cent of parameters were invariant).

Although some country-specific differences were observed in the field trial, the high proportion of common response model parameters demonstrated strong measurement invariance, supporting the validity of cross-national comparisons.

In conclusion, despite the presence of country DIF in some items, both analyses confirmed the robustness of the selected items and provided clear evidence of the instrument's comparability across countries, ensuring meaningful latent mean comparisons.

10.5 VALIDITY OF THE INSTRUMENT

Before commenting on future directions, it is important to consider the validity of the instrument and how it can be assessed. Messick (1995) conceptualized validity as an 'evaluative judgment' of whether evidence, tied to theory, supports the interpretations of that evidence (p. 741) and argued for a unified concept of validity, calling it construct validity. He noted that interpretations from scores have implications for the content and criteria measures specified in the assessment related to the theoretical construct. In other words, are the content of items worded in a way that truly measures the construct of interest and not some other intermittent variable? Messick identified two 'major threats' to construct validity (p. 742). The first is construct underrepresentation, which occurs when the theoretical definition of the construct omits important characteristics or dimensions that are present in the measurement instrument. If the construct is underrepresented, then these characteristics will be overlooked when making inferences from scores. The second threat is construct-irrelevant variance. This threat may be present in two ways: test items that are (1) too easy or (2) too difficult for the sample or one or more of its subgroups. However, this is mainly applicable to cognitive items.

In phase 1, some life skills lacked key attributes, leading to construct underrepresentation. To address this, the IEA and NFER recommended consulting content experts to assess gaps and consider additional items. Construct-irrelevant variance in non-cognitive items was harder to evaluate, but reviewing items with poor statistics (e.g., low item information) could have identified overly difficult wording, requiring revision.

Building on these findings, phase 2 aimed to enhance content balance through a more refined approach to item development and selection, ensuring a comprehensive representation of each measured life skill. To validate content relevance and construct alignment, additional focus groups were conducted during item development. These efforts helped to refine the instrument, improving its overall representativeness.

Beyond item development, statistical validation is another crucial step in assessing construct validity. One approach is to compare the resulting latent variable scores with those from an established instrument believed to measure the same latent trait. This process, known as convergent validity, assumes that if the established instrument has construct validity, an instrument that correlates strongly with it may also be considered valid. For example, if an established instrument measures similar constructs as those in LSCE, it may be administered in parallel to the LSCE instrument and produced scale scores may be evaluated using correlation analysis to check if the same construct is being measured (see Brown, Morrison and Stagnitti, 2010). However, this increases respondents' costs and assessment load. In addition, given that the LSCE study is filling a perceived gap in assessing life skills in a meaningful way in the MENA region, existing instruments may encounter challenges and be unsuitable for use in the target population.

Construct validity must be continually considered, and judgement is subjective. However, this study's use of content experts to develop items, and its item selection process, are a start in establishing the instrument validity. As the instrument changes,

continued consultation with content experts and evaluation of the results of each instrument administration will, hopefully, lead to an instrument that is valid for the intended population and inferences made from research utilizing LSCE data.

10.6 REVERSE-WORDED ITEMS

This section addresses the impact of reverse-coded items on measurement quality, drawing on findings from both the field trials and international large-scale assessments. Psychological instruments often incorporate a mix of negatively and positively worded items to enhance measurement quality. This approach is intended to prevent respondents from consistently selecting only positive or only negative responses, thereby minimizing response bias. Additionally, negatively worded items are believed to encourage more thoughtful engagement with questionnaire items. As a common design principle, mixing positive and negative wording aims to reduce superficial responding and improve data quality.

In the field trials, a combination of positively and negatively worded items was used across the life skills scales. However, from a statistical perspective, negatively worded items exhibited unsatisfactory properties, leading to their exclusion in most cases. Specifically, only the following negatively worded items from phase 2 field trial were retained: two out of 15 negatively worded items in the critical thinking scale, four out of 14 in the communication scale, three out of seven in the resilience scale, and six out of 16 in the cooperation scale. These findings suggest that negatively worded items may introduce measurement issues, potentially affecting scale reliability and validity.

Despite the theoretical rationale for including negatively worded items, empirical evidence from international large-scale assessments suggests that reverse-coded items can introduce unintended difficulties, increase response inconsistencies and elevate measurement errors. Many students fail to apply the expected response logic, instead agreeing or disagreeing with both positive and negative items, indicating confusion rather than bias correction (Steinmann, Chen and Braeken, 2024; Buchholz, 2022).

Antoniou and Alghamdi (2024) examined the confounding effects of reverse-coded items on measuring confidence in mathematics using TIMSS 2019 data from Saudi Arabia. Their findings suggest that reverse-coded items introduce systematic measurement error, distort item parameters, and compromise scale reliability and validity. These results highlight the need to reconsider the use of reverse-coded items.

Similarly, Steinmann et al., (2024) investigated patterns in student questionnaire responses in TIMSS 2019, specifically analyzing which students were more likely to respond inconsistently to mixed-worded questionnaire scales and identifying country samples with higher proportions of inconsistent respondents. Their findings indicate that mathematics achievement was the strongest and most consistent predictor of response inconsistency. Additionally, they observed that girls in many countries responded more consistently



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than boys, and students who spoke the test language at home were more likely to provide consistent responses. Based on these findings, Steinmann, Chen and Braeken (2024) recommended using only positively worded items, particularly for younger or lower-ability students, as mixed-wording strategies often introduce rather than resolve measurement issues.

While mixed-worded scales are often implemented to detect careless responses, they may instead introduce errors, particularly in populations with lower reading comprehension. Given their negative impact on data quality, reliability and comparability, the case is growing for avoiding reverse-worded items in international assessments. The accumulated evidence from the field trial and large-scale studies suggests that survey designers should prioritize positively worded items to improve measurement validity and reliability.

10.7 SCALE SCORES

This section addresses the process of creating and interpreting scale scores in large-scale assessments, highlighting their potential to provide meaningful insights into respondents' abilities and characteristics. Scale scores serve as valuable statistical representations of latent traits, allowing for comparisons across individuals, groups and populations. When developed effectively, these scores enhance the interpretability of assessment results and inform educational and policy decisions.

As the field trial items have been tested in each life skill and domain of learning, booklet design can be modified to reflect those implemented in pilot or main studies (e.g., Martin and Mullis, 2017, Chapter 4). In this respect, LSCE faces the same challenges as other large-scale studies in creating usable life skill scale scores. In psychometrics, the value assigned to a latent variable is often referred to as a scale score and is a statistical aggregation of responses to several items that model a latent variable, as discussed in chapter 8, section 8.1. Therefore, for the LSCE instrument, everyone would receive a scale score for each of the measured life skills.

A key challenge in creating scale scores is that no individual respondent receives all items for a single scale. Ideally, with the 30 items per life skill across a total of 12 life skills, an individual would have to respond to 360 items to receive scale scores for all life skills. This is not feasible for the target population. Therefore, respondents only respond to several items for each life skill in a single booklet, while multiple booklets taken by the entire sample enable measurement of each life skill in total. There are then several ways to estimate the ability of an individual student who did not take the entire test. One method used in many large-scale assessments is known as plausible values methodology (for details, see Mislevy, 1991).[17]

Of note, generating plausible values is not without uncertainty (i.e., standard error and variance estimates) and should only be used to make inferences about population estimates of the latent variables. That is, though everyone receives a scale score for the latent variable, this value may be used in statistical analysis for inference at the target population(s) level. In addition, the generation of plausible values depends on the use of items included in the background questionnaires. Of note, the items from the background questionnaire included in the plausible value measurement model should include those for which a relationship between the questionnaire item and the estimated proficiency (i.e., scale score) is of interest to the study or research community (Aßmann et al., 2014).[18]

After scale scores are obtained, they may be used in various informative analyses. However, an important first consideration is to provide scores that are easily interpretable. As mentioned in chapter 8, section 8.1.1, latent variables have no units, and many software packages will center the distribution of latent variables with a mean of zero and standard deviation of one. However, values such as these are not always easily understood. Therefore,

[17] For more detail on plausible values, see Rutkowski et al. (2010), specifically the section *Proficiency Estimation and Variance Estimation.* Of note, although this article reviews the booklet rotation of TIMSS 2007 featuring non-overlapping blocks of items, certain items may be repeated (i.e., overlap) throughout booklets.

[18] For a review of several methods for handling missing data from background questionnaires used to generate plausible values, see Kaplan and Su (2018).

many latent variables are linearly transformed; for example, the TIMSS study decided on a scale with a mean of 500 and a standard deviation of 100 in the first cycle in 1995 (Mullis et al., 2016). Another consideration when transforming scale scores is aiding their interpretation by providing benchmarks (or cut points; see Martin, et al., 2017, chapter 14) or centering the mean of the scale scores to the mid-point of the response scale (see Stancel-Piątak, et al., 2019). These decisions depend on whether meaningful benchmarking or centering is evident in the latent variable distribution, and the purpose of the study. Transforming scale scores in such a way may aid interpretation of a country's average scale score, as the score can be compared to low, mid, or high latent trait values (for benchmarking) or being above or below the mid-point of a response scale (for centering).

After final scale scores are established, they become powerful tools for inferential statistical analyses. For example, in many reports of large-scale studies rankings, tables that compare the average scale scores of participating countries or education systems are common. While these comparisons may be useful when looking at similar countries or education systems, meaningful differences (such as statistically significant differences) are not evident from the rankings alone, and they provide no indication of how to improve an average score. Regarding the first issue, standard errors of the average scores should always be considered. For the second issue, meaningful comparisons can be made in correlation or regression analysis to compare relationships between the scale scores and other variables of interest. For example, if a similar country or education system has a significant relationship between the scale score for participation and a teaching style item on a background questionnaire, while the country or education system of interest does not, investigating the policies of teacher training might provide insight into why a significant relationship exists and what policy steps may be taken to improve the scale score for participation in the country or education system of interest. There are numerous applications of scale scores, as can be found in the user guides and annexes of various studies (e.g., Rozman, Wild and Stancel-Piątak, 2019; OECD, 2019).

10.8 CONCLUDING REMARKS

Using rigorous research procedures, 30-item instruments were successfully identified for the life skills of creativity, critical thinking, problem solving, cooperation, negotiation, decision making, self-management, resilience, communication, respect for diversity, empathy and participation. The item selection process was guided by a comprehensive evaluation, incorporating expert review and statistical performance analysis. This approach ensured that each life skill was assessed with a balanced and representative set of items, while maintaining psychometric robustness. For each domain, well-functioning items were selected for the final instrument, while items with weak statistical properties, translation concerns or excessive complexity were systematically reviewed and removed. The finalized instruments include a balanced mix of SJT and self-reporting items, ensuring that all key skills are measured effectively while maintaining fairness and accuracy.

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APPENDIX A1: CHARACTERISTICS OF NATIONAL SAMPLES IN PHASE 1

APPENDIX A1: CHARACTERISTICS OF NATIONAL SAMPLES IN PHASE 1

For each educational system participating in LSCE, this section describes population coverage, exclusion categories, stratification variables, characteristics, and any deviations from the general LSCE sampling design.

Egypt

- School level exclusions consisted of schools in excluded regions (Aswan, Matrouh, North Sinai, and South Sinai), and very small schools (less than twenty students in the target grade). This results in an exclusion rate of 3% of the target grade students.
- Within-school exclusions consisted of intellectually and functionally disabled students and non-native language speakers and made up less than 1% of the sampled students.
- Explicit stratification was performed by region (Capital, North, South) and school type (boys, girls, mixed), resulting in nine explicit strata.
- No implicit stratification was applied.
- Within-school sampling consists of selecting two target-grade classes per school resulting in 40 sampled classes, of which one class has a student participation rate below 50% and three classes have student participation rate greater than or equal to 50% and 75%.
- Within the sampled classes, 2054 students were listed and expected to participate. 1681 students were participating, which results in a participation rate of 82%.
- Data for all (20) school questionnaires is available.

Table A-1: Allocation and school participation status in Egypt

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools		Non-participating Schools
			Sampled	1st Replacement	
Capital - Boy	2	0	2	0	0
Capital - Girl	2	0	2	0	0
Capital - Mixed	2	0	1	1	0
North - Boy	2	0	2	0	0
North - Girl	4	0	4	0	0
North - Mixed	2	0	2	0	0
South - Boy	2	0	2	0	0
South - Girl	2	0	2	0	0
South - Mixed	2	0	2	0	0
Total	20	0	19	1	0

Note: No schools with Student Participation Rate below 50% were found.

State of Palestine

- School level exclusions and reduced coverage consisted of schools from Gaza, UNWRA, remote schools in West Bank, and private schools. This results in a coverage of only 76% of Palestine.
- Within-school exclusions consisting of intellectually and functionally disabled students, and students not capable to read were expected for the Field Trial. However, the number of students excluded during the Field Trial could be neglected.
- Explicit stratification was performed urbanization (city, village) and school type (boys, girls, mixed), resulting in six explicit strata.
- Implicit stratification was applied by region (North, Middle, South), giving a total of 18 implicit strata.
- The sample was disproportionally allocated to explicit strata.
- Within-school sampling consisted of selecting all target-grade classes per school resulting in 44 sampled classes, of which only one class has a student participation rate below 75%.
- Within the sampled classes, 1436 students were listed and expected to participate. 1344 students were participating, which results in a participation rate of 94%.
- Data for all (20) school questionnaires is available.

Table A-2: Allocation and school participation status in State of Palestine

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools		Non-participating Schools
			Sampled	1st Replacement	
City - Boy	4	0	3	1	0
City - Girl	4	0	1	3	0
City - Mixed	2	0	2	0	0
Village - Boy	4	0	3	1	0
Village - Girl	4	0	2	2	0
Village - Mixed	2	0	0	2	0
Total	20	0	11	9	0

Note: No schools with Student Participation Rate below 50% were found.

Tunisia

- School level exclusions consisted of schools in directorates, which are not covered in the Field Trial to reduce costs, very small schools (less than ten students in the target grade), and schools for blind children. This results in a coverage rate of only 33% of Tunisia.
- Within-school exclusions consisted of intellectually and functionally disabled students and non-native language speakers and could be neglected.
- Explicit stratification was performed by school type (public, private), and geographical zone (5), resulting in nine explicit strata.
- No implicit stratification was applied.
- The sample was disproportionally allocated to explicit strata.
- Within-school sampling consists of selecting three target-grade classes per school (selecting all target-grade classes per school in schools with less than three classes) resulting in 62 sampled classes, of which one class has a student participation rate below 50% and two classes have a student participation rate below 75%.
- Within the sampled classes, 1707 students were listed and expected to participate. 1543 students were participating, which results in a participation rate of 90%.
- Data for all (20) school questionnaires is available.

Table A-3: Allocation and school participation status in Tunisia

Explicit Strata	Total Sampled Schools	Ineligible Schools	Participating Schools		Non-participating Schools
			Sampled	1st Replacement	
Public - North-east	4	0	4	0	0
Public - North-west	2	0	2	0	0
Public - Center-west	2	0	2	0	0
Public - Center-east	2	0	1	1	0
Public - South-west	2	0	1	1	0
Public - South-east	2	0	2	0	0
Public, Mixed - None	2	0	2	0	0
Public, Pilot - None	2	0	2	0	0
Private - None	2	0	2	0	0
Total	20	0	18	2	0

Note: No schools with Student Participation Rate below 50% were found.

The table below summarizes the overall participation of the three LSCE FT countries. As stated in Chapter 4, participation rates should be above 85% for sampled schools (is 100% in LSCE FT), 95% for sampled classes (is 100% in LSCE FT) and 85% for sampled students within participating schools.

Table A-4: LSCE Field Trial participation

Country	Number of sampled schools	Number of replaced schools	Number of classes	Number of selected students	Number of participating students	Student participation rate
Egypt	20	1	40	2054	1681	82%
State of Palestine	20	9	44	1436	1344	94%
Tunisia	20	2	62	1707	1543	90%



APPENDIX A2: CHARACTERISTICS OF NATIONAL SAMPLES IN PHASE 2

APPENDIX A2: CHARACTERISTICS OF NATIONAL SAMPLES IN PHASE 2

For each educational system participating in LSCE 2024 FT, this section outlines the population coverage, exclusion categories, stratification variables and key characteristics, and any adaptations to the general LSCE sampling design.

Egypt

- School level exclusions consisted of very small schools (with less than twenty students in the target grade), special needs schools, schools following a different curriculum or structure, non-native language schools and schools located in North Sinai, South Sinai, and New Vally governorates. These exclusions accounted for a total of 7.8% of the target population.
- In LSCE Phase I (2019), Al-Azhar schools were neither included in the study nor excluded from the school list. In this phase of the study, the same approach was followed.
- Within-school exclusions accounted for 0.18% of the students in the sample.
- Explicit stratification was applied based on urbanization (rural and urban) and school type (boys, girls, and mixed), resulting in six explicit strata.
- No implicit stratification was applied.
- A total of 22 schools were sampled, with one class selected in each school and two classes in schools with more than 300 students. The estimated total number of students selected was 1586.

- Before replacement schools, the participation rate was 86%. After replacement schools, it was 100%.

- In total, there were 32 tested classes where all students participated, resulting in a 100% participation rate for these classes and the overall sample.

Table A-1: Allocation and school participation status in Egypt

Explicit Strata	Total Sampled Schools	1st Replacement	2nd Replacement	Non-participating Schools
Rural - Boys	2	1	0	0
Rural - Girls	2	0	0	0
Rural - Mixed	9	1	0	0
Urban - Boys	3	0	1	0
Urban - Girls	3	0	0	0
Urban - Mixed	3	0	0	0
Total	22	2	1	0

State of Palestine

- Coverage for Palestine was limited to schools in West Bank excluding Gaza Strip schools. This accounted for about 60% of the target grade population. In the West Bank, the sample was confined to five districts representing 16.9% of the West Bank target grade population: Ramallah, Jericho, Jerusalem Suburban, Bir Zeit, and Salfit. Other schools in West Bank are excluded under the West Bank Other Schools category.
- Within-school exclusions accounted for 1.37% of the students in the sample.
- Explicit stratification was applied based on urbanization (city and village) and school type (boys, girls and mixed), resulting in six explicit strata.
- No implicit stratification was applied.
- A total of 24 schools were sampled, and all classes were selected in each school. The estimated total number of students selected was 1536.
- Before replacement schools, the participation rate was 96%. After replacement schools, it was 100%.
- In total, there were 45 tested classes, with a minimum class participation rate of 75%. The overall student participation rate in the sample was 93.3%.

Table A-2: Allocation and school participation status in State of Palestine

Explicit Strata	Total Sampled Schools	1st Replace-ment	2nd Replacement	Non-participating Schools
City - Boys	2	1	0	0
City - Girls	2	0	0	0
City - Mixed	2	0	0	0
Village - Boys	8	0	0	0
Village - Girls	6	0	0	0
Village - Mixed	4	0	0	0
Total	24	1	0	0

Tunisia

- Coverage for Tunisia was limited to schools in nine Regional Commissariat of Education. This accounted for 41.6% of the target grade population. These nine Regional Commissariat of Education were Tunis 1, Tunis 2, Ariana, Mannouba, Ben Arous, Zaghouan, Bizerte, Mahdia, and Nabeul. Special needs schools and schools with non-Tunisian Education System were excluded within the defined population which resulted in 1.3% exclusions.
- Within-school exclusions accounted for 0.90% of the students in the sample.
- Explicit stratification was applied based on school status (public and private). Within public schools, stratification was further applied by school type (technical, pilot, and ordinary), and within private schools, only ordinary schools were considered, resulting in four explicit strata.
- No implicit stratification was applied.
- A total of 26 schools were sampled, and two classes were selected whenever possible. The estimated total number of students selected was 1538.
- Tunisia did not use any replacement schools and achieved a 100% participation rate of the sampled schools.
- In total, there were 52 tested classes. Four classes had a participation rate between 50% and 75%, while the rest had a participation rate above 75%. The overall student participation rate in the sample was 92.1%.

Table A-3: Allocation and school participation status in Tunisia

Explicit Strata	Total Sampled Schools	1st Replace-ment	2nd Replacement	Non-participating Schools
Public - Ordinary	4	0	0	0
Public - Pilot	18	0	0	0
Public - Technical	2	0	0	0
Private - Ordinary	2	0	0	0
Total	**26**	**0**	0	0

Participation Rates Overview

The table below summarizes the overall participation rates for the three LSCE 2024 Field Trial countries. As outlined in Chapter 4, participation rates should meet the following thresholds: 85% for sampled schools, 95% for sampled classes, and 85% for sampled students within participating schools. All these criteria were met by the three participating countries.

Table A-4: LSCE 2024 Field Trial student participation rate (PR)

Country	School PR Before Replacement	School PR After Replacement	Number of tested classes	Number of selected students	Number of participating students	Sampled Student PR
Egypt	86%	100%	32	1695	1692	100%
State of Palestine	96%	100%	45	1360	1245	93.3%
Tunisia	100%	100%	52	1490	1338	92.1%



APPENDIX B1: ITEM AND MODEL STATISTICS IN PHASE 1

APPENDIX B1: ITEM AND MODEL STATISTICS IN PHASE 1

ACTIVE CITIZENSHIP: EMPATHY | ITEM STATISTICS

Table B-1: Response frequencies for all items, pooled model (Empathy)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CEM0001	0.11	0.36	0.41	0.12
CEM0002	0.03	0.07	0.43	0.46
CEM0003	0.12	0.37	0.37	0.14
CEM0004	0.08	0.09	0.25	0.58
CEM0005	0.07	0.08	0.37	0.48
CEM0006	0.02	0.08	0.43	0.47
CEM0007	0.10	0.24	0.39	0.27
CEM0008	0.06	0.13	0.40	0.41
CEM0009	0.10	0.28	0.40	0.23
CEM0010	0.03	0.06	0.33	0.58
CEM0011	0.15	0.26	0.35	0.25
CEM0012	0.12	0.21	0.34	0.33
CEM0013	0.03	0.05	0.18	0.74
CEM0014	0.07	0.09	0.36	0.48
CEM0015	0.13	0.28	0.38	0.21
CEM0016	0.05	0.19	0.42	0.34
CEM0017	0.11	0.09	0.23	0.57
CEM0018	0.21	0.44	0.25	0.10
CEM0019	0.09	0.23	0.48	0.21
CEM0020	0.02	0.03	0.16	0.79
CEM0021	0.03	0.06	0.34	0.57
CEM0022	0.14	0.30	0.35	0.20
CEM0023	0.10	0.21	0.38	0.32
CEM0024	0.33	0.44	0.13	0.10

CEM0025	0.09	0.16	0.37	0.38
CEM0026	0.15	0.27	0.23	0.35
CEM0027	0.06	0.07	0.25	0.62
CEM0028	0.09	0.16	0.38	0.38
CEM0029	0.05	0.06	0.26	0.64
CEM0030	0.24	0.28	0.21	0.26
CEM0031	0.04	0.10	0.36	0.50
CEM0032	0.11	0.13	0.43	0.33
CEM0033	0.07	0.14	0.34	0.46
CEM0034	0.08	0.16	0.39	0.37
CEM0035	0.19	0.26	0.35	0.19
CEM0036	0.16	0.29	0.25	0.30
CEM0037	0.05	0.07	0.29	0.58
CEM0038	0.06	0.07	0.38	0.49
CEM0039	0.05	0.09	0.33	0.54
CEM0040	0.15	0.17	0.47	0.21
CEM0041	0.27	0.41	0.20	0.12
CEM0042	0.12	0.14	0.31	0.42
CEM0043	0.07	0.06	0.18	0.69
CEM0044	0.09	0.10	0.27	0.55
CEM0045	0.11	0.15	0.33	0.41

Table B-2: Response frequencies for all items, Egypt model (Empathy)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CEM0001	0.08	0.35	0.44	0.13
CEM0002	0.05	0.10	0.39	0.46
CEM0003	0.10	0.33	0.39	0.18
CEM0004	0.09	0.13	0.29	0.49
CEM0005	0.10	0.10	0.30	0.51
CEM0006	0.02	0.11	0.44	0.44
CEM0007	0.08	0.23	0.44	0.24
CEM0008	0.05	0.12	0.38	0.45
CEM0009	0.08	0.28	0.42	0.22
CEM0010	0.06	0.06	0.29	0.60
CEM0011	0.16	0.23	0.33	0.27
CEM0012	0.15	0.30	0.29	0.26

CEM0013	0.04	0.07	0.20	0.69
CEM0014	0.08	0.13	0.37	0.42
CEM0015	0.15	0.30	0.32	0.23
CEM0016	0.06	0.23	0.44	0.27
CEM0017	0.09	0.13	0.23	0.55
CEM0018	0.21	0.45	0.24	0.10
CEM0019	0.06	0.25	0.47	0.22
CEM0020	0.03	0.03	0.22	0.71
CEM0021	0.04	0.06	0.37	0.53
CEM0022	0.14	0.33	0.36	0.16
CEM0023	0.10	0.25	0.33	0.32
CEM0024	0.32	0.43	0.15	0.10
CEM0025	0.07	0.15	0.36	0.43
CEM0026	0.15	0.30	0.28	0.27
CEM0027	0.05	0.08	0.20	0.68
CEM0028	0.11	0.16	0.37	0.35
CEM0029	0.05	0.05	0.28	0.61
CEM0030	0.22	0.34	0.22	0.22
CEM0031	0.06	0.10	0.36	0.48
CEM0032	0.06	0.09	0.46	0.39
CEM0033	0.12	0.20	0.26	0.42
CEM0034	0.09	0.15	0.42	0.34
CEM0035	0.26	0.24	0.35	0.15
CEM0036	0.17	0.30	0.30	0.23
CEM0037	0.07	0.08	0.32	0.53
CEM0038	0.06	0.09	0.36	0.49
CEM0039	0.08	0.10	0.31	0.51
CEM0040	0.10	0.16	0.48	0.27
CEM0041	0.29	0.38	0.23	0.10
CEM0042	0.12	0.16	0.32	0.40
CEM0043	0.10	0.08	0.20	0.63
CEM0044	0.13	0.18	0.27	0.42
CEM0045	0.12	0.16	0.32	0.40

Table B-3: Response frequencies for all items, Palestine model (Empathy)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CEM0001	0.10	0.36	0.42	0.12
CEM0002	0.04	0.05	0.44	0.47
CEM0003	0.11	0.37	0.40	0.13
CEM0004	0.07	0.07	0.26	0.60
CEM0005	0.06	0.08	0.42	0.44
CEM0006	0.04	0.06	0.46	0.45
CEM0007	0.09	0.25	0.34	0.31
CEM0008	0.05	0.14	0.42	0.39
CEM0009	0.09	0.28	0.37	0.26
CEM0010	0.02	0.06	0.43	0.50
CEM0011	0.13	0.28	0.39	0.19
CEM0012	0.09	0.19	0.36	0.35
CEM0013	0.04	0.03	0.16	0.78
CEM0014	0.04	0.07	0.40	0.49
CEM0015	0.12	0.24	0.42	0.21
CEM0016	0.03	0.13	0.43	0.42
CEM0017	0.15	0.05	0.23	0.58
CEM0018	0.20	0.44	0.28	0.08
CEM0019	0.09	0.20	0.51	0.21
CEM0020	0.02	0.03	0.13	0.83
CEM0021	0.03	0.06	0.34	0.57
CEM0022	0.14	0.28	0.34	0.24
CEM0023	0.09	0.20	0.44	0.27
CEM0024	0.32	0.44	0.11	0.13
CEM0025	0.08	0.17	0.40	0.36
CEM0026	0.21	0.23	0.20	0.36
CEM0027	0.04	0.07	0.24	0.65
CEM0028	0.07	0.14	0.44	0.35
CEM0029	0.04	0.04	0.33	0.59
CEM0030	0.29	0.26	0.23	0.21
CEM0031	0.03	0.06	0.38	0.54
CEM0032	0.10	0.12	0.43	0.35
CEM0033	0.03	0.08	0.38	0.51
CEM0034	0.05	0.12	0.41	0.43

CEM0035	0.16	0.25	0.40	0.19
CEM0036	0.23	0.30	0.24	0.23
CEM0037	0.04	0.07	0.31	0.57
CEM0038	0.07	0.04	0.39	0.50
CEM0039	0.03	0.09	0.42	0.46
CEM0040	0.21	0.21	0.40	0.18
CEM0041	0.27	0.41	0.19	0.13
CEM0042	0.09	0.10	0.31	0.50
CEM0043	0.05	0.05	0.26	0.65
CEM0044	0.04	0.03	0.35	0.59
CEM0045	0.07	0.15	0.32	0.47

Table B-4: Response frequencies for all items, Tunisia model (Empathy)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CEM0001	0.15	0.36	0.38	0.11
CEM0002	0.02	0.06	0.46	0.46
CEM0003	0.16	0.41	0.33	0.10
CEM0004	0.08	0.08	0.19	0.64
CEM0005	0.05	0.07	0.39	0.49
CEM0006	0.02	0.07	0.39	0.52
CEM0007	0.13	0.24	0.38	0.25
CEM0008	0.07	0.14	0.40	0.39
CEM0009	0.11	0.27	0.40	0.22
CEM0010	0.03	0.05	0.29	0.63
CEM0011	0.14	0.26	0.33	0.27
CEM0012	0.10	0.14	0.38	0.38
CEM0013	0.02	0.04	0.17	0.77
CEM0014	0.08	0.08	0.31	0.53
CEM0015	0.13	0.29	0.40	0.19
CEM0016	0.06	0.20	0.40	0.34
CEM0017	0.08	0.09	0.25	0.58
CEM0018	0.21	0.44	0.22	0.13
CEM0019	0.12	0.22	0.47	0.19
CEM0020	0.02	0.02	0.13	0.83
CEM0021	0.02	0.06	0.32	0.60
CEM0022	0.14	0.29	0.35	0.22

CEM0023	0.11	0.16	0.37	0.36
CEM0024	0.35	0.45	0.12	0.09
CEM0025	0.13	0.17	0.36	0.34
CEM0026	0.11	0.28	0.20	0.42
CEM0027	0.09	0.07	0.32	0.52
CEM0028	0.08	0.16	0.33	0.43
CEM0029	0.04	0.08	0.16	0.72
CEM0030	0.23	0.23	0.19	0.36
CEM0031	0.03	0.14	0.34	0.48
CEM0032	0.16	0.19	0.41	0.25
CEM0033	0.04	0.11	0.39	0.46
CEM0034	0.09	0.20	0.35	0.36
CEM0035	0.15	0.30	0.32	0.24
CEM0036	0.09	0.28	0.20	0.43
CEM0037	0.06	0.06	0.25	0.64
CEM0038	0.06	0.07	0.38	0.49
CEM0039	0.03	0.07	0.26	0.64
CEM0040	0.14	0.16	0.51	0.19
CEM0041	0.26	0.44	0.17	0.13
CEM0042	0.15	0.15	0.30	0.39
CEM0043	0.05	0.05	0.10	0.80
CEM0044	0.10	0.08	0.19	0.64
CEM0045	0.14	0.14	0.35	0.37

Table B-5: Descriptive statistics for all items, pooled model (Empathy)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CEM0001	659	3	3	1
CEM0002	661	3	4	1
CEM0003	661	3	3	1
CEM0004	654	4	4	1
CEM0005	661	3	4	1
CEM0006	661	3	4	1
CEM0007	662	3	3	2
CEM0008	657	3	4	1
CEM0009	661	3	3	1
CEM0010	659	4	4	1

CEM0011	659	3	3	1
CEM0012	654	3	3	2
CEM0013	657	4	4	1
CEM0014	658	3	4	1
CEM0015	656	3	3	1
CEM0016	659	3	3	1
CEM0017	662	4	4	1
CEM0018	658	2	2	1
CEM0019	651	3	3	1
CEM0020	660	4	4	0
CEM0021	657	4	4	1
CEM0022	663	3	3	1
CEM0023	662	3	3	2
CEM0024	662	2	2	1
CEM0025	661	3	4	2
CEM0026	659	3	4	2
CEM0027	660	4	4	1
CEM0028	661	3	4	1
CEM0029	662	4	4	1
CEM0030	662	2	2	2
CEM0031	682	3	4	1
CEM0032	680	3	3	1
CEM0033	681	3	4	1
CEM0034	677	3	3	1
CEM0035	677	3	3	1
CEM0036	675	3	4	2
CEM0037	676	4	4	1
CEM0038	680	3	4	1
CEM0039	682	4	4	1
CEM0040	680	3	3	1
CEM0041	679	2	2	2
CEM0042	680	3	4	2
CEM0043	679	4	4	1
CEM0044	679	4	4	1
CEM0045	681	3	4	2

Table B-6: Descriptive statistics for all items, Egypt model (Empathy)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CEM0001	235	3	3	1
CEM0002	238	3	4	1
CEM0003	237	3	3	1
CEM0004	233	3	4	1
CEM0005	237	4	4	1
CEM0006	236	3	4	1
CEM0007	238	3	3	1
CEM0008	236	3	4	1
CEM0009	237	3	3	1
CEM0010	235	4	4	1
CEM0011	236	3	3	2
CEM0012	234	3	3	2
CEM0013	235	4	4	1
CEM0014	237	3	4	1
CEM0015	233	3	3	1
CEM0016	235	3	3	2
CEM0017	238	4	4	1
CEM0018	237	2	2	1
CEM0019	236	3	3	1
CEM0020	238	4	4	1
CEM0021	235	4	4	1
CEM0022	239	3	3	1
CEM0023	239	3	3	2
CEM0024	239	2	2	1
CEM0025	239	3	4	1
CEM0026	237	3	4	2
CEM0027	238	4	4	1
CEM0028	238	3	4	2
CEM0029	239	4	4	1
CEM0030	239	2	2	1
CEM0031	249	3	4	1
CEM0032	250	3	3	1
CEM0033	249	3	4	2
CEM0034	246	3	3	1

CEM0035	246	3	3	2
CEM0036	246	3	4	1
CEM0037	245	4	4	1
CEM0038	248	3	4	1
CEM0039	249	4	4	1
CEM0040	248	3	3	2
CEM0041	250	2	2	2
CEM0042	249	3	4	2
CEM0043	249	4	4	1
CEM0044	248	3	4	2
CEM0045	249	3	4	2

Table B-7: Descriptive statistics for all items, Palestine model (Empathy)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CEM0001	193	3	3	1
CEM0002	194	3	4	1
CEM0003	194	3	3	1
CEM0004	193	4	4	1
CEM0005	193	3	4	1
CEM0006	194	3	4	1
CEM0007	194	3	3	2
CEM0008	191	3	4	1
CEM0009	194	3	3	2
CEM0010	194	3.5	4	1
CEM0011	193	3	3	1
CEM0012	192	3	3	2
CEM0013	193	4	4	0
CEM0014	192	3	4	1
CEM0015	193	3	3	1
CEM0016	199	3	3	1
CEM0017	199	4	4	1
CEM0018	197	2	2	1
CEM0019	196	3	3	1
CEM0020	198	4	4	0
CEM0021	197	4	4	1
CEM0022	199	3	3	1

CEM0023	198	3	3	2
CEM0024	197	2	2	1
CEM0025	197	3	4	1
CEM0026	197	3	4	2
CEM0027	197	4	4	1
CEM0028	198	3	4	1
CEM0029	198	4	4	1
CEM0030	198	2	2	2
CEM0031	198	4	4	1
CEM0032	198	3	3	1
CEM0033	197	4	4	1
CEM0034	197	3	3	1
CEM0035	198	3	3	1
CEM0036	198	2	4	1
CEM0037	197	4	4	1
CEM0038	198	3.5	4	1
CEM0039	198	3	4	1
CEM0040	197	3	3	1
CEM0041	198	2	2	2
CEM0042	197	3	4	1
CEM0043	198	4	4	1
CEM0044	197	4	4	1
CEM0045	198	3	4	1

Table B-8: Descriptive statistics for all items, Tunisia model (Empathy)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CEM0001	231	2	3	1
CEM0002	229	3	4	1
CEM0003	230	2	3	1
CEM0004	228	4	4	1
CEM0005	231	3	4	1
CEM0006	231	4	4	1
CEM0007	230	3	3	1
CEM0008	230	3	4	1
CEM0009	230	3	3	1
CEM0010	230	4	4	1

CEM0011	230	3	3	2
CEM0012	228	3	3	1
CEM0013	229	4	4	0
CEM0014	229	4	4	1
CEM0015	230	3	3	1
CEM0016	225	3	3	2
CEM0017	225	4	4	1
CEM0018	224	2	2	1
CEM0019	219	3	3	1
CEM0020	224	4	4	0
CEM0021	225	4	4	1
CEM0022	225	3	3	1
CEM0023	225	3	3	2
CEM0024	226	2	2	1
CEM0025	225	3	4	2
CEM0026	225	3	4	2
CEM0027	225	4	4	1
CEM0028	225	3	4	1
CEM0029	225	4	4	1
CEM0030	225	3	2	2
CEM0031	235	3	4	1
CEM0032	232	3	3	1.25
CEM0033	235	3	4	1
CEM0034	234	3	3	2
CEM0035	233	3	3	1
CEM0036	231	3	4	2
CEM0037	234	4	4	1
CEM0038	234	3	4	1
CEM0039	235	4	4	1
CEM0040	235	3	3	1
CEM0041	231	2	2	2
CEM0042	234	3	4	2
CEM0043	232	4	4	0
CEM0044	234	4	4	1
CEM0045	234	3	4	2

Table B-9: IRT statistics – pooled, 45-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0001	0.29	-7.25	-0.49	6.88	0.03	-1.10	21.64	26	0.71
CEM0002	0.91	-4.07	-2.67	0.21	0.25	-3.00	22.08	17	0.18
CEM0003	0.35	-5.69	-0.08	5.41	0.04	0.10	40.02	26	0.04
CEM0004	0.86	-3.20	-2.08	-0.43	0.23	-2.00	29.80	23	0.16
CEM0005	0.85	-3.43	-2.27	0.12	0.22	-2.50	31.75	23	0.11
CEM0006	1.13	-3.74	-2.29	0.14	0.38	-2.90	21.46	16	0.16
CEM0007	0.63	-3.71	-1.11	1.75	0.12	-1.40	52.77	26	0.00
CEM0008	0.88	-3.54	-1.89	0.49	0.23	-2.30	26.01	23	0.30
CEM0009	0.46	-5.04	-1.18	2.74	0.06	-1.30	30.90	26	0.23
CEM0010	0.99	-3.88	-2.71	-0.37	0.30	-3.00	25.36	16	0.06
CEM0011	0.22	-8.25	-1.83	5.23	0.01	-2.10	25.06	26	0.52
CEM0012	0.52	-4.18	-1.55	1.42	0.08	-1.70	36.62	26	0.08
CEM0013	1.81	-2.59	-1.96	-0.91	1.00	-2.10	30.29	11	0.00
CEM0014	1.02	-2.96	-1.93	0.08	0.32	-2.10	54.50	22	0.00
CEM0015	0.47	-4.21	-0.82	3.00	0.07	-1.20	38.90	26	0.05
CEM0016	0.29	-10.22	-4.14	2.23	0.03	-3.00	21.64	25	0.66
CEM0017	0.66	-3.45	-2.36	-0.49	0.14	-2.10	40.58	26	0.03
CEM0018	0.04	-32.05	14.55	51.65	0.00	3.00	22.45	26	0.66
CEM0019	0.32	-7.27	-2.46	4.25	0.03	-3.00	39.63	26	0.04
CEM0020	1.48	-3.18	-2.60	-1.22	0.66	-2.70	17.59	9	0.04
CEM0021	1.22	-3.40	-2.34	-0.29	0.45	-2.70	18.32	15	0.25
CEM0022	0.41	-4.54	-0.58	3.41	0.05	-0.60	36.58	26	0.08
CEM0023	0.43	-5.36	-2.06	1.88	0.06	-2.40	24.44	26	0.55
CEM0024	-0.68	1.15	-1.94	-3.41	0.14	-2.20	26.78	26	0.42
CEM0025	0.82	-3.09	-1.49	0.74	0.20	-1.70	40.24	25	0.03
CEM0026	0.25	-6.77	-1.25	2.47	0.02	-1.70	33.59	26	0.15
CEM0027	1.16	-2.81	-1.98	-0.49	0.41	-2.00	39.09	19	0.00
CEM0028	0.75	-3.45	-1.70	0.77	0.17	-2.00	32.59	25	0.14
CEM0029	1.34	-2.82	-2.05	-0.56	0.54	-2.20	18.75	16	0.28
CEM0030	0.03	-35.18	2.88	32.49	0.00	0.10	32.84	26	0.17
CEM0031	0.86	-4.04	-2.37	0.00	0.22	-2.80	19.56	21	0.55
CEM0032	0.52	-4.32	-2.40	1.44	0.08	-2.70	35.23	26	0.11
CEM0033	1.11	-2.85	-1.57	0.16	0.37	-1.80	22.19	21	0.39

CEM0034	0.92	-3.06	-1.49	0.65	0.26	-1.90	38.56	24	0.03
CEM0035	0.01	-139.74	-18.90	136.27	0.00	-3.00	26.29	26	0.45
CEM0036	0.46	-3.72	-0.48	1.87	0.07	-0.50	55.45	26	0.00
CEM0037	1.51	-2.48	-1.75	-0.33	0.69	-1.90	24.42	16	0.08
CEM0038	0.99	-3.17	-2.29	-0.01	0.30	-2.50	41.44	20	0.00
CEM0039	1.20	-3.04	-1.91	-0.16	0.44	-2.20	33.29	18	0.02
CEM0040	0.50	-3.61	-1.50	2.81	0.08	-2.00	37.27	26	0.07
CEM0041	-0.05	18.47	-14.62	-37.92	0.00	-3.00	39.99	26	0.04
CEM0042	0.71	-3.06	-1.65	0.44	0.16	-1.60	43.17	26	0.02
CEM0043	1.17	-2.76	-2.09	-0.90	0.42	-1.90	32.48	18	0.02
CEM0044	0.91	-2.95	-1.95	-0.29	0.26	-1.80	26.47	23	0.28
CEM0045	0.66	-3.43	-1.75	0.58	0.14	-1.80	27.99	26	0.36

Table B-10: IRT statistics – Egypt, 45-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0001	0.12	-21.01	-2.42	16.32	0.00	-2.60	37.08	20	0.01
CEM0002	0.93	-3.67	-2.24	0.19	0.26	-2.70	18.99	11	0.06
CEM0003	0.27	-8.18	-1.02	5.71	0.02	-0.50	44.31	24	0.01
CEM0004	0.89	-3.00	-1.71	0.01	0.25	-1.70	16.60	16	0.41
CEM0005	0.59	-3.97	-2.54	-0.03	0.11	-2.30	37.02	16	0.00
CEM0006	1.37	-3.55	-1.84	0.24	0.53	-2.00	15.65	10	0.11
CEM0007	0.62	-4.10	-1.37	1.99	0.11	-2.00	27.32	19	0.10
CEM0008	0.95	-3.47	-1.96	0.25	0.27	-2.40	8.98	12	0.70
CEM0009	0.51	-4.86	-1.15	2.64	0.08	-1.20	16.67	20	0.67
CEM0010	1.54	-2.42	-1.80	-0.38	0.72	-1.90	18.79	10	0.04
CEM0011	0.11	-15.67	-4.14	9.33	0.00	-3.00	23.43	26	0.61
CEM0012	0.22	-7.87	-0.90	4.79	0.01	-0.70	24.27	26	0.56
CEM0013	1.93	-2.31	-1.60	-0.64	1.14	-1.70	11.30	8	0.19
CEM0014	0.91	-2.94	-1.67	0.40	0.26	-1.90	23.14	17	0.14
CEM0015	0.59	-3.14	-0.36	2.24	0.11	-0.20	27.29	24	0.29
CEM0016	0.40	-7.11	-2.43	2.52	0.05	-2.80	19.28	17	0.31
CEM0017	0.79	-3.18	-1.78	-0.29	0.20	-1.80	12.87	18	0.80
CEM0018	0.19	-7.11	3.36	11.55	0.01	3.00	21.80	25	0.65
CEM0019	0.28	-9.90	-2.82	4.58	0.02	-3.00	11.74	17	0.82
CEM0020	1.79	-2.59	-2.11	-0.77	0.95	-2.20	13.91	5	0.02
CEM0021	1.30	-2.95	-2.08	-0.10	0.51	-2.40	14.04	10	0.17

CEM0022	0.15	-12.20	-0.64	11.32	0.01	-1.10	32.85	26	0.17
CEM0023	0.59	-4.02	-1.16	1.40	0.11	-1.00	27.58	22	0.19
CEM0024	-0.45	1.77	-2.59	-5.17	0.06	-3.00	17.72	22	0.72
CEM0025	0.92	-3.22	-1.64	0.40	0.26	-1.90	22.62	16	0.12
CEM0026	0.33	-5.43	-0.65	3.11	0.03	-0.50	28.43	26	0.34
CEM0027	1.51	-2.50	-1.69	-0.64	0.70	-1.70	14.23	8	0.08
CEM0028	0.58	-3.73	-1.75	1.16	0.10	-1.90	29.21	22	0.14
CEM0029	1.40	-2.56	-1.93	-0.42	0.59	-2.00	5.10	7	0.65
CEM0030	-0.05	25.30	-4.93	-25.80	0.00	-3.00	26.84	26	0.42
CEM0031	0.75	-3.89	-2.40	0.11	0.17	-2.60	20.16	15	0.17
CEM0032	0.64	-4.50	-2.87	0.76	0.12	-3.00	10.84	13	0.62
CEM0033	1.21	-2.08	-0.87	0.30	0.45	-0.90	21.49	19	0.31
CEM0034	1.07	-2.53	-1.31	0.74	0.35	-1.70	15.77	16	0.47
CEM0035	-0.12	8.96	0.25	-14.31	0.00	0.70	31.35	26	0.22
CEM0036	0.32	-5.13	-0.47	3.85	0.03	-0.40	30.86	26	0.23
CEM0037	1.57	-2.27	-1.55	-0.16	0.74	-1.70	11.33	11	0.42
CEM0038	1.03	-3.15	-2.02	0.00	0.32	-2.30	18.30	12	0.11
CEM0039	1.26	-2.42	-1.50	-0.04	0.49	-1.60	29.04	14	0.01
CEM0040	0.27	-8.19	-3.93	3.84	0.02	-3.00	25.46	23	0.33
CEM0041	0.18	-5.07	3.99	12.37	0.01	3.00	42.55	25	0.02
CEM0042	0.76	-2.91	-1.43	0.57	0.18	-1.40	33.96	22	0.05
CEM0043	1.42	-2.07	-1.52	-0.56	0.62	-1.40	17.50	12	0.13
CEM0044	0.93	-2.42	-1.11	0.35	0.27	-1.10	21.66	20	0.36
CEM0045	0.71	-3.07	-1.49	0.63	0.16	-1.50	25.01	22	0.30

Table B-11: IRT statistics – Palestine, 45-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0001	0.42	-5.50	-0.49	4.91	0.05	-0.90	11.09	17	0.85
CEM0002	0.81	-4.45	-3.19	0.18	0.19	-3.00	16.28	7	0.02
CEM0003	0.57	-3.96	-0.24	3.57	0.09	-0.30	19.39	16	0.25
CEM0004	0.96	-3.18	-2.23	-0.49	0.28	-2.20	17.31	11	0.10
CEM0005	1.06	-3.08	-2.05	0.27	0.34	-2.40	11.37	11	0.41
CEM0006	0.88	-4.14	-2.93	0.26	0.23	-3.00	13.03	8	0.11
CEM0007	0.75	-3.34	-0.96	1.17	0.17	-0.70	34.88	19	0.01
CEM0008	0.88	-3.82	-1.98	0.55	0.23	-2.50	24.16	13	0.03

CEM0009	0.46	-5.20	-1.24	2.43	0.06	-0.90	20.35	19	0.37
CEM0010	0.82	-5.52	-3.48	-0.02	0.19	-3.00	10.04	7	0.19
CEM0011	0.40	-4.90	-0.93	3.80	0.05	-1.60	17.53	21	0.68
CEM0012	0.58	-4.17	-1.75	1.12	0.10	-2.00	19.62	19	0.42
CEM0013	1.93	-2.46	-2.09	-1.03	1.12	-2.10	3.98	3	0.26
CEM0014	1.14	-3.27	-2.24	0.03	0.39	-2.60	19.89	9	0.02
CEM0015	0.52	-4.04	-1.13	2.71	0.08	-1.80	22.24	21	0.39
CEM0016	0.33	-10.56	-5.16	1.05	0.03	-3.00	13.17	14	0.51
CEM0017	0.61	-3.06	-2.53	-0.59	0.11	-1.90	16.16	14	0.30
CEM0018	-0.11	12.61	-4.97	-21.87	0.00	-3.00	26.25	17	0.07
CEM0019	0.37	-6.56	-2.54	3.75	0.04	-3.00	20.53	18	0.30
CEM0020	1.45	-3.65	-2.83	-1.44	0.64	-3.00	4.55	1	0.03
CEM0021	1.20	-3.42	-2.38	-0.31	0.44	-2.70	16.32	7	0.02
CEM0022	0.50	-3.79	-0.65	2.42	0.08	-0.60	20.89	24	0.65
CEM0023	0.28	-8.64	-3.44	3.57	0.02	-3.00	13.28	17	0.72
CEM0024	-0.74	1.12	-1.74	-2.86	0.16	-1.90	13.97	16	0.60
CEM0025	0.73	-3.64	-1.69	0.92	0.16	-2.10	17.99	15	0.26
CEM0026	0.23	-5.79	-1.08	2.60	0.02	-1.50	33.00	26	0.16
CEM0027	1.51	-2.74	-1.92	-0.58	0.69	-2.10	6.50	6	0.37
CEM0028	0.75	-3.85	-2.00	0.91	0.17	-2.60	8.83	14	0.84
CEM0029	1.34	-2.90	-2.25	-0.35	0.54	-2.40	12.38	7	0.09
CEM0030	-0.04	22.06	-5.61	-32.88	0.00	-3.00	23.31	26	0.62
CEM0031	0.98	-4.13	-2.82	-0.16	0.29	-3.00	12.19	7	0.09
CEM0032	0.53	-4.38	-2.61	1.24	0.08	-2.80	25.05	14	0.03
CEM0033	1.03	-3.74	-2.31	-0.04	0.32	-2.80	9.24	9	0.42
CEM0034	0.85	-3.72	-2.06	0.43	0.22	-2.50	15.05	11	0.18
CEM0035	0.03	-49.54	-10.48	44.19	0.00	-3.00	27.85	26	0.37
CEM0036	0.36	-3.48	0.22	3.32	0.04	0.10	32.85	26	0.17
CEM0037	1.76	-2.44	-1.72	-0.27	0.94	-2.00	22.31	8	0.00
CEM0038	0.99	-3.08	-2.53	-0.03	0.28	-2.50	9.60	9	0.38
CEM0039	1.13	-3.68	-2.14	0.17	0.38	-2.70	12.68	9	0.18
CEM0040	0.71	-2.07	-0.51	2.35	0.15	-0.80	16.87	22	0.77
CEM0041	-0.03	29.57	-21.81	-55.63	0.00	-3.00	33.45	26	0.15
CEM0042	1.09	-2.51	-1.59	0.03	0.37	-1.60	18.98	12	0.09
CEM0043	0.90	-3.77	-2.83	-0.79	0.24	-2.80	9.86	7	0.20
CEM0044	0.68	-5.14	-4.30	-0.62	0.13	-3.00	4.97	6	0.55
CEM0045	0.87	-3.39	-1.70	0.19	0.23	-1.80	29.37	15	0.01

Table B-12: IRT statistics – Tunisia, 45-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0001	0.46	-3.98	0.08	4.71	0.06	-0.60	21.59	21	0.42
CEM0002	1.03	-4.16	-2.69	0.24	0.31	-3.00	14.39	8	0.07
CEM0003	0.30	-5.61	0.95	7.51	0.03	0.90	22.28	22	0.44
CEM0004	0.62	-4.09	-2.80	-1.00	0.12	-2.60	14.98	13	0.31
CEM0005	0.93	-3.60	-2.42	0.06	0.26	-2.80	9.74	10	0.46
CEM0006	1.21	-3.66	-2.28	-0.06	0.43	-2.80	10.21	8	0.25
CEM0007	0.58	-3.54	-0.96	2.11	0.10	-1.30	20.32	23	0.62
CEM0008	0.88	-3.17	-1.63	0.64	0.24	-2.00	21.18	15	0.13
CEM0009	0.47	-4.55	-1.03	2.86	0.07	-1.40	25.80	23	0.31
CEM0010	0.74	-5.20	-3.58	-0.80	0.16	-3.00	10.70	7	0.15
CEM0011	0.17	-10.68	-2.37	5.75	0.01	-2.30	20.76	26	0.75
CEM0012	0.74	-3.31	-1.76	0.75	0.17	-2.00	16.45	19	0.63
CEM0013	1.42	-3.39	-2.47	-1.15	0.62	-2.60	6.96	4	0.14
CEM0014	0.88	-3.10	-2.15	-0.15	0.24	-2.10	16.79	12	0.16
CEM0015	0.32	-6.24	-1.13	4.70	0.03	-1.80	38.24	25	0.04
CEM0016	0.14	-20.66	-7.68	4.97	0.01	-3.00	8.72	16	0.92
CEM0017	0.54	-4.67	-3.13	-0.67	0.09	-2.80	31.17	12	0.00
CEM0018	0.03	-40.76	20.33	61.09	0.00	3.00	31.16	26	0.22
CEM0019	0.38	-5.29	-1.78	3.88	0.04	-2.80	25.03	24	0.40
CEM0020	0.99	-4.27	-3.63	-1.85	0.29	-3.00	6.40	1	0.01
CEM0021	1.05	-4.33	-2.81	-0.50	0.33	-3.00	6.68	8	0.57
CEM0022	0.62	-3.11	-0.48	2.23	0.12	-0.60	18.44	23	0.73
CEM0023	0.43	-4.97	-2.33	1.43	0.06	-2.50	12.26	21	0.93
CEM0024	-0.91	0.82	-1.75	-2.95	0.25	-2.10	19.34	14	0.15
CEM0025	0.94	-2.33	-1.04	0.84	0.27	-1.20	17.12	20	0.65
CEM0026	0.20	-10.48	-2.39	1.52	0.01	-3.00	23.27	24	0.50
CEM0027	0.91	-2.81	-2.04	-0.08	0.25	-1.90	19.97	12	0.07
CEM0028	0.99	-2.85	-1.36	0.37	0.30	-1.50	24.13	16	0.09
CEM0029	1.35	-2.94	-1.94	-0.93	0.56	-1.90	7.54	6	0.27
CEM0030	0.13	-9.73	-1.52	4.51	0.01	-2.40	26.98	26	0.41
CEM0031	0.82	-4.47	-2.12	0.08	0.20	-1.90	14.56	13	0.34
CEM0032	0.62	-2.97	-1.20	1.89	0.12	-1.50	22.55	24	0.55
CEM0033	0.92	-3.79	-2.12	0.21	0.26	-2.60	8.00	13	0.84

CEM0034	0.81	-3.21	-1.26	0.80	0.20	-1.40	22.63	19	0.25
CEM0035	0.05	-34.90	-4.31	23.12	0.00	-3.00	23.34	26	0.61
CEM0036	0.74	-3.41	-0.85	0.37	0.17	-0.80	33.41	20	0.03
CEM0037	1.28	-2.75	-2.03	-0.58	0.50	-2.10	15.74	10	0.11
CEM0038	0.89	-3.50	-2.52	0.00	0.24	-2.70	19.57	11	0.05
CEM0039	1.33	-3.18	-2.12	-0.58	0.54	-2.40	10.97	9	0.28
CEM0040	0.77	-2.54	-1.18	2.16	0.18	-1.60	19.81	19	0.41
CEM0041	-0.26	4.04	-3.38	-7.58	0.02	-3.00	31.13	25	0.18
CEM0042	0.42	-4.22	-2.03	1.10	0.06	-1.80	16.70	25	0.89
CEM0043	1.18	-2.98	-2.33	-1.49	0.43	-2.20	11.95	3	0.01
CEM0044	1.00	-2.61	-1.87	-0.71	0.31	-1.70	20.68	13	0.08
CEM0045	0.50	-3.82	-2.00	1.09	0.08	-1.80	38.01	24	0.03

Table B-13: IRT statistics – pooled, 30-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0002	0.93	-4.01	-2.63	0.21	0.26	-3.00	29.11	17	0.03
CEM0004	0.90	-3.09	-2.02	-0.41	0.25	-1.90	33.19	23	0.08
CEM0005	0.86	-3.40	-2.26	0.12	0.22	-2.40	54.18	23	0.00
CEM0006	1.14	-3.72	-2.29	0.14	0.39	-2.90	23.56	15	0.07
CEM0007	0.61	-3.83	-1.15	1.81	0.11	-1.40	40.15	26	0.04
CEM0008	0.88	-3.53	-1.89	0.49	0.23	-2.30	26.67	23	0.27
CEM0009	0.44	-5.26	-1.23	2.86	0.06	-1.30	28.56	26	0.33
CEM0010	1.05	-3.72	-2.60	-0.36	0.33	-2.90	23.78	16	0.09
CEM0013	1.87	-2.55	-1.93	-0.89	1.07	-2.00	33.17	10	0.00
CEM0014	1.01	-2.98	-1.94	0.08	0.31	-2.10	56.20	22	0.00
CEM0015	0.45	-4.35	-0.84	3.10	0.06	-1.20	36.75	26	0.08
CEM0017	0.73	-3.16	-2.17	-0.45	0.17	-1.90	54.85	26	0.00
CEM0020	1.58	-3.05	-2.50	-1.18	0.76	-2.60	20.76	9	0.01
CEM0021	1.20	-3.46	-2.39	-0.30	0.43	-2.80	21.22	15	0.13
CEM0025	0.78	-3.20	-1.54	0.76	0.19	-1.80	50.81	25	0.00
CEM0028	0.71	-3.57	-1.76	0.80	0.16	-2.10	42.88	25	0.01
CEM0029	1.28	-2.91	-2.11	-0.58	0.50	-2.20	30.07	16	0.02
CEM0031	0.83	-4.16	-2.44	0.00	0.21	-2.90	20.24	20	0.44
CEM0032	0.50	-4.43	-2.47	1.47	0.08	-2.70	21.95	26	0.69
CEM0033	1.15	-2.79	-1.53	0.16	0.40	-1.80	32.72	21	0.05

CEM0034	0.88	-3.15	-1.54	0.67	0.24	-1.90	30.70	24	0.16
CEM0036	0.48	-3.62	-0.47	1.82	0.07	-0.50	53.38	26	0.00
CEM0037	1.48	-2.52	-1.78	-0.33	0.66	-2.00	26.58	16	0.05
CEM0038	0.98	-3.22	-2.33	-0.01	0.29	-2.50	46.77	21	0.00
CEM0039	1.23	-3.01	-1.89	-0.16	0.46	-2.20	40.97	18	0.00
CEM0040	0.47	-3.80	-1.58	2.96	0.07	-2.10	41.16	26	0.03
CEM0042	0.68	-3.18	-1.71	0.46	0.14	-1.60	42.06	26	0.02
CEM0043	1.14	-2.81	-2.13	-0.91	0.40	-2.00	40.01	18	0.00
CEM0044	0.88	-3.04	-2.01	-0.30	0.24	-1.90	24.94	23	0.35
CEM0045	0.62	-3.65	-1.85	0.62	0.12	-1.80	32.07	26	0.19

Table B-14: IRT statistics – Egypt, 30-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0002	0.97	-3.53	-2.15	0.20	0.29	-2.60	18.12	11	0.08
CEM0004	0.92	-2.91	-1.66	0.02	0.26	-1.70	14.97	15	0.45
CEM0005	0.63	-3.78	-2.41	-0.01	0.12	-2.20	21.57	17	0.20
CEM0006	1.35	-3.59	-1.84	0.26	0.51	-2.00	14.04	9	0.12
CEM0007	0.60	-4.20	-1.39	2.05	0.11	-2.00	28.12	20	0.11
CEM0008	0.97	-3.40	-1.92	0.26	0.28	-2.30	19.70	13	0.10
CEM0009	0.47	-5.26	-1.23	2.87	0.06	-1.30	17.82	20	0.60
CEM0010	1.50	-2.45	-1.82	-0.37	0.68	-1.90	14.02	10	0.17
CEM0013	1.96	-2.29	-1.59	-0.63	1.17	-1.70	9.60	7	0.21
CEM0014	0.90	-2.97	-1.68	0.41	0.25	-1.90	37.91	16	0.00
CEM0015	0.55	-3.32	-0.37	2.38	0.09	-0.20	22.33	25	0.62
CEM0017	0.86	-2.97	-1.68	-0.28	0.23	-1.60	10.86	17	0.86
CEM0020	1.84	-2.55	-2.08	-0.76	1.01	-2.20	11.52	5	0.04
CEM0021	1.22	-3.09	-2.18	-0.11	0.45	-2.50	15.48	9	0.08
CEM0025	0.85	-3.40	-1.73	0.42	0.22	-2.00	16.67	16	0.41
CEM0028	0.61	-3.55	-1.67	1.11	0.12	-1.80	27.52	22	0.19
CEM0029	1.34	-2.62	-1.97	-0.43	0.54	-2.00	14.60	8	0.07
CEM0031	0.71	-4.09	-2.53	0.10	0.15	-2.70	25.25	15	0.05
CEM0032	0.62	-4.64	-2.96	0.77	0.12	-3.00	12.72	12	0.39
CEM0033	1.25	-2.04	-0.86	0.29	0.48	-0.80	25.88	18	0.10
CEM0034	1.03	-2.61	-1.36	0.76	0.32	-1.70	21.07	18	0.28
CEM0036	0.33	-5.00	-0.46	3.74	0.03	-0.40	30.46	26	0.25

CEM0037	1.55	-2.30	-1.57	-0.17	0.73	-1.80	9.88	11	0.54
CEM0038	1.04	-3.12	-2.02	-0.02	0.33	-2.30	15.54	12	0.21
CEM0039	1.30	-2.38	-1.47	-0.04	0.52	-1.60	27.37	14	0.02
CEM0040	0.25	-8.87	-4.26	4.14	0.02	-3.00	35.59	24	0.06
CEM0042	0.73	-3.01	-1.48	0.59	0.17	-1.50	31.04	20	0.05
CEM0043	1.40	-2.10	-1.54	-0.58	0.61	-1.40	19.79	12	0.07
CEM0044	0.89	-2.53	-1.16	0.35	0.25	-1.10	22.79	20	0.30
CEM0045	0.68	-3.19	-1.55	0.64	0.14	-1.50	27.29	21	0.16

Table B-15: IRT statistics – Palestine, 30-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0002	0.80	-4.46	-3.20	0.19	0.19	-3.00	20.13	7	0.01
CEM0004	0.97	-3.14	-2.21	-0.48	0.29	-2.10	16.59	10	0.08
CEM0005	1.06	-3.08	-2.05	0.27	0.34	-2.40	19.94	10	0.03
CEM0006	0.88	-4.13	-2.92	0.27	0.23	-3.00	6.42	7	0.49
CEM0007	0.78	-3.24	-0.92	1.16	0.18	-0.70	37.49	19	0.01
CEM0008	0.92	-3.67	-1.90	0.55	0.25	-2.40	19.22	13	0.12
CEM0009	0.47	-5.05	-1.20	2.37	0.07	-0.90	28.10	19	0.08
CEM0010	0.90	-5.09	-3.22	-0.01	0.23	-3.00	11.45	7	0.12
CEM0013	1.92	-2.46	-2.09	-1.03	1.11	-2.10	5.67	3	0.13
CEM0014	1.17	-3.18	-2.18	0.03	0.41	-2.50	17.75	9	0.04
CEM0015	0.55	-3.86	-1.07	2.60	0.09	-1.70	25.52	20	0.18
CEM0017	0.74	-2.63	-2.17	-0.51	0.17	-1.60	13.84	12	0.31
CEM0020	1.64	-3.35	-2.62	-1.35	0.82	-2.80	4.02	1	0.05
CEM0021	1.19	-3.45	-2.41	-0.32	0.43	-2.80	9.93	6	0.13
CEM0025	0.71	-3.71	-1.73	0.93	0.16	-2.10	13.16	16	0.66
CEM0028	0.68	-4.18	-2.18	0.99	0.14	-2.70	10.53	14	0.72
CEM0029	1.22	-3.10	-2.40	-0.37	0.44	-2.60	7.98	7	0.33
CEM0031	0.95	-4.23	-2.88	-0.17	0.27	-3.00	17.28	8	0.03
CEM0032	0.52	-4.43	-2.65	1.25	0.08	-2.90	21.38	14	0.09
CEM0033	1.09	-3.59	-2.23	-0.05	0.36	-2.70	20.20	8	0.01
CEM0034	0.84	-3.80	-2.10	0.43	0.21	-2.60	16.08	11	0.14
CEM0036	0.40	-3.21	0.19	3.04	0.05	0.10	32.11	26	0.19
CEM0037	1.78	-2.45	-1.73	-0.28	0.95	-2.00	14.90	8	0.06
CEM0038	0.95	-3.19	-2.62	-0.04	0.26	-2.60	9.18	9	0.42

CEM0039	1.12	-3.71	-2.16	0.17	0.37	-2.70	12.42	8	0.13
CEM0040	0.65	-2.24	-0.56	2.53	0.13	-0.90	17.43	23	0.79
CEM0042	1.07	-2.55	-1.61	0.02	0.35	-1.60	13.32	11	0.27
CEM0043	0.84	-4.00	-3.00	-0.84	0.21	-2.90	15.63	7	0.03
CEM0044	0.67	-5.25	-4.39	-0.64	0.12	-3.00	4.41	6	0.62
CEM0045	0.83	-3.56	-1.78	0.19	0.21	-1.90	28.31	15	0.02

Table B-16: IRT statistics – Tunisia, 30-item model (Empathy)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CEM0002	1.02	-4.18	-2.70	0.23	0.31	-3.00	7.80	7	0.35
CEM0004	0.71	-3.62	-2.49	-0.89	0.16	-2.30	13.64	12	0.32
CEM0005	0.95	-3.52	-2.38	0.04	0.27	-2.70	11.50	10	0.32
CEM0006	1.17	-3.75	-2.33	-0.07	0.41	-2.90	7.99	9	0.54
CEM0007	0.51	-3.96	-1.08	2.34	0.08	-1.40	28.80	24	0.23
CEM0008	0.86	-3.26	-1.69	0.64	0.22	-2.10	19.70	17	0.29
CEM0009	0.43	-4.97	-1.14	3.09	0.06	-1.60	20.56	24	0.66
CEM0010	0.81	-4.81	-3.33	-0.76	0.20	-3.00	8.76	7	0.27
CEM0013	1.62	-3.13	-2.29	-1.07	0.80	-2.50	7.05	3	0.07
CEM0014	0.90	-3.08	-2.14	-0.16	0.25	-2.10	22.53	12	0.03
CEM0015	0.27	-7.21	-1.31	5.40	0.02	-2.10	29.16	25	0.26
CEM0017	0.60	-4.30	-2.89	-0.62	0.11	-2.60	19.42	12	0.08
CEM0020	1.08	-3.98	-3.39	-1.74	0.36	-3.00	6.15	1	0.01
CEM0021	1.10	-4.18	-2.73	-0.49	0.36	-3.00	8.17	8	0.42
CEM0025	0.93	-2.36	-1.07	0.84	0.26	-1.20	19.03	20	0.52
CEM0028	0.92	-3.02	-1.43	0.39	0.26	-1.60	18.26	17	0.37
CEM0029	1.37	-2.93	-1.94	-0.94	0.58	-1.90	12.68	7	0.08
CEM0031	0.85	-4.31	-2.03	0.10	0.22	-1.80	12.78	14	0.54
CEM0032	0.59	-3.08	-1.23	1.99	0.11	-1.50	23.87	24	0.47
CEM0033	0.94	-3.73	-2.07	0.22	0.26	-2.60	10.36	12	0.58
CEM0034	0.80	-3.24	-1.26	0.83	0.20	-1.40	19.76	19	0.41
CEM0036	0.73	-3.47	-0.85	0.40	0.16	-0.80	24.76	20	0.21
CEM0037	1.17	-2.92	-2.13	-0.60	0.42	-2.10	11.54	8	0.17
CEM0038	0.91	-3.45	-2.47	0.02	0.25	-2.70	28.81	11	0.00
CEM0039	1.31	-3.22	-2.13	-0.57	0.52	-2.40	18.17	10	0.05
CEM0040	0.75	-2.57	-1.19	2.21	0.17	-1.60	19.04	20	0.52

CEM0042	0.43	-4.16	-2.00	1.10	0.06	-1.70	18.97	24	0.75
CEM0043	1.15	-3.03	-2.36	-1.50	0.41	-2.30	9.63	2	0.01
CEM0044	0.97	-2.66	-1.90	-0.71	0.29	-1.70	17.52	13	0.18
CEM0045	0.47	-4.10	-2.13	1.19	0.07	-1.90	30.96	23	0.12

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Table B-17: Fit indices and reliability, 45-item model (Empathy)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1259.40	855	0.00	0.02	0.04	0.94	0.94	0.82
	(29.42)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	
Egypt	1033.16	855	0.00	0.02	0.05	0.94	0.94	0.84
	(37.09)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	
Palestine	1008.51	855	0.01	0.02	0.06	0.92	0.93	0.83
	(43.68)	-	-	(0.00)	(0.00)	(0.03)	(0.03)	
Tunisia	1032.27	855	0.00	0.02	0.06	0.91	0.92	0.81
	(46.81)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	

Table B-18: Measurement invariance test, 45-item model (Empathy)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3052.41	2565	0.00	0.01	0.05	0.06	0.06	0.95	0.96
	(70.61)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	3191.73	2655	0.00	0.01	0.06	0.06	0.06	0.95	0.95
	(61.59)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	3680.72	2923	0.00	0.02	0.06	0.06	0.06	0.93	0.93
	(74.68)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	139.32	90	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Difference: Scalar - Metric	488.98	268	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02

Table B-19: Fit indices and reliability, 30-item model (Empathy)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	492.64	345	0.00	0.02	0.04	0.95	0.96	0.80
	(29.80)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	
Egypt	422.52	345	0.01	0.02	0.05	0.94	0.95	0.82
	(31.37)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	
Palestine	399.91	345	0.08	0.02	0.06	0.94	0.94	0.80
	(26.93)	-	-	(0.01)	(0.00)	(0.03)	(0.03)	
Tunisia	409.72	345	0.03	0.02	0.05	0.92	0.93	0.78
	(20.24)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	

Table B-20: Measurement invariance test, 30-item model (Empathy)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1277.39	1035	0.00	0.02	0.05	0.06	0.06	0.97	0.97
	(40.27)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Metric model	1359.80	1095	0.00	0.02	0.05	0.06	0.06	0.97	0.97
	(50.01)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	1665.67	1273	0.00	0.02	0.05	0.06	0.06	0.96	0.95
	(39.45)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Difference: Metric - Configural	82.41	60	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Difference: Scalar - Metric	305.87	178	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02

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Table B-21: Response frequencies for all items, pooled model (Participation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.03	0.06	0.28	0.63
CPA0002	0.09	0.11	0.39	0.41
CPA0003	0.06	0.13	0.38	0.43
CPA0004	0.17	0.14	0.37	0.32
CPA0005	0.30	0.22	0.25	0.24
CPA0006	0.28	0.19	0.25	0.29
CPA0007	0.17	0.17	0.28	0.38
CPA0008	0.25	0.17	0.28	0.31
CPA0009	0.15	0.16	0.30	0.39
CPA0010	0.22	0.18	0.29	0.31
CPA0011	0.06	0.10	0.45	0.38
CPA0012	0.08	0.13	0.32	0.46
CPA0013	0.07	0.10	0.28	0.56
CPA0014	0.04	0.11	0.30	0.55
CPA0015	0.12	0.30	0.36	0.22
CPA0016	0.12	0.16	0.45	0.27
CPA0017	0.13	0.20	0.30	0.37
CPA0018	0.05	0.13	0.37	0.45
CPA0019	0.03	0.06	0.27	0.65
CPA0020	0.03	0.06	0.39	0.52
CPA0021	0.06	0.11	0.33	0.50
CPA0022	0.07	0.19	0.47	0.27
CPA0023	0.07	0.13	0.46	0.34
CPA0024	0.05	0.14	0.38	0.44
CPA0025	0.08	0.13	0.32	0.47
CPA0026	0.05	0.13	0.38	0.43
CPA0027	0.12	0.19	0.37	0.32
CPA0028	0.12	0.15	0.28	0.44
CPA0029	0.03	0.11	0.35	0.50
CPA0030	0.02	0.09	0.27	0.62
CPA0031	0.02	0.04	0.19	0.75
CPA0032	0.03	0.05	0.38	0.54

CPA0033	0.03	0.10	0.33	0.54
CPA0034	0.06	0.17	0.40	0.38
CPA0035	0.06	0.12	0.38	0.44
CPA0036	0.04	0.07	0.35	0.54
CPA0037	0.06	0.14	0.45	0.36
CPA0038	0.07	0.14	0.34	0.45
CPA0039	0.15	0.27	0.23	0.35
CPA0040	0.06	0.17	0.45	0.33
CPA0041	0.20	0.20	0.19	0.40
CPA0042	0.12	0.18	0.39	0.32
CPA0043	0.07	0.16	0.40	0.38
CPA0044	0.10	0.22	0.28	0.40
CPA0045	0.08	0.15	0.33	0.43

Table B-22: Response frequencies for all items, Egypt model (Participation)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CPA0001	0.04	0.05	0.30	0.61
CPA0002	0.10	0.11	0.35	0.44
CPA0003	0.07	0.11	0.35	0.46
CPA0004	0.14	0.09	0.37	0.40
CPA0005	0.22	0.23	0.27	0.28
CPA0006	0.19	0.18	0.25	0.37
CPA0007	0.15	0.15	0.29	0.41
CPA0008	0.22	0.16	0.25	0.36
CPA0009	0.18	0.18	0.30	0.35
CPA0010	0.22	0.17	0.27	0.34
CPA0011	0.05	0.12	0.40	0.43
CPA0012	0.09	0.15	0.34	0.42
CPA0013	0.04	0.09	0.23	0.64
CPA0014	0.07	0.13	0.28	0.52
CPA0015	0.11	0.35	0.34	0.20
CPA0016	0.10	0.15	0.48	0.27
CPA0017	0.10	0.19	0.28	0.44
CPA0018	0.05	0.18	0.34	0.44
CPA0019	0.06	0.07	0.26	0.61
CPA0020	0.04	0.09	0.39	0.48

CPA0021	0.10	0.10	0.28	0.52
CPA0022	0.09	0.25	0.46	0.20
CPA0023	0.05	0.15	0.43	0.37
CPA0024	0.05	0.14	0.34	0.47
CPA0025	0.05	0.14	0.26	0.55
CPA0026	0.07	0.17	0.38	0.38
CPA0027	0.13	0.17	0.38	0.32
CPA0028	0.12	0.17	0.31	0.40
CPA0029	0.04	0.12	0.34	0.50
CPA0030	0.02	0.12	0.24	0.62
CPA0031	0.04	0.05	0.17	0.74
CPA0032	0.03	0.07	0.39	0.51
CPA0033	0.03	0.15	0.40	0.42
CPA0034	0.07	0.20	0.38	0.35
CPA0035	0.08	0.15	0.38	0.39
CPA0036	0.07	0.09	0.37	0.47
CPA0037	0.07	0.15	0.42	0.37
CPA0038	0.06	0.14	0.30	0.50
CPA0039	0.18	0.28	0.20	0.34
CPA0040	0.07	0.19	0.41	0.34
CPA0041	0.18	0.19	0.23	0.40
CPA0042	0.11	0.19	0.33	0.37
CPA0043	0.08	0.17	0.39	0.35
CPA0044	0.12	0.21	0.32	0.36
CPA0045	0.08	0.19	0.33	0.40

Table B-23: Response frequencies for all items, Palestine model (Participation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.01	0.06	0.33	0.60
CPA0002	0.07	0.11	0.38	0.43
CPA0003	0.06	0.17	0.40	0.37
CPA0004	0.18	0.16	0.35	0.31
CPA0005	0.41	0.17	0.24	0.17
CPA0006	0.41	0.20	0.21	0.18
CPA0007	0.22	0.20	0.26	0.32
CPA0008	0.31	0.18	0.28	0.24

CPA0009	0.12	0.16	0.31	0.41
CPA0010	0.22	0.19	0.29	0.30
CPA0011	0.10	0.06	0.41	0.42
CPA0012	0.11	0.13	0.29	0.47
CPA0013	0.07	0.11	0.26	0.56
CPA0014	0.03	0.08	0.32	0.57
CPA0015	0.12	0.23	0.39	0.26
CPA0016	0.13	0.17	0.40	0.31
CPA0017	0.15	0.13	0.31	0.41
CPA0018	0.08	0.13	0.42	0.37
CPA0019	0.01	0.05	0.26	0.68
CPA0020	0.03	0.06	0.40	0.52
CPA0021	0.05	0.12	0.35	0.49
CPA0022	0.06	0.16	0.49	0.29
CPA0023	0.08	0.11	0.47	0.35
CPA0024	0.04	0.13	0.43	0.40
CPA0025	0.08	0.10	0.36	0.47
CPA0026	0.07	0.11	0.41	0.42
CPA0027	0.11	0.17	0.41	0.31
CPA0028	0.13	0.14	0.31	0.43
CPA0029	0.03	0.11	0.37	0.50
CPA0030	0.02	0.06	0.31	0.61
CPA0031	0.01	0.03	0.23	0.74
CPA0032	0.04	0.04	0.40	0.52
CPA0033	0.03	0.09	0.34	0.54
CPA0034	0.06	0.12	0.41	0.42
CPA0035	0.05	0.07	0.40	0.48
CPA0036	0.02	0.06	0.37	0.56
CPA0037	0.08	0.17	0.52	0.24
CPA0038	0.08	0.18	0.43	0.31
CPA0039	0.17	0.31	0.27	0.25
CPA0040	0.05	0.14	0.51	0.30
CPA0041	0.25	0.28	0.16	0.31
CPA0042	0.08	0.15	0.41	0.35
CPA0043	0.02	0.11	0.44	0.43
CPA0044	0.13	0.21	0.30	0.36
CPA0045	0.06	0.13	0.34	0.47

Table B-24: Response frequencies for all items, Tunisia model (Participation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.02	0.07	0.23	0.68
CPA0002	0.08	0.11	0.43	0.37
CPA0003	0.03	0.13	0.38	0.45
CPA0004	0.20	0.18	0.39	0.22
CPA0005	0.29	0.24	0.23	0.25
CPA0006	0.26	0.17	0.29	0.28
CPA0007	0.16	0.16	0.29	0.39
CPA0008	0.25	0.15	0.30	0.30
CPA0009	0.14	0.15	0.29	0.42
CPA0010	0.21	0.18	0.31	0.30
CPA0011	0.04	0.12	0.54	0.29
CPA0012	0.05	0.11	0.33	0.50
CPA0013	0.09	0.09	0.33	0.48
CPA0014	0.02	0.10	0.30	0.58
CPA0015	0.14	0.30	0.36	0.20
CPA0016	0.15	0.16	0.45	0.24
CPA0017	0.13	0.27	0.32	0.27
CPA0018	0.03	0.09	0.36	0.53
CPA0019	0.02	0.04	0.28	0.65
CPA0020	0.04	0.04	0.37	0.56
CPA0021	0.03	0.11	0.36	0.49
CPA0022	0.07	0.14	0.48	0.31
CPA0023	0.08	0.13	0.48	0.31
CPA0024	0.05	0.14	0.38	0.43
CPA0025	0.11	0.15	0.35	0.40
CPA0026	0.03	0.11	0.35	0.50
CPA0027	0.11	0.22	0.32	0.34
CPA0028	0.13	0.15	0.24	0.49
CPA0029	0.02	0.10	0.36	0.52
CPA0030	0.02	0.08	0.28	0.62
CPA0031	0.02	0.04	0.18	0.76
CPA0032	0.03	0.05	0.34	0.58
CPA0033	0.02	0.08	0.24	0.67
CPA0034	0.04	0.18	0.40	0.37

CPA0035	0.05	0.12	0.35	0.47
CPA0036	0.02	0.07	0.30	0.60
CPA0037	0.03	0.10	0.43	0.44
CPA0038	0.08	0.10	0.30	0.53
CPA0039	0.10	0.22	0.23	0.46
CPA0040	0.07	0.17	0.43	0.33
CPA0041	0.19	0.16	0.17	0.48
CPA0042	0.15	0.18	0.43	0.24
CPA0043	0.09	0.19	0.36	0.36
CPA0044	0.08	0.23	0.23	0.47
CPA0045	0.11	0.13	0.32	0.44

Table B-25: Descriptive statistics for all items, pooled model (Participation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CPA0001	672	4	4	1
CPA0002	668	3	4	1
CPA0003	667	3	4	1
CPA0004	669	3	3	2
CPA0005	671	2	1	2
CPA0006	670	3	4	3
CPA0007	671	3	4	2
CPA0008	672	3	4	3
CPA0009	670	3	4	2
CPA0010	668	3	4	2
CPA0011	669	3	3	1
CPA0012	671	3	4	1
CPA0013	672	4	4	1
CPA0014	670	4	4	1
CPA0015	669	3	3	1
CPA0016	683	3	3	2
CPA0017	682	3	4	2
CPA0018	680	3	4	1
CPA0019	682	4	4	1
CPA0020	680	4	4	1
CPA0021	683	4	4	1
CPA0022	683	3	3	2

CPA0023	681	3	3	1
CPA0024	680	3	4	1
CPA0025	681	3	4	1
CPA0026	683	3	4	1
CPA0027	682	3	3	2
CPA0028	683	3	4	2
CPA0029	682	4	4	1
CPA0030	683	4	4	1
CPA0031	693	4	4	1
CPA0032	693	4	4	1
CPA0033	693	4	4	1
CPA0034	690	3	3	1
CPA0035	691	3	4	1
CPA0036	692	4	4	1
CPA0037	693	3	3	1
CPA0038	693	3	4	1
CPA0039	691	3	4	2
CPA0040	688	3	3	1
CPA0041	688	3	4	2
CPA0042	691	3	3	2
CPA0043	689	3	3	1
CPA0044	689	3	4	2
CPA0045	691	3	4	1

Table B-26: Descriptive statistics for all items, Egypt model (Participation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CPA0001	255	4	4	1
CPA0002	253	3	4	1
CPA0003	255	3	4	1
CPA0004	253	3	3	1
CPA0005	255	3	1	2
CPA0006	255	3	4	2
CPA0007	254	3	4	2
CPA0008	255	3	4	2
CPA0009	255	3	4	2
CPA0010	253	3	4	2

CPA0011	252	3	3	1
CPA0012	253	3	4	1
CPA0013	255	4	4	1
CPA0014	255	4	4	1
CPA0015	254	3	3	1
CPA0016	255	3	3	1
CPA0017	254	3	4	2
CPA0018	254	3	4	1
CPA0019	254	4	4	1
CPA0020	253	3	4	1
CPA0021	253	4	4	1
CPA0022	253	3	3	1
CPA0023	253	3	3	1
CPA0024	253	3	4	1
CPA0025	254	4	4	1
CPA0026	253	3	4	1
CPA0027	252	3	3	2
CPA0028	254	3	4	2
CPA0029	254	3.5	4	1
CPA0030	254	4	4	1
CPA0031	255	4	4	1
CPA0032	255	4	4	1
CPA0033	255	3	4	1
CPA0034	254	3	3	2
CPA0035	254	3	4	1
CPA0036	254	3	4	1
CPA0037	255	3	3	1
CPA0038	255	3	4	1
CPA0039	254	3	4	2
CPA0040	253	3	3	2
CPA0041	252	3	4	2
CPA0042	253	3	3	2
CPA0043	252	3	3	2
CPA0044	252	3	4	2
CPA0045	253	3	4	2

Table B-27: Descriptive statistics for all items, Palestine model (Participation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CPA0001	190	4	4	1
CPA0002	188	3	4	1
CPA0003	185	3	4	1
CPA0004	189	3	3	2
CPA0005	189	2	1	2
CPA0006	189	2	4	2
CPA0007	190	3	4	2
CPA0008	190	3	4	2
CPA0009	189	3	4	2
CPA0010	188	3	4	2
CPA0011	191	3	3	1
CPA0012	191	3	4	1
CPA0013	190	4	4	1
CPA0014	189	4	4	1
CPA0015	189	3	3	2
CPA0016	198	3	3	2
CPA0017	197	3	4	2
CPA0018	198	3	4	1
CPA0019	197	4	4	1
CPA0020	199	4	4	1
CPA0021	199	3	4	1
CPA0022	199	3	3	1
CPA0023	199	3	3	1
CPA0024	197	3	4	1
CPA0025	197	3	4	1
CPA0026	199	3	4	1
CPA0027	199	3	3	2
CPA0028	198	3	4	2
CPA0029	197	3	4	1
CPA0030	198	4	4	1
CPA0031	198	4	4	1
CPA0032	198	4	4	1
CPA0033	198	4	4	1
CPA0034	198	3	3	1

CPA0035	198	3	4	1
CPA0036	198	4	4	1
CPA0037	198	3	3	0
CPA0038	198	3	4	2
CPA0039	198	3	4	1
CPA0040	195	3	3	1
CPA0041	197	2	4	2
CPA0042	198	3	3	1
CPA0043	197	3	3	1
CPA0044	197	3	4	2
CPA0045	198	3	4	1

Table B-28: Descriptive statistics for all items, Tunisia model (Participation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CPA0001	227	4	4	1
CPA0002	227	3	4	1
CPA0003	227	3	4	1
CPA0004	227	3	3	1
CPA0005	227	2	1	2
CPA0006	226	3	4	3
CPA0007	227	3	4	2
CPA0008	227	3	4	2.5
CPA0009	226	3	4	2
CPA0010	227	3	4	2
CPA0011	226	3	3	1
CPA0012	227	4	4	1
CPA0013	227	3	4	1
CPA0014	226	4	4	1
CPA0015	226	3	3	1
CPA0016	230	3	3	1
CPA0017	231	3	4	2
CPA0018	228	4	4	1
CPA0019	231	4	4	1
CPA0020	228	4	4	1
CPA0021	231	3	4	1
CPA0022	231	3	3	1

CPA0023	229	3	3	1
CPA0024	230	3	4	1
CPA0025	230	3	4	2
CPA0026	231	4	4	1
CPA0027	231	3	3	2
CPA0028	231	3	4	2
CPA0029	231	4	4	1
CPA0030	231	4	4	1
CPA0031	240	4	4	0
CPA0032	240	4	4	1
CPA0033	240	4	4	1
CPA0034	238	3	3	1
CPA0035	239	3	4	1
CPA0036	240	4	4	1
CPA0037	240	3	3	1
CPA0038	240	4	4	1
CPA0039	239	3	4	2
CPA0040	240	3	3	1
CPA0041	239	3	4	2
CPA0042	240	3	3	1
CPA0043	240	3	3	2
CPA0044	240	3	4	2
CPA0045	240	3	4	1

Table B-29: IRT statistics – pooled, 45-item model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.92	-4.43	-2.91	-0.67	0.26	-3.00	20.14	16	0.21
CPA0002	0.50	-4.94	-2.94	0.74	0.08	-3.00	30.42	26	0.25
CPA0003	1.03	-3.17	-1.65	0.35	0.32	-2.00	22.11	21	0.39
CPA0004	0.72	-2.35	-1.12	1.27	0.16	-1.00	48.29	26	0.00
CPA0005	0.68	-1.35	0.11	1.91	0.14	0.20	32.32	26	0.18
CPA0006	0.68	-1.46	-0.17	1.54	0.15	0.00	26.51	26	0.44
CPA0007	0.72	-2.34	-0.97	0.80	0.16	-0.90	23.64	26	0.60
CPA0008	0.68	-1.72	-0.50	1.37	0.14	-0.30	25.21	26	0.51
CPA0009	0.51	-3.60	-1.62	0.94	0.08	-1.50	27.75	26	0.37

CPA0010	0.54	-2.54	-0.82	1.59	0.09	-0.60	29.41	26	0.29
CPA0011	0.97	-3.11	-1.90	0.63	0.28	-2.30	28.24	22	0.17
CPA0012	0.94	-2.90	-1.58	0.23	0.27	-1.70	41.17	24	0.02
CPA0013	0.86	-3.37	-2.12	-0.29	0.23	-2.10	42.93	23	0.01
CPA0014	1.11	-3.31	-1.91	-0.23	0.37	-2.10	31.33	19	0.04
CPA0015	0.81	-2.67	-0.46	1.78	0.20	-0.50	27.07	26	0.41
CPA0016	0.85	-2.59	-1.28	1.31	0.22	-1.60	38.40	25	0.04
CPA0017	0.76	-2.79	-1.09	0.78	0.18	-1.10	33.36	26	0.15
CPA0018	0.70	-4.51	-2.35	0.34	0.15	-2.80	32.45	23	0.09
CPA0019	0.92	-4.14	-2.88	-0.77	0.26	-3.00	18.77	17	0.34
CPA0020	0.85	-4.32	-2.96	-0.10	0.21	-3.00	28.97	18	0.05
CPA0021	0.88	-3.49	-2.09	-0.02	0.24	-2.30	18.24	22	0.69
CPA0022	0.63	-4.28	-1.85	1.72	0.12	-2.60	35.07	25	0.09
CPA0023	0.84	-3.43	-1.90	0.90	0.22	-2.40	17.47	24	0.83
CPA0024	0.95	-3.57	-1.82	0.35	0.27	-2.20	32.64	21	0.05
CPA0025	0.75	-3.54	-1.96	0.19	0.17	-2.00	25.43	25	0.44
CPA0026	0.96	-3.38	-1.84	0.32	0.28	-2.30	16.96	22	0.77
CPA0027	0.94	-2.46	-1.04	0.94	0.27	-1.30	53.92	25	0.00
CPA0028	0.47	-4.32	-2.18	0.51	0.07	-2.00	20.59	26	0.76
CPA0029	0.98	-3.96	-2.18	-0.04	0.29	-2.60	16.75	19	0.61
CPA0030	0.88	-4.79	-2.75	-0.65	0.23	-2.80	22.88	17	0.15
CPA0031	1.06	-4.01	-2.98	-1.24	0.35	-3.00	17.73	13	0.17
CPA0032	0.87	-4.32	-3.05	-0.23	0.22	-3.00	42.30	17	0.00
CPA0033	0.89	-4.42	-2.43	-0.25	0.24	-2.70	22.76	18	0.20
CPA0034	0.84	-3.65	-1.68	0.66	0.21	-2.10	20.36	23	0.62
CPA0035	0.72	-4.05	-2.36	0.31	0.16	-2.70	34.80	24	0.07
CPA0036	0.87	-4.13	-2.71	-0.24	0.23	-3.00	15.76	19	0.67
CPA0037	0.51	-5.59	-2.86	1.27	0.08	-3.00	37.46	25	0.05
CPA0038	0.81	-3.49	-1.85	0.30	0.20	-2.10	32.72	24	0.11
CPA0039	0.48	-3.79	-0.80	1.30	0.07	-0.90	45.55	26	0.01
CPA0040	0.89	-3.41	-1.57	0.95	0.24	-2.10	35.38	23	0.05
CPA0041	0.58	-2.50	-0.69	0.72	0.10	-0.90	21.43	26	0.72
CPA0042	0.47	-4.47	-2.01	1.64	0.07	-2.20	32.81	26	0.17
CPA0043	0.77	-3.78	-1.80	0.72	0.18	-2.20	14.12	24	0.94
CPA0044	0.81	-2.93	-1.07	0.57	0.20	-1.00	20.47	25	0.72
CPA0045	0.95	-2.88	-1.45	0.33	0.28	-1.60	40.75	24	0.02

Table B-30: IRT statistics – Egypt, 45-item model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.83	-4.20	-3.02	-0.60	0.21	-3.00	5.69	9	0.77
CPA0002	0.42	-5.48	-3.30	0.65	0.05	-3.00	27.29	23	0.24
CPA0003	1.04	-2.80	-1.67	0.19	0.33	-1.90	15.50	15	0.42
CPA0004	0.49	-3.78	-2.54	0.89	0.07	-2.00	20.78	22	0.53
CPA0005	0.54	-2.50	-0.41	1.84	0.09	-0.40	20.00	26	0.79
CPA0006	0.57	-2.69	-0.95	1.00	0.10	-0.90	14.51	26	0.97
CPA0007	0.48	-3.80	-1.93	0.78	0.07	-1.70	31.65	26	0.20
CPA0008	0.47	-2.87	-1.09	1.25	0.07	-0.90	26.69	26	0.43
CPA0009	0.51	-3.12	-1.20	1.33	0.08	-1.00	13.51	26	0.98
CPA0010	0.49	-2.67	-0.92	1.51	0.08	-0.70	30.13	26	0.26
CPA0011	0.91	-3.58	-1.96	0.44	0.25	-2.40	28.06	14	0.01
CPA0012	1.00	-2.74	-1.36	0.45	0.30	-1.60	22.31	17	0.17
CPA0013	0.70	-4.74	-2.91	-0.85	0.15	-2.90	12.08	12	0.44
CPA0014	1.35	-2.40	-1.30	-0.04	0.56	-1.40	16.25	15	0.37
CPA0015	0.54	-4.01	-0.29	2.76	0.09	0.40	16.05	23	0.85
CPA0016	0.70	-3.37	-1.76	1.55	0.15	-2.20	29.52	19	0.06
CPA0017	0.80	-3.05	-1.31	0.34	0.20	-1.30	19.81	20	0.47
CPA0018	0.59	-5.30	-2.24	0.46	0.11	-1.90	12.48	17	0.77
CPA0019	1.12	-2.91	-2.01	-0.50	0.38	-2.00	17.02	12	0.15
CPA0020	0.90	-3.88	-2.37	0.11	0.24	-2.80	19.06	11	0.06
CPA0021	0.81	-3.03	-1.93	-0.13	0.20	-1.80	16.68	17	0.48
CPA0022	0.41	-5.61	-1.68	3.46	0.05	-2.70	23.79	22	0.36
CPA0023	0.75	-4.34	-2.07	0.84	0.17	-2.70	25.53	15	0.04
CPA0024	1.00	-3.30	-1.70	0.15	0.30	-1.90	21.58	16	0.16
CPA0025	0.66	-4.69	-2.34	-0.30	0.13	-2.20	29.32	16	0.02
CPA0026	0.97	-3.09	-1.43	0.60	0.28	-1.80	22.30	17	0.17
CPA0027	0.83	-2.49	-1.13	1.10	0.21	-1.30	10.71	22	0.98
CPA0028	0.33	-6.12	-2.80	1.21	0.03	-2.70	34.22	25	0.10
CPA0029	0.89	-3.98	-2.19	-0.03	0.24	-2.50	18.04	13	0.16
CPA0030	0.82	-4.89	-2.46	-0.70	0.21	-2.00	12.18	12	0.43
CPA0031	2.06	-2.24	-1.74	-0.86	1.30	-1.80	6.47	5	0.26
CPA0032	0.82	-4.66	-3.04	-0.12	0.20	-3.00	19.03	9	0.02
CPA0033	0.98	-3.89	-1.85	0.33	0.28	-2.00	18.51	14	0.18

CPA0034	0.96	-2.97	-1.23	0.74	0.28	-1.50	14.16	19	0.77
CPA0035	0.85	-3.20	-1.63	0.57	0.22	-1.90	16.67	19	0.61
CPA0036	1.26	-2.53	-1.66	0.09	0.48	-1.90	12.36	13	0.50
CPA0037	0.19	-13.78	-6.90	2.88	0.01	-3.00	17.52	18	0.49
CPA0038	0.95	-3.33	-1.76	-0.04	0.27	-1.90	17.51	15	0.29
CPA0039	0.48	-3.39	-0.50	1.38	0.07	-0.80	34.23	25	0.10
CPA0040	0.89	-3.28	-1.39	0.87	0.24	-1.80	46.04	18	0.00
CPA0041	0.55	-2.88	-1.09	0.68	0.10	-1.10	21.84	25	0.65
CPA0042	0.19	-11.31	-4.74	2.79	0.01	-3.00	32.66	25	0.14
CPA0043	0.63	-4.18	-1.89	1.01	0.12	-2.30	13.86	19	0.79
CPA0044	0.73	-3.05	-1.16	0.86	0.16	-1.20	20.05	22	0.58
CPA0045	1.03	-2.68	-1.17	0.43	0.33	-1.20	19.54	19	0.42

Table B-31: IRT statistics – Palestine, 45-item model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.60	-7.89	-4.47	-0.73	0.10	-3.00	9.52	7	0.22
CPA0002	0.48	-5.46	-3.24	0.60	0.07	-3.00	15.11	12	0.24
CPA0003	0.83	-3.72	-1.66	0.77	0.20	-2.00	19.22	15	0.20
CPA0004	0.75	-2.25	-0.93	1.24	0.17	-0.90	17.86	23	0.77
CPA0005	0.94	-0.43	0.44	1.93	0.27	0.60	30.22	22	0.11
CPA0006	0.89	-0.47	0.59	1.96	0.25	0.70	17.67	23	0.78
CPA0007	0.88	-1.69	-0.45	1.00	0.24	-0.40	20.44	23	0.62
CPA0008	0.88	-1.09	-0.09	1.54	0.24	0.10	23.32	22	0.38
CPA0009	0.53	-4.02	-1.90	0.74	0.09	-1.80	17.39	18	0.50
CPA0010	0.59	-2.34	-0.67	1.53	0.11	-0.50	26.25	25	0.39
CPA0011	0.91	-2.72	-2.07	0.41	0.25	-2.00	6.69	10	0.75
CPA0012	1.03	-2.41	-1.35	0.17	0.33	-1.40	18.42	15	0.24
CPA0013	1.09	-2.79	-1.71	-0.27	0.37	-1.70	18.95	10	0.04
CPA0014	0.85	-4.45	-2.77	-0.36	0.22	-3.00	6.94	8	0.54
CPA0015	0.99	-2.34	-0.76	1.25	0.30	-1.10	13.95	17	0.67
CPA0016	0.92	-2.48	-1.16	1.03	0.26	-1.40	32.64	19	0.03
CPA0017	0.92	-2.20	-1.23	0.49	0.26	-1.10	30.18	17	0.03
CPA0018	0.71	-3.81	-2.09	0.82	0.15	-2.50	17.09	14	0.25
CPA0019	0.45	-10.42	-6.29	-1.76	0.06	-3.00	3.15	6	0.79
CPA0020	0.81	-4.87	-3.28	-0.08	0.19	-3.00	8.60	7	0.28
CPA0021	0.77	-4.31	-2.39	0.07	0.18	-2.80	16.84	12	0.16

CPA0022	0.82	-3.85	-1.79	1.23	0.20	-2.50	22.05	12	0.04
CPA0023	0.90	-3.03	-1.84	0.83	0.25	-2.20	21.30	13	0.07
CPA0024	0.99	-3.62	-1.86	0.52	0.29	-2.40	17.14	12	0.14
CPA0025	0.87	-3.18	-2.05	0.19	0.23	-2.20	7.50	12	0.82
CPA0026	0.72	-4.03	-2.45	0.51	0.16	-2.80	9.54	11	0.57
CPA0027	1.06	-2.40	-1.12	0.92	0.34	-1.50	22.81	14	0.06
CPA0028	0.67	-3.17	-1.75	0.42	0.14	-1.60	19.63	18	0.35
CPA0029	1.05	-3.81	-2.14	-0.01	0.33	-2.60	14.51	9	0.11
CPA0030	0.87	-4.85	-3.25	-0.64	0.23	-3.00	8.97	7	0.25
CPA0031	0.38	-12.20	-8.82	-2.78	0.04	-3.00	4.06	6	0.67
CPA0032	0.77	-4.37	-3.38	-0.10	0.17	-3.00	7.50	6	0.28
CPA0033	0.61	-5.87	-3.48	-0.27	0.11	-3.00	13.17	10	0.21
CPA0034	0.92	-3.42	-1.95	0.41	0.26	-2.40	7.07	13	0.90
CPA0035	0.60	-5.09	-3.56	0.14	0.11	-3.00	20.20	6	0.00
CPA0036	0.64	-6.31	-4.11	-0.37	0.12	-3.00	19.50	6	0.00
CPA0037	0.85	-3.25	-1.47	1.54	0.22	-2.10	23.79	16	0.09
CPA0038	0.86	-3.10	-1.35	1.10	0.22	-1.80	20.95	16	0.18
CPA0039	0.39	-4.18	-0.28	2.90	0.05	-0.20	23.66	25	0.54
CPA0040	0.70	-4.58	-2.28	1.33	0.15	-3.00	19.34	11	0.06
CPA0041	0.58	-2.01	0.19	1.45	0.11	-0.20	15.39	25	0.93
CPA0042	0.69	-3.76	-1.88	0.95	0.14	-2.30	23.38	16	0.10
CPA0043	0.98	-4.32	-2.14	0.39	0.28	-2.40	22.88	10	0.01
CPA0044	0.82	-2.61	-0.93	0.81	0.21	-0.90	14.13	20	0.82
CPA0045	1.00	-3.20	-1.65	0.19	0.30	-1.90	26.42	13	0.01

Table B-32: IRT statistics – Tunisia, 45-item model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	1.40	-3.30	-2.10	-0.71	0.59	-2.30	8.78	6	0.19
CPA0002	0.58	-4.34	-2.54	0.97	0.10	-2.90	36.64	17	0.00
CPA0003	1.25	-3.26	-1.62	0.20	0.45	-1.80	7.98	13	0.85
CPA0004	1.05	-1.55	-0.50	1.47	0.34	-0.70	19.72	20	0.48
CPA0005	0.65	-1.52	0.17	1.86	0.13	0.20	13.87	26	0.97
CPA0006	0.64	-1.72	-0.40	1.64	0.13	-0.20	16.09	26	0.93
CPA0007	0.86	-2.12	-0.92	0.64	0.23	-0.80	25.02	23	0.35
CPA0008	0.72	-1.64	-0.55	1.33	0.16	-0.30	22.61	24	0.54

CPA0009	0.51	-3.72	-1.79	0.72	0.08	-1.60	16.66	24	0.86
CPA0010	0.48	-2.93	-0.97	1.91	0.07	-0.70	24.54	26	0.55
CPA0011	1.13	-3.16	-1.67	1.01	0.38	-2.30	14.54	12	0.27
CPA0012	0.80	-3.87	-2.16	0.02	0.20	-2.40	17.96	14	0.21
CPA0013	0.91	-2.85	-1.85	0.14	0.25	-1.80	15.36	16	0.50
CPA0014	1.24	-3.74	-1.96	-0.34	0.45	-1.80	6.82	9	0.66
CPA0015	1.00	-2.13	-0.31	1.65	0.30	-0.50	34.28	19	0.02
CPA0016	0.94	-2.18	-1.05	1.42	0.26	-1.40	14.30	18	0.71
CPA0017	0.71	-2.89	-0.60	1.54	0.15	-0.50	25.68	23	0.32
CPA0018	0.76	-5.12	-2.96	-0.18	0.17	-3.00	8.34	10	0.60
CPA0019	1.35	-3.46	-2.50	-0.63	0.55	-2.80	13.90	6	0.03
CPA0020	0.86	-4.23	-3.35	-0.34	0.21	-3.00	11.97	8	0.15
CPA0021	1.10	-3.48	-1.97	0.00	0.37	-2.40	18.42	11	0.07
CPA0022	0.73	-3.90	-2.04	1.19	0.16	-2.70	29.34	16	0.02
CPA0023	0.89	-3.14	-1.80	1.01	0.24	-2.30	14.28	16	0.58
CPA0024	0.93	-3.61	-1.81	0.36	0.26	-2.20	13.47	14	0.49
CPA0025	0.82	-2.86	-1.47	0.59	0.21	-1.60	19.99	18	0.33
CPA0026	1.32	-3.19	-1.78	-0.04	0.51	-2.10	20.12	11	0.04
CPA0027	0.94	-2.56	-0.89	0.82	0.27	-0.90	21.05	20	0.39
CPA0028	0.39	-5.10	-2.60	0.10	0.05	-2.50	23.59	23	0.43
CPA0029	1.01	-4.21	-2.26	-0.09	0.30	-2.50	7.22	10	0.70
CPA0030	0.87	-5.03	-2.85	-0.66	0.23	-2.80	11.36	10	0.33
CPA0031	1.12	-4.18	-2.97	-1.31	0.38	-3.00	10.91	5	0.05
CPA0032	0.98	-4.17	-2.89	-0.43	0.29	-3.00	9.85	8	0.28
CPA0033	1.06	-4.29	-2.55	-0.82	0.34	-2.50	10.26	8	0.25
CPA0034	0.75	-4.47	-1.81	0.81	0.17	-1.80	21.91	16	0.15
CPA0035	0.68	-4.45	-2.48	0.17	0.14	-2.80	22.30	16	0.13
CPA0036	0.75	-5.49	-3.35	-0.62	0.17	-3.00	2.85	9	0.97
CPA0037	0.59	-6.01	-3.34	0.47	0.10	-3.00	4.54	11	0.95
CPA0038	0.78	-3.56	-2.22	-0.13	0.19	-2.20	16.40	14	0.29
CPA0039	0.57	-4.15	-1.46	0.32	0.10	-1.50	41.94	21	0.00
CPA0040	1.01	-2.98	-1.36	0.84	0.31	-1.80	25.50	17	0.08
CPA0041	0.63	-2.53	-1.10	0.14	0.12	-1.20	20.57	25	0.72
CPA0042	0.63	-2.92	-1.20	1.98	0.12	-1.50	27.90	24	0.26
CPA0043	0.83	-3.08	-1.30	0.82	0.21	-1.50	23.30	18	0.18
CPA0044	0.83	-3.36	-1.16	0.15	0.21	-1.00	24.48	19	0.18
CPA0045	0.88	-2.72	-1.47	0.38	0.24	-1.50	12.99	19	0.84

Table B-33: IRT statistics – pooled, 30-item Consortium model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.91	-4.47	-2.93	-0.68	0.59	-2.30	26.47	16	0.05
CPA0002	0.50	-4.88	-2.90	0.75	0.10	-2.90	23.55	26	0.60
CPA0003	1.02	-3.19	-1.65	0.37	0.45	-1.80	30.58	21	0.08
CPA0005	0.56	-1.59	0.14	2.25	0.34	-0.70	16.81	26	0.91
CPA0007	0.64	-2.59	-1.07	0.90	0.13	0.20	22.42	26	0.67
CPA0008	0.58	-1.95	-0.57	1.57	0.13	-0.20	28.65	26	0.33
CPA0009	0.52	-3.54	-1.58	0.93	0.23	-0.80	25.74	26	0.48
CPA0010	0.55	-2.45	-0.79	1.55	0.16	-0.30	46.04	26	0.01
CPA0012	0.93	-2.92	-1.60	0.23	0.08	-1.60	40.61	25	0.03
CPA0013	0.81	-3.54	-2.22	-0.30	0.07	-0.70	40.54	23	0.01
CPA0014	1.19	-3.14	-1.82	-0.22	0.38	-2.30	38.31	19	0.01
CPA0015	0.76	-2.81	-0.48	1.90	0.20	-2.40	18.11	26	0.87
CPA0016	0.82	-2.67	-1.31	1.36	0.25	-1.80	40.90	26	0.03
CPA0018	0.72	-4.42	-2.29	0.34	0.45	-1.80	36.24	23	0.04
CPA0019	0.96	-4.00	-2.78	-0.75	0.30	-0.50	25.93	16	0.06
CPA0020	0.86	-4.27	-2.93	-0.11	0.26	-1.40	27.11	18	0.08
CPA0021	0.92	-3.39	-2.03	-0.02	0.15	-0.50	21.13	22	0.51
CPA0022	0.70	-3.91	-1.69	1.58	0.17	-3.00	38.14	25	0.04
CPA0023	0.91	-3.21	-1.79	0.84	0.55	-2.80	23.15	24	0.51
CPA0024	0.94	-3.61	-1.85	0.35	0.21	-3.00	29.63	21	0.10
CPA0025	0.74	-3.57	-1.97	0.19	0.37	-2.40	28.45	25	0.29
CPA0026	0.97	-3.35	-1.83	0.32	0.16	-2.70	23.52	22	0.37
CPA0027	0.95	-2.45	-1.03	0.93	0.24	-2.30	30.93	25	0.19
CPA0029	0.96	-4.05	-2.21	-0.04	0.26	-2.20	30.52	18	0.03
CPA0030	1.00	-4.33	-2.51	-0.60	0.21	-1.60	28.80	16	0.03
CPA0032	0.94	-4.06	-2.87	-0.22	0.51	-2.10	33.09	17	0.01
CPA0034	0.93	-3.39	-1.57	0.61	0.27	-0.90	39.22	23	0.02
CPA0035	0.69	-4.25	-2.47	0.32	0.05	-2.50	27.39	24	0.29
CPA0036	0.81	-4.37	-2.86	-0.25	0.30	-2.50	28.48	19	0.07
CPA0040	0.85	-3.56	-1.65	0.99	0.23	-2.80	38.63	23	0.02

Table B-34: IRT statistics – Egypt, 30-item Consortium model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.83	-4.12	-3.00	-0.58	0.21	-3.00	11.09	8	0.20
CPA0002	0.50	-4.55	-2.76	0.56	0.08	-2.60	16.35	22	0.80
CPA0003	1.11	-2.62	-1.56	0.21	0.38	-1.80	16.86	16	0.39
CPA0005	0.46	-2.91	-0.48	2.10	0.07	-0.40	22.58	26	0.66
CPA0007	0.48	-3.85	-1.97	0.79	0.07	-1.70	18.84	25	0.80
CPA0008	0.51	-2.67	-1.02	1.18	0.08	-0.80	26.20	26	0.45
CPA0009	0.48	-3.31	-1.29	1.41	0.07	-1.10	25.38	26	0.50
CPA0010	0.51	-2.57	-0.90	1.46	0.08	-0.70	34.68	26	0.12
CPA0012	1.03	-2.69	-1.32	0.46	0.32	-1.50	25.10	17	0.09
CPA0013	0.65	-5.05	-3.04	-0.88	0.13	-3.00	14.19	12	0.29
CPA0014	1.62	-2.18	-1.19	-0.03	0.79	-1.40	27.10	13	0.01
CPA0015	0.40	-5.34	-0.40	3.65	0.05	0.40	23.71	25	0.54
CPA0016	0.67	-3.47	-1.81	1.60	0.14	-2.30	32.82	20	0.04
CPA0018	0.60	-5.28	-2.24	0.47	0.11	-1.90	17.39	17	0.43
CPA0019	1.13	-2.86	-1.98	-0.48	0.40	-2.00	13.04	11	0.29
CPA0020	0.86	-4.02	-2.47	0.11	0.23	-2.90	20.65	12	0.06
CPA0021	0.76	-3.22	-2.05	-0.14	0.18	-1.90	16.49	17	0.49
CPA0022	0.47	-5.01	-1.47	3.10	0.07	-2.40	27.44	22	0.20
CPA0023	0.81	-4.03	-1.90	0.79	0.20	-2.50	17.12	15	0.31
CPA0024	1.14	-3.00	-1.53	0.15	0.39	-1.70	14.77	14	0.39
CPA0025	0.61	-5.05	-2.46	-0.30	0.11	-2.40	28.35	15	0.02
CPA0026	0.98	-3.06	-1.39	0.60	0.29	-1.70	22.08	17	0.18
CPA0027	0.84	-2.47	-1.11	1.09	0.22	-1.30	16.71	22	0.78
CPA0029	0.96	-3.72	-2.02	-0.01	0.28	-2.30	16.04	13	0.25
CPA0030	0.91	-4.46	-2.22	-0.63	0.25	-1.80	14.62	12	0.26
CPA0032	0.76	-5.02	-3.27	-0.13	0.17	-3.00	12.34	9	0.19
CPA0034	1.10	-2.70	-1.13	0.66	0.36	-1.40	23.57	18	0.17
CPA0035	0.74	-3.61	-1.83	0.64	0.17	-2.10	15.76	19	0.67
CPA0036	1.11	-2.79	-1.83	0.10	0.37	-2.00	29.09	14	0.01
CPA0040	0.84	-3.45	-1.47	0.91	0.21	-1.90	36.54	18	0.01

Table B-35: IRT statistics – Palestine, 30-item Consortium model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.63	-7.47	-4.23	-0.67	0.11	-3.00	13.59	7	0.06
CPA0002	0.48	-5.43	-3.21	0.62	0.07	-3.00	10.63	12	0.56
CPA0003	0.73	-4.10	-1.80	0.89	0.16	-2.20	17.47	15	0.29
CPA0005	0.81	-0.47	0.49	2.18	0.20	0.70	24.26	23	0.39
CPA0007	0.77	-1.87	-0.47	1.15	0.18	-0.40	17.20	25	0.87
CPA0008	0.68	-1.31	-0.09	1.90	0.15	0.10	14.92	25	0.94
CPA0009	0.62	-3.52	-1.65	0.67	0.12	-1.60	16.39	19	0.63
CPA0010	0.60	-2.27	-0.63	1.53	0.11	-0.50	31.85	25	0.16
CPA0012	0.98	-2.51	-1.42	0.19	0.30	-1.40	16.46	16	0.42
CPA0013	1.05	-2.88	-1.76	-0.25	0.34	-1.80	6.68	12	0.88
CPA0014	0.84	-4.45	-2.77	-0.34	0.22	-3.00	9.79	8	0.28
CPA0015	0.99	-2.33	-0.75	1.28	0.30	-1.10	10.97	17	0.86
CPA0016	0.87	-2.59	-1.22	1.07	0.23	-1.50	36.75	18	0.01
CPA0018	0.80	-3.44	-1.90	0.74	0.19	-2.30	12.78	13	0.46
CPA0019	0.56	-8.37	-5.08	-1.43	0.09	-3.00	6.64	7	0.47
CPA0020	0.84	-4.70	-3.18	-0.08	0.21	-3.00	9.15	7	0.24
CPA0021	0.82	-4.09	-2.28	0.07	0.21	-2.70	14.43	12	0.27
CPA0022	0.91	-3.55	-1.66	1.14	0.24	-2.30	16.99	13	0.20
CPA0023	0.96	-2.90	-1.77	0.80	0.28	-2.10	8.49	13	0.81
CPA0024	0.84	-4.11	-2.11	0.58	0.21	-2.70	26.94	12	0.01
CPA0025	0.93	-2.98	-1.92	0.17	0.27	-2.10	8.89	11	0.63
CPA0026	0.65	-4.38	-2.65	0.56	0.13	-3.00	13.32	12	0.35
CPA0027	1.17	-2.23	-1.04	0.86	0.42	-1.40	15.68	15	0.40
CPA0029	1.06	-3.77	-2.11	-0.01	0.34	-2.50	11.29	9	0.26
CPA0030	1.04	-4.19	-2.83	-0.56	0.33	-3.00	16.19	7	0.02
CPA0032	0.89	-3.88	-3.02	-0.11	0.23	-3.00	11.48	6	0.07
CPA0034	0.89	-3.53	-2.03	0.41	0.24	-2.50	11.80	12	0.46
CPA0035	0.56	-5.46	-3.82	0.13	0.09	-3.00	15.78	7	0.03
CPA0036	0.57	-6.99	-4.56	-0.43	0.09	-3.00	9.03	6	0.17
CPA0040	0.77	-4.22	-2.11	1.21	0.18	-2.90	16.11	13	0.24

Table B-36: IRT statistics – Tunisia, 30-item Consortium model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	1.54	-3.08	-1.98	-0.67	0.72	-2.20	11.69	6	0.07
CPA0002	0.54	-4.60	-2.69	1.04	0.09	-3.00	43.69	18	0.00
CPA0003	1.31	-3.13	-1.58	0.19	0.50	-1.80	8.24	13	0.83
CPA0005	0.50	-1.92	0.22	2.37	0.08	0.20	25.43	26	0.49
CPA0007	0.72	-2.43	-1.07	0.74	0.16	-1.00	20.75	23	0.60
CPA0008	0.59	-1.97	-0.66	1.59	0.11	-0.30	22.07	26	0.68
CPA0009	0.46	-4.08	-1.97	0.80	0.07	-1.80	14.79	24	0.93
CPA0010	0.47	-2.99	-1.00	1.95	0.07	-0.80	39.71	26	0.04
CPA0012	0.75	-4.09	-2.29	0.02	0.17	-2.50	17.65	14	0.22
CPA0013	0.89	-2.86	-1.87	0.14	0.24	-1.80	21.27	16	0.17
CPA0014	1.18	-3.86	-2.02	-0.35	0.41	-1.80	19.04	10	0.04
CPA0015	0.93	-2.25	-0.32	1.74	0.26	-0.50	26.82	20	0.14
CPA0016	0.86	-2.34	-1.14	1.50	0.22	-1.40	17.78	20	0.60
CPA0018	0.73	-5.29	-3.07	-0.20	0.16	-3.00	21.03	10	0.02
CPA0019	1.32	-3.50	-2.53	-0.66	0.53	-2.90	18.42	6	0.01
CPA0020	0.91	-4.05	-3.20	-0.34	0.24	-3.00	16.41	8	0.04
CPA0021	1.24	-3.23	-1.85	-0.02	0.46	-2.30	16.75	12	0.16
CPA0022	0.79	-3.66	-1.93	1.11	0.19	-2.50	30.17	16	0.02
CPA0023	1.02	-2.86	-1.66	0.90	0.31	-2.10	22.51	14	0.07
CPA0024	0.94	-3.62	-1.82	0.34	0.26	-2.20	11.94	13	0.53
CPA0025	0.80	-2.93	-1.52	0.59	0.20	-1.60	20.01	18	0.33
CPA0026	1.35	-3.17	-1.78	-0.06	0.53	-2.10	10.11	12	0.61
CPA0027	0.90	-2.66	-0.94	0.84	0.25	-1.00	20.06	21	0.52
CPA0029	0.91	-4.62	-2.46	-0.11	0.25	-2.70	11.25	11	0.42
CPA0030	0.96	-4.68	-2.67	-0.64	0.27	-2.70	10.33	9	0.32
CPA0032	1.15	-3.67	-2.57	-0.38	0.40	-3.00	8.94	8	0.35
CPA0034	0.84	-4.08	-1.66	0.74	0.21	-1.70	17.18	16	0.37
CPA0035	0.74	-4.13	-2.30	0.16	0.17	-2.60	18.74	15	0.23
CPA0036	0.72	-5.64	-3.44	-0.64	0.16	-3.00	7.54	8	0.48
CPA0040	0.89	-3.29	-1.50	0.92	0.24	-2.00	17.65	17	0.41

Table B-37: IRT statistics – pooled, 30-item UNICEF & The World Bank model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.91	-4.47	-2.93	-0.67	0.25	-3.00	23.81	15	0.07
CPA0002	0.53	-4.62	-2.75	0.72	0.09	-2.90	26.31	26	0.45
CPA0003	0.99	-3.27	-1.69	0.37	0.30	-2.10	33.87	22	0.05
CPA0004	0.70	-2.41	-1.14	1.32	0.15	-1.10	46.84	26	0.01
CPA0005	0.62	-1.45	0.13	2.06	0.12	0.20	27.34	26	0.39
CPA0007	0.69	-2.41	-1.00	0.84	0.15	-0.90	27.53	26	0.38
CPA0008	0.65	-1.77	-0.51	1.43	0.13	-0.30	29.95	26	0.27
CPA0009	0.54	-3.46	-1.55	0.91	0.09	-1.40	32.41	26	0.18
CPA0010	0.59	-2.33	-0.74	1.48	0.11	-0.60	51.04	26	0.00
CPA0012	0.95	-2.87	-1.57	0.23	0.28	-1.70	45.54	24	0.01
CPA0013	0.84	-3.45	-2.17	-0.28	0.22	-2.20	39.66	23	0.02
CPA0014	1.14	-3.25	-1.88	-0.22	0.39	-2.10	40.11	19	0.00
CPA0015	0.78	-2.74	-0.47	1.85	0.18	-0.50	26.66	26	0.43
CPA0016	0.83	-2.64	-1.30	1.34	0.21	-1.60	51.10	26	0.00
CPA0018	0.74	-4.32	-2.24	0.33	0.16	-2.60	23.98	23	0.41
CPA0019	0.89	-4.27	-2.97	-0.80	0.24	-3.00	23.27	17	0.14
CPA0020	0.84	-4.37	-3.00	-0.11	0.21	-3.00	35.78	18	0.01
CPA0022	0.71	-3.90	-1.69	1.56	0.15	-2.40	52.78	25	0.00
CPA0023	0.91	-3.22	-1.80	0.84	0.25	-2.30	22.66	24	0.54
CPA0024	0.88	-3.79	-1.93	0.37	0.23	-2.40	32.61	21	0.05
CPA0025	0.75	-3.57	-1.97	0.19	0.17	-2.00	26.99	25	0.36
CPA0026	0.96	-3.38	-1.84	0.32	0.28	-2.30	26.04	22	0.25
CPA0027	0.95	-2.45	-1.03	0.92	0.28	-1.30	33.54	25	0.12
CPA0029	0.93	-4.14	-2.26	-0.04	0.26	-2.60	21.49	19	0.31
CPA0030	0.95	-4.52	-2.61	-0.62	0.27	-2.70	23.94	16	0.09
CPA0032	0.87	-4.34	-3.07	-0.23	0.22	-3.00	43.08	17	0.00
CPA0033	0.94	-4.27	-2.36	-0.25	0.26	-2.60	28.55	18	0.05
CPA0034	0.90	-3.48	-1.61	0.64	0.24	-2.00	29.04	23	0.18
CPA0035	0.72	-4.08	-2.38	0.31	0.16	-2.70	40.57	24	0.02
CPA0040	0.87	-3.49	-1.62	0.97	0.23	-2.20	35.65	23	0.04

Table B-38: IRT statistics – Egypt, 30-item UNICEF & The World Bank model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.81	-4.22	-3.07	-0.60	0.20	-3.00	9.02	8	0.34
CPA0002	0.50	-4.56	-2.76	0.56	0.08	-2.60	15.14	22	0.86
CPA0003	1.01	-2.82	-1.68	0.22	0.31	-1.90	14.92	16	0.53
CPA0004	0.48	-3.91	-2.63	0.93	0.07	-2.00	19.83	22	0.59
CPA0005	0.51	-2.65	-0.44	1.91	0.08	-0.40	23.81	26	0.59
CPA0007	0.51	-3.61	-1.85	0.74	0.08	-1.60	33.42	25	0.12
CPA0008	0.54	-2.53	-0.97	1.12	0.09	-0.80	34.10	26	0.13
CPA0009	0.53	-3.06	-1.19	1.31	0.09	-1.00	37.57	26	0.07
CPA0010	0.58	-2.32	-0.81	1.32	0.10	-0.60	24.88	26	0.53
CPA0012	1.01	-2.71	-1.33	0.46	0.31	-1.60	24.56	17	0.11
CPA0013	0.68	-4.87	-2.93	-0.85	0.14	-2.90	17.41	13	0.18
CPA0014	1.53	-2.24	-1.23	-0.03	0.72	-1.40	15.05	13	0.30
CPA0015	0.46	-4.69	-0.36	3.21	0.06	0.40	14.82	24	0.93
CPA0016	0.70	-3.36	-1.75	1.56	0.15	-2.20	28.79	20	0.09
CPA0018	0.63	-4.98	-2.12	0.45	0.12	-1.80	13.34	17	0.71
CPA0019	1.08	-2.97	-2.05	-0.49	0.36	-2.00	21.97	12	0.04
CPA0020	0.84	-4.13	-2.53	0.11	0.21	-3.00	16.57	12	0.17
CPA0022	0.47	-5.00	-1.47	3.09	0.07	-2.40	18.76	22	0.66
CPA0023	0.86	-3.84	-1.83	0.75	0.22	-2.40	16.56	16	0.41
CPA0024	1.03	-3.23	-1.63	0.17	0.32	-1.80	18.62	15	0.23
CPA0025	0.61	-5.04	-2.47	-0.30	0.11	-2.40	15.31	16	0.50
CPA0026	1.01	-2.98	-1.36	0.59	0.31	-1.70	14.91	17	0.60
CPA0027	0.84	-2.48	-1.12	1.08	0.22	-1.30	20.35	22	0.56
CPA0029	0.94	-3.78	-2.05	-0.01	0.27	-2.40	17.03	14	0.25
CPA0030	0.94	-4.35	-2.17	-0.61	0.27	-1.80	12.78	13	0.46
CPA0032	0.70	-5.39	-3.51	-0.13	0.14	-3.00	18.55	9	0.03
CPA0033	0.88	-4.27	-2.02	0.36	0.23	-2.20	17.16	13	0.19
CPA0034	1.05	-2.80	-1.17	0.69	0.33	-1.40	17.56	18	0.49
CPA0035	0.84	-3.24	-1.66	0.57	0.22	-2.00	23.14	19	0.23
CPA0040	0.90	-3.25	-1.39	0.85	0.25	-1.80	45.39	18	0.00

Table B-39: IRT statistics – Palestine, 30-item UNICEF & The World Bank model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	0.64	-7.43	-4.20	-0.66	0.12	-3.00	8.88	7	0.26
CPA0002	0.53	-4.94	-2.93	0.58	0.09	-3.00	14.88	12	0.25
CPA0003	0.76	-3.97	-1.74	0.87	0.17	-2.10	15.86	15	0.39
CPA0004	0.72	-2.30	-0.93	1.33	0.16	-0.90	34.88	23	0.05
CPA0005	0.86	-0.43	0.49	2.10	0.23	0.70	28.85	22	0.15
CPA0007	0.84	-1.74	-0.44	1.08	0.22	-0.40	18.55	24	0.78
CPA0008	0.79	-1.16	-0.07	1.70	0.19	0.10	23.01	24	0.52
CPA0009	0.59	-3.64	-1.71	0.70	0.11	-1.70	23.03	19	0.24
CPA0010	0.60	-2.26	-0.63	1.53	0.11	-0.50	27.56	25	0.33
CPA0012	1.00	-2.47	-1.39	0.20	0.31	-1.40	16.15	16	0.44
CPA0013	1.03	-2.90	-1.77	-0.25	0.33	-1.80	14.97	12	0.24
CPA0014	0.78	-4.76	-2.95	-0.34	0.18	-3.00	7.03	8	0.53
CPA0015	0.99	-2.34	-0.75	1.30	0.29	-1.10	15.65	17	0.55
CPA0016	0.83	-2.69	-1.27	1.09	0.21	-1.50	28.58	19	0.07
CPA0018	0.78	-3.53	-1.95	0.75	0.18	-2.30	16.98	14	0.26
CPA0019	0.55	-8.54	-5.18	-1.47	0.09	-3.00	10.52	7	0.16
CPA0020	0.85	-4.69	-3.18	-0.09	0.21	-3.00	10.09	7	0.18
CPA0022	0.94	-3.46	-1.63	1.10	0.26	-2.30	24.32	13	0.03
CPA0023	0.93	-2.98	-1.84	0.80	0.26	-2.20	9.99	13	0.69
CPA0024	0.82	-4.23	-2.17	0.59	0.20	-2.80	23.38	12	0.02
CPA0025	0.95	-2.95	-1.90	0.16	0.27	-2.00	9.68	11	0.56
CPA0026	0.63	-4.52	-2.74	0.57	0.12	-3.00	8.31	11	0.69
CPA0027	1.21	-2.19	-1.03	0.83	0.44	-1.40	14.18	15	0.51
CPA0029	1.05	-3.82	-2.15	-0.02	0.33	-2.60	10.20	9	0.33
CPA0030	0.97	-4.43	-2.98	-0.60	0.28	-3.00	7.77	7	0.35
CPA0032	0.80	-4.29	-3.33	-0.12	0.18	-3.00	16.68	6	0.01
CPA0033	0.62	-5.86	-3.48	-0.29	0.11	-3.00	6.76	10	0.75
CPA0034	0.88	-3.55	-2.03	0.42	0.24	-2.50	20.01	12	0.07
CPA0035	0.58	-5.28	-3.69	0.13	0.10	-3.00	9.53	6	0.15
CPA0040	0.79	-4.17	-2.09	1.20	0.18	-2.90	10.64	11	0.47

Table B-40: IRT statistics – Tunisia, 30-item UNICEF & The World Bank model (Participation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CPA0001	1.56	-3.06	-1.96	-0.65	0.73	-2.20	15.50	6	0.02
CPA0002	0.57	-4.39	-2.57	1.00	0.10	-2.90	24.24	16	0.08
CPA0003	1.31	-3.13	-1.57	0.20	0.50	-1.80	14.44	13	0.34
CPA0004	1.04	-1.56	-0.50	1.49	0.33	-0.70	41.91	21	0.00
CPA0005	0.59	-1.66	0.19	2.05	0.11	0.20	23.51	26	0.60
CPA0007	0.79	-2.26	-0.98	0.70	0.19	-0.90	42.08	23	0.01
CPA0008	0.68	-1.73	-0.57	1.41	0.14	-0.30	28.29	25	0.29
CPA0009	0.50	-3.76	-1.81	0.74	0.08	-1.60	23.88	24	0.47
CPA0010	0.53	-2.64	-0.87	1.75	0.09	-0.70	23.83	26	0.59
CPA0012	0.82	-3.80	-2.13	0.02	0.21	-2.40	18.41	13	0.14
CPA0013	0.92	-2.81	-1.83	0.15	0.26	-1.80	20.73	16	0.19
CPA0014	1.24	-3.72	-1.95	-0.33	0.45	-1.80	13.79	10	0.18
CPA0015	0.91	-2.28	-0.32	1.77	0.25	-0.50	26.38	20	0.15
CPA0016	0.88	-2.31	-1.12	1.48	0.23	-1.40	19.84	19	0.40
CPA0018	0.74	-5.25	-3.04	-0.20	0.16	-3.00	17.48	10	0.06
CPA0019	1.12	-3.97	-2.86	-0.73	0.38	-3.00	16.54	6	0.01
CPA0020	0.89	-4.15	-3.28	-0.35	0.23	-3.00	12.50	8	0.13
CPA0022	0.79	-3.68	-1.95	1.10	0.19	-2.50	21.66	15	0.12
CPA0023	0.94	-3.05	-1.76	0.96	0.27	-2.20	16.60	14	0.28
CPA0024	0.88	-3.80	-1.91	0.35	0.23	-2.30	8.37	14	0.87
CPA0025	0.78	-3.00	-1.55	0.60	0.19	-1.60	22.37	19	0.27
CPA0026	1.33	-3.20	-1.79	-0.06	0.52	-2.10	17.37	12	0.14
CPA0027	0.88	-2.70	-0.95	0.85	0.24	-1.00	18.99	21	0.59
CPA0029	0.86	-4.83	-2.57	-0.11	0.22	-2.80	15.35	11	0.17
CPA0030	0.86	-5.12	-2.91	-0.69	0.22	-2.90	9.42	9	0.40
CPA0032	1.12	-3.74	-2.61	-0.39	0.38	-3.00	9.50	8	0.30
CPA0033	1.33	-3.61	-2.17	-0.70	0.52	-2.20	7.82	8	0.45
CPA0034	0.81	-4.20	-1.70	0.77	0.19	-1.70	17.77	16	0.34
CPA0035	0.77	-4.02	-2.24	0.16	0.18	-2.50	20.11	15	0.17
CPA0040	0.89	-3.31	-1.51	0.92	0.24	-2.00	22.34	16	0.13

MODEL STATISTICS

Table B-41: Fit indices and reliability, 45-item model (Participation)

	M2*	df	p-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1296.80	855	0.00	0.02	0.04	0.95	0.95	0.83
	(47.97)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	1029.16	855	0.00	0.02	0.05	0.93	0.93	0.83
	(36.97)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-
Palestine	983.22	855	0.01	0.02	0.06	0.96	0.96	0.84
	(38.18)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	1079.50	855	0.00	0.03	0.05	0.94	0.94	0.85
	(46.90)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-42: Measurement invariance test, 45-item model (Participation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3110.85	2565	0.00	0.01	0.05	0.06	0.06	0.96	0.96
	(70.61)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	3157.80	2655	0.00	0.01	0.06	0.06	0.06	0.97	0.97
	(71.38)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Scalar model	3766.45	2923	0.00	0.02	0.06	0.06	0.06	0.95	0.94
	(59.58)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	46.95	90	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	608.65	268	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02

Table B-43: Fit indices and reliability, 30-item Consortium model (Participation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	462.90	345	0.00	0.02	0.04	0.96	0.97	0.77
	(23.95)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	349.70	345.00	0.43	0.01	0.05	0.99	0.99	0.77
	(16.49)	-	-	(0.01)	(0.00)	(0.02)	(0.01)	-
Palestine	399.04	345.00	0.08	0.02	0.06	0.95	0.95	0.77
	(29.38)	-	-	(0.01)	(0.00)	(0.03)	(0.03)	-
Tunisia	438.88	345.00	0.00	0.03	0.06	0.92	0.93	0.80
	(20.48)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-

Table B-44: Measurement invariance test, 30-item Consortium model (Participation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1168.67	1035	0.02	0.01	0.05	0.06	0.05	0.98	0.98
	(38.17)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	1258.74	1095	0.00	0.01	0.05	0.06	0.06	0.98	0.98
	(32.64)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Scalar model	1594.54	1273	0.00	0.02	0.06	0.06	0.06	0.96	0.95
	(62.07)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	90.07	60	-0.01	0.00	0.00	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	335.79	178	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02

Table B-45: Non-anchor item invariance testing, 30-item Consortium model (Participation)

Item	AIC	AICc	SABIC	HQ	BIC	χ^2	df	*p*-value
CPA0001	4.25	9.11	18.19	19.20	43.60	11.75	8	0.16
CPA0002	14.10	18.96	28.04	29.05	53.45	1.90	8	0.98
CPA0003	3.76	8.62	17.70	18.71	43.11	12.24	8	0.14
CPA0032	14.38	19.24	28.32	29.33	53.73	1.62	8	0.99
CPA0034	9.51	14.37	23.45	24.46	48.86	6.49	8	0.59
CPA0035	7.84	12.70	21.78	22.79	47.19	8.16	8	0.42
CPA0036	3.40	8.25	17.34	18.35	42.75	12.60	8	0.13
CPA0040	13.01	17.86	26.95	27.95	52.36	2.99	8	0.93

Table B-46: Fit indices and reliability, 30-item UNICEF & The World Bank model (Participation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	462.66	345	0.00	0.02	0.04	0.96	0.97	0.77
	(23.77)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	373.27	345.00	0.22	0.01	0.05	0.97	0.97	0.77
	(24.21)	-	-	(0.01)	(0.00)	(0.03)	(0.02)	-
Palestine	397.80	345.00	0.05	0.02	0.06	0.95	0.95	0.77
	(16.88)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Tunisia	414.77	345.00	0.03	0.02	0.06	0.95	0.95	0.80
	(24.82)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-

Table B-47: Measurement invariance test, 30-item UNICEF & The World Bank model (Participation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1195.96	1035	0.00	0.01	0.05	0.06	0.06	0.98	0.98
	(40.20)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Metric model	1255.57	1095	0.01	0.01	0.05	0.06	0.06	0.98	0.98
	(48.96)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	1642.20	1273	0.00	0.02	0.05	0.06	0.06	0.95	0.95
	(39.86)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Difference: Metric - Configural	59.61	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	386.63	178	-0.01	0.00	0.00	0.00	0.00	-0.02	-0.03

Table B-48: Non-anchor item invariance testing, 30-item UNICEF & The World Bank model (Participation)

Item	AIC	AICc	SABIC	HQ	BIC	χ^2	df	*p*-value
CPA0001	-2.18	2.67	11.76	12.76	37.17	18.18	8	0.02
CPA0002	8.70	13.55	22.64	23.64	48.05	7.30	8	0.50
CPA0003	-0.90	3.96	13.04	14.05	38.45	16.90	8	0.03
CPA0032	9.03	13.88	22.97	23.98	48.38	6.97	8	0.54
CPA0034	-17.06	-12.20	-3.12	-2.11	22.29	33.06	8	0.00
CPA0035	4.12	8.98	18.06	19.07	43.47	11.88	8	0.16
CPA0036	2.55	7.41	16.49	17.50	41.90	13.45	8	0.10
CPA0040	7.78	12.63	21.72	22.72	47.13	8.22	8	0.41

ACTIVE CITIZENSHIP: RESPECT FOR DIVERSITY
ITEM STATISTICS

Table B-49: Response frequencies for all items, pooled model (Respect for Diversity)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.04	0.09	0.40	0.47
CPA0002	0.04	0.16	0.33	0.47
CPA0003	0.12	0.18	0.39	0.31
CPA0004	0.29	0.26	0.24	0.21
CPA0005	0.06	0.15	0.27	0.51
CPA0006	0.21	0.29	0.31	0.18
CPA0007	0.03	0.11	0.44	0.42
CPA0008	0.04	0.07	0.34	0.55
CPA0009	0.03	0.04	0.28	0.65
CPA0010	0.03	0.06	0.31	0.60
CPA0011	0.07	0.13	0.34	0.46
CPA0012	0.03	0.09	0.47	0.40
CPA0013	0.02	0.07	0.28	0.63
CPA0014	0.07	0.21	0.45	0.27
CPA0015	0.05	0.10	0.37	0.48
CPA0016	0.03	0.09	0.40	0.49
CPA0017	0.03	0.07	0.39	0.52
CPA0018	0.08	0.21	0.36	0.34
CPA0019	0.07	0.16	0.32	0.45
CPA0020	0.13	0.25	0.33	0.29
CPA0021	0.06	0.15	0.43	0.36
CPA0022	0.03	0.08	0.36	0.52
CPA0023	0.13	0.09	0.21	0.58
CPA0024	0.11	0.17	0.30	0.42
CPA0025	0.17	0.19	0.25	0.38
CPA0026	0.14	0.13	0.21	0.52
CPA0027	0.10	0.11	0.25	0.54
CPA0028	0.14	0.14	0.34	0.38
CPA0029	0.15	0.12	0.20	0.53
CPA0030	0.18	0.20	0.32	0.30
CPA0031	0.26	0.21	0.28	0.26

CPA0032	0.25	0.23	0.29	0.23
CPA0033	0.20	0.22	0.32	0.25
CPA0034	0.22	0.24	0.31	0.24
CPA0035	0.08	0.20	0.45	0.27
CPA0036	0.13	0.20	0.42	0.25
CPA0037	0.04	0.09	0.37	0.51
CPA0038	0.15	0.19	0.33	0.33
CPA0039	0.13	0.30	0.39	0.19
CPA0040	0.13	0.27	0.41	0.20
CPA0041	0.12	0.30	0.37	0.21
CPA0042	0.48	0.30	0.17	0.05
CPA0043	0.10	0.13	0.24	0.52
CPA0044	0.05	0.07	0.20	0.68
CPA0045	0.25	0.26	0.28	0.21

Table B-50: Response frequencies for all items, Egypt model (Respect for Diversity)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CPA0001	0.04	0.13	0.43	0.41
CPA0002	0.03	0.14	0.34	0.49
CPA0003	0.17	0.21	0.42	0.20
CPA0004	0.33	0.27	0.23	0.17
CPA0005	0.04	0.19	0.31	0.46
CPA0006	0.22	0.30	0.32	0.16
CPA0007	0.03	0.14	0.44	0.40
CPA0008	0.04	0.10	0.34	0.51
CPA0009	0.04	0.05	0.24	0.67
CPA0010	0.03	0.07	0.33	0.57
CPA0011	0.10	0.16	0.33	0.41
CPA0012	0.06	0.11	0.48	0.36
CPA0013	0.04	0.12	0.30	0.54
CPA0014	0.08	0.25	0.47	0.20
CPA0015	0.05	0.11	0.35	0.49
CPA0016	0.03	0.12	0.42	0.43
CPA0017	0.05	0.10	0.42	0.42
CPA0018	0.10	0.24	0.38	0.28
CPA0019	0.10	0.18	0.33	0.38

CPA0020	0.12	0.32	0.30	0.25
CPA0021	0.08	0.19	0.42	0.32
CPA0022	0.06	0.10	0.33	0.52
CPA0023	0.16	0.11	0.22	0.51
CPA0024	0.17	0.18	0.30	0.35
CPA0025	0.14	0.21	0.25	0.39
CPA0026	0.18	0.16	0.24	0.43
CPA0027	0.12	0.16	0.29	0.43
CPA0028	0.19	0.17	0.34	0.29
CPA0029	0.18	0.15	0.23	0.44
CPA0030	0.20	0.16	0.37	0.27
CPA0031	0.22	0.21	0.34	0.24
CPA0032	0.31	0.25	0.23	0.21
CPA0033	0.16	0.23	0.37	0.24
CPA0034	0.25	0.21	0.27	0.27
CPA0035	0.08	0.19	0.41	0.31
CPA0036	0.14	0.21	0.40	0.25
CPA0037	0.06	0.11	0.38	0.45
CPA0038	0.20	0.26	0.34	0.20
CPA0039	0.14	0.29	0.33	0.24
CPA0040	0.13	0.30	0.42	0.15
CPA0041	0.10	0.31	0.36	0.23
CPA0042	0.43	0.30	0.22	0.04
CPA0043	0.12	0.20	0.18	0.50
CPA0044	0.06	0.11	0.20	0.63
CPA0045	0.21	0.30	0.30	0.19

Table B-51: Response frequencies for all items, Palestine model (Respect for Diversity)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.06	0.07	0.47	0.40
CPA0002	0.04	0.17	0.36	0.43
CPA0003	0.14	0.20	0.37	0.28
CPA0004	0.32	0.30	0.22	0.17
CPA0005	0.04	0.18	0.29	0.49
CPA0006	0.22	0.40	0.27	0.11
CPA0007	0.04	0.08	0.50	0.38
CPA0008	0.04	0.04	0.38	0.53
CPA0009	0.04	0.05	0.37	0.54
CPA0010	0.04	0.04	0.37	0.55
CPA0011	0.08	0.12	0.38	0.42
CPA0012	0.01	0.06	0.46	0.47
CPA0013	0.01	0.03	0.20	0.77
CPA0014	0.05	0.13	0.50	0.32
CPA0015	0.03	0.07	0.38	0.52
CPA0016	0.04	0.09	0.40	0.48
CPA0017	0.01	0.06	0.45	0.48
CPA0018	0.07	0.15	0.41	0.38
CPA0019	0.05	0.16	0.32	0.47
CPA0020	0.14	0.25	0.35	0.27
CPA0021	0.07	0.14	0.47	0.34
CPA0022	0.03	0.07	0.38	0.53
CPA0023	0.12	0.09	0.20	0.59
CPA0024	0.08	0.15	0.34	0.43
CPA0025	0.19	0.21	0.23	0.37
CPA0026	0.11	0.12	0.24	0.54
CPA0027	0.10	0.08	0.26	0.57
CPA0028	0.13	0.14	0.33	0.40
CPA0029	0.12	0.11	0.23	0.54
CPA0030	0.19	0.24	0.28	0.30
CPA0031	0.21	0.21	0.30	0.28
CPA0032	0.28	0.24	0.27	0.20
CPA0033	0.22	0.21	0.32	0.25
CPA0034	0.24	0.20	0.32	0.25

CPA0035	0.07	0.18	0.50	0.24
CPA0036	0.14	0.18	0.41	0.26
CPA0037	0.03	0.08	0.32	0.57
CPA0038	0.17	0.23	0.32	0.28
CPA0039	0.11	0.30	0.43	0.15
CPA0040	0.10	0.30	0.43	0.17
CPA0041	0.10	0.29	0.36	0.25
CPA0042	0.50	0.29	0.14	0.09
CPA0043	0.11	0.12	0.25	0.52
CPA0044	0.05	0.06	0.23	0.67
CPA0045	0.29	0.23	0.24	0.24

Table B-52: Response frequencies for all items, Tunisia model (Respect for Diversity)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CPA0001	0.03	0.06	0.31	0.60
CPA0002	0.04	0.18	0.30	0.48
CPA0003	0.05	0.14	0.37	0.44
CPA0004	0.23	0.21	0.27	0.29
CPA0005	0.10	0.10	0.22	0.59
CPA0006	0.20	0.18	0.35	0.27
CPA0007	0.02	0.11	0.39	0.47
CPA0008	0.04	0.07	0.29	0.60
CPA0009	0.02	0.04	0.24	0.71
CPA0010	0.02	0.07	0.24	0.67
CPA0011	0.04	0.09	0.33	0.54
CPA0012	0.03	0.10	0.48	0.40
CPA0013	0.02	0.05	0.31	0.62
CPA0014	0.09	0.22	0.38	0.31
CPA0015	0.06	0.12	0.39	0.43
CPA0016	0.01	0.06	0.37	0.56
CPA0017	0.01	0.05	0.29	0.65
CPA0018	0.06	0.24	0.32	0.38
CPA0019	0.06	0.13	0.30	0.51
CPA0020	0.11	0.18	0.35	0.36
CPA0021	0.04	0.13	0.42	0.41
CPA0022	0.02	0.08	0.39	0.52

CPA0023	0.09	0.07	0.20	0.64
CPA0024	0.07	0.17	0.27	0.49
CPA0025	0.19	0.16	0.27	0.38
CPA0026	0.12	0.11	0.15	0.62
CPA0027	0.09	0.10	0.19	0.62
CPA0028	0.09	0.12	0.34	0.45
CPA0029	0.15	0.09	0.14	0.62
CPA0030	0.14	0.21	0.31	0.34
CPA0031	0.34	0.21	0.18	0.27
CPA0032	0.16	0.19	0.37	0.28
CPA0033	0.23	0.23	0.27	0.27
CPA0034	0.15	0.31	0.34	0.20
CPA0035	0.08	0.22	0.45	0.25
CPA0036	0.11	0.19	0.46	0.24
CPA0037	0.03	0.08	0.39	0.50
CPA0038	0.09	0.09	0.34	0.49
CPA0039	0.13	0.31	0.41	0.16
CPA0040	0.14	0.21	0.38	0.27
CPA0041	0.14	0.29	0.40	0.17
CPA0042	0.51	0.31	0.16	0.03
CPA0043	0.09	0.08	0.29	0.55
CPA0044	0.03	0.05	0.19	0.74
CPA0045	0.26	0.24	0.29	0.21

Table B-53: Descriptive statistics for all items, pooled model (Respect for Diversity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CRD0001	667	3	4	1
CRD0002	665	3	4	1
CRD0003	662	3	3	2
CRD0004	665	2	1	2
CRD0005	667	4	4	1
CRD0006	667	2	3	1
CRD0007	666	3	3	1
CRD0008	666	4	4	1
CRD0009	667	4	4	1
CRD0010	667	4	4	1

CRD0011	670	3	4	1
CRD0012	668	3	3	1
CRD0013	668	4	4	1
CRD0014	668	3	3	2
CRD0015	667	3	4	1
CRD0016	678	3	4	1
CRD0017	676	4	4	1
CRD0018	677	3	3	2
CRD0019	678	3	4	1
CRD0020	680	3	3	2
CRD0021	676	3	3	1
CRD0022	680	4	4	1
CRD0023	678	4	4	1
CRD0024	679	3	4	2
CRD0025	675	3	4	2
CRD0026	679	4	4	2
CRD0027	676	4	4	1
CRD0028	676	3	4	2
CRD0029	676	4	4	2
CRD0030	678	3	3	2
CRD0031	687	3	3	3
CRD0032	684	3	3	1.25
CRD0033	686	3	3	2
CRD0034	687	3	3	1
CRD0035	688	3	3	2
CRD0036	685	3	3	2
CRD0037	682	4	4	1
CRD0038	686	3	3	2
CRD0039	686	3	3	1
CRD0040	682	3	3	1
CRD0041	682	3	3	1
CRD0042	681	2	1	1
CRD0043	678	4	4	1
CRD0044	679	4	4	1
CRD0045	679	2	3	1

Table B-54: Descriptive statistics for all items, Egypt model (Respect for Diversity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CRD0001	247	3	4	1
CRD0002	245	3	4	1
CRD0003	243	3	3	1
CRD0004	245	2	1	2
CRD0005	246	3	4	1
CRD0006	246	2	3	1
CRD0007	248	3	3	1
CRD0008	247	4	4	1
CRD0009	247	4	4	1
CRD0010	247	4	4	1
CRD0011	249	3	4	2
CRD0012	247	3	3	1
CRD0013	247	4	4	1
CRD0014	247	3	3	1
CRD0015	247	3	4	1
CRD0016	249	3	4	1
CRD0017	248	3	4	1
CRD0018	249	3	3	2
CRD0019	250	3	4	2
CRD0020	250	3	3	1
CRD0021	247	3	3	2
CRD0022	250	4	4	1
CRD0023	250	4	4	2
CRD0024	251	3	4	2
CRD0025	249	3	4	2
CRD0026	248	3	4	2
CRD0027	247	3	4	2
CRD0028	248	3	4	2
CRD0029	248	3	4	2
CRD0030	249	3	3	2
CRD0031	251	3	3	1
CRD0032	251	2	3	2
CRD0033	250	3	3	1
CRD0034	251	3	3	3

CRD0035	251	3	3	2
CRD0036	247	3	3	1.5
CRD0037	247	3	4	1
CRD0038	249	3	3	1
CRD0039	248	3	3	1
CRD0040	247	3	3	1
CRD0041	248	3	3	1
CRD0042	246	2	1	2
CRD0043	244	3.5	4	2
CRD0044	248	4	4	1
CRD0045	246	2	3	1

Table B-55: Descriptive statistics for all items, Palestine model (Respect for Diversity)

		Measures of Central Tendency		Measures of dispersion
Item	**n**	**Median**	**Mode**	**IQR**
CRD0001	191	3	4	1
CRD0002	192	3	4	1
CRD0003	190	3	3	2
CRD0004	190	2	1	2
CRD0005	191	3	4	1
CRD0006	192	2	3	1
CRD0007	190	3	3	1
CRD0008	191	4	4	1
CRD0009	191	4	4	1
CRD0010	190	4	4	1
CRD0011	191	3	4	1
CRD0012	192	3	3	1
CRD0013	192	4	4	0
CRD0014	192	3	3	1
CRD0015	192	4	4	1
CRD0016	199	3	4	1
CRD0017	198	3	4	1
CRD0018	197	3	3	1
CRD0019	198	3	4	1
CRD0020	200	3	3	2
CRD0021	200	3	3	1
CRD0022	199	4	4	1

CRD0023	199	4	4	1
CRD0024	199	3	4	1
CRD0025	198	3	4	2
CRD0026	200	4	4	1
CRD0027	200	4	4	1
CRD0028	199	3	4	2
CRD0029	199	4	4	1
CRD0030	200	3	3	2
CRD0031	202	3	3	2
CRD0032	198	2	3	2
CRD0033	201	3	3	2
CRD0034	200	3	3	1
CRD0035	201	3	3	1
CRD0036	201	3	3	2
CRD0037	199	4	4	1
CRD0038	202	3	3	2
CRD0039	201	3	3	1
CRD0040	198	3	3	1
CRD0041	199	3	3	1
CRD0042	200	2	1	1
CRD0043	199	4	4	1
CRD0044	199	4	4	1
CRD0045	199	2	3	2

Table B-56: Descriptive statistics for all items, Tunisia model (Respect for Diversity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
CRD0001	229	4	4	1
CRD0002	228	3	4	1
CRD0003	229	3	3	1
CRD0004	230	3	1	2
CRD0005	230	4	4	1
CRD0006	229	3	3	2
CRD0007	228	3	3	1
CRD0008	228	4	4	1
CRD0009	229	4	4	1
CRD0010	230	4	4	1

CRD0011	230	4	4	1
CRD0012	229	3	3	1
CRD0013	229	4	4	1
CRD0014	229	3	3	2
CRD0015	228	3	4	1
CRD0016	230	4	4	1
CRD0017	230	4	4	1
CRD0018	231	3	3	2
CRD0019	230	4	4	1
CRD0020	230	3	3	2
CRD0021	229	3	3	1
CRD0022	231	4	4	1
CRD0023	229	4	4	1
CRD0024	229	3	4	1
CRD0025	228	3	4	2
CRD0026	231	4	4	1
CRD0027	229	4	4	1
CRD0028	229	3	4	1
CRD0029	229	4	4	1
CRD0030	229	3	3	2
CRD0031	234	2	3	3
CRD0032	235	3	3	2
CRD0033	235	3	3	2
CRD0034	236	3	3	1
CRD0035	236	3	3	2
CRD0036	237	3	3	1
CRD0037	236	4	4	1
CRD0038	235	3	3	1
CRD0039	237	3	3	1
CRD0040	237	3	3	2
CRD0041	235	3	3	1
CRD0042	235	1	1	1
CRD0043	235	4	4	1
CRD0044	232	4	4	1
CRD0045	234	2.5	3	2

Table B-57: IRT statistics – pooled, 45-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	0.98	-3.49	-2.22	0.17	0.29	-2.60	29.05	20	0.09
CRD0002	0.72	-4.73	-2.11	0.22	0.15	-1.80	46.16	22	0.00
CRD0003	0.82	-2.66	-1.15	1.13	0.21	-1.40	38.58	25	0.04
CRD0004	0.42	-2.18	0.50	3.29	0.05	0.50	52.24	26	0.00
CRD0005	1.07	-2.93	-1.46	-0.05	0.35	-1.40	36.18	22	0.03
CRD0006	0.36	-3.73	0.06	4.36	0.04	-0.10	57.61	26	0.00
CRD0007	0.90	-4.18	-2.25	0.47	0.24	-2.90	26.77	19	0.11
CRD0008	1.03	-3.44	-2.30	-0.19	0.32	-2.60	24.09	19	0.19
CRD0009	1.00	-3.74	-2.79	-0.66	0.30	-2.90	18.40	16	0.30
CRD0010	1.37	-3.05	-2.09	-0.36	0.56	-2.40	36.27	16	0.00
CRD0011	1.26	-2.44	-1.39	0.19	0.49	-1.60	39.70	22	0.01
CRD0012	0.67	-5.38	-3.15	0.67	0.13	-3.00	36.57	21	0.02
CRD0013	1.18	-3.62	-2.33	-0.58	0.42	-2.70	23.76	16	0.09
CRD0014	0.58	-4.57	-1.76	1.81	0.10	-2.50	30.74	25	0.20
CRD0015	0.73	-4.33	-2.53	0.19	0.16	-3.00	28.43	23	0.20
CRD0016	0.97	-4.01	-2.41	0.02	0.28	-2.90	24.48	19	0.18
CRD0017	0.86	-4.60	-2.91	-0.09	0.22	-3.00	32.57	17	0.01
CRD0018	0.72	-3.64	-1.35	1.00	0.16	-1.40	41.92	25	0.02
CRD0019	1.10	-2.72	-1.34	0.20	0.37	-1.50	28.58	22	0.16
CRD0020	0.82	-2.64	-0.73	1.23	0.20	-0.80	44.48	25	0.01
CRD0021	0.92	-3.31	-1.66	0.75	0.25	-2.20	31.32	23	0.12
CRD0022	0.67	-5.28	-3.26	-0.13	0.14	-3.00	26.55	20	0.15
CRD0023	1.90	-1.52	-1.10	-0.34	1.11	-1.00	26.24	18	0.09
CRD0024	1.88	-1.64	-0.82	0.22	1.07	-1.00	31.02	20	0.05
CRD0025	0.79	-2.22	-0.83	0.66	0.19	-0.80	27.83	26	0.37
CRD0026	1.58	-1.60	-0.95	-0.15	0.78	-0.90	18.91	23	0.71
CRD0027	1.89	-1.67	-1.09	-0.18	1.10	-1.10	18.05	18	0.45
CRD0028	1.15	-1.94	-1.01	0.52	0.41	-1.10	35.70	24	0.06
CRD0029	1.95	-1.36	-0.85	-0.16	1.18	-0.80	20.45	20	0.43
CRD0030	0.55	-2.98	-0.98	1.61	0.09	-0.90	35.86	26	0.09
CRD0031	0.18	-6.10	-0.91	5.81	0.01	-0.40	32.03	26	0.19
CRD0032	0.32	-3.51	-0.32	3.76	0.03	-0.10	26.00	26	0.46
CRD0033	0.08	-17.97	-3.97	13.99	0.00	-3.00	31.02	26	0.23

CRD0034	0.32	-4.17	-0.61	3.71	0.03	-0.50	27.01	26	0.41
CRD0035	0.60	-4.38	-1.81	1.72	0.11	-2.50	31.28	25	0.18
CRD0036	0.57	-3.64	-1.45	2.02	0.10	-1.90	54.07	26	0.00
CRD0037	0.79	-4.49	-2.74	-0.11	0.19	-3.00	30.07	20	0.07
CRD0038	0.61	-3.08	-1.22	1.22	0.12	-1.20	25.86	26	0.47
CRD0039	0.08	-23.62	-3.67	18.08	0.00	-3.00	35.49	26	0.10
CRD0040	0.34	-5.97	-1.40	4.19	0.03	-2.20	21.34	26	0.72
CRD0041	0.10	-19.65	-3.45	12.56	0.00	-3.00	31.05	26	0.23
CRD0042	-0.21	0.35	-6.04	-13.93	0.01	-3.00	18.65	26	0.85
CRD0043	0.37	-6.05	-3.37	-0.34	0.04	-3.00	28.70	26	0.33
CRD0044	0.65	-4.97	-3.36	-1.31	0.13	-3.00	29.91	22	0.12
CRD0045	-0.04	27.58	-0.95	-33.14	0.00	-1.70	45.00	26	0.01

Table B-58: IRT statistics – Egypt, 45-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	0.79	-4.29	-2.24	0.54	0.19	-2.80	13.65	14	0.48
CRD0002	1.16	-3.36	-1.63	0.06	0.40	-1.60	16.53	13	0.22
CRD0003	0.43	-3.79	-1.19	3.30	0.06	-1.60	38.94	26	0.05
CRD0004	0.06	-10.67	6.52	24.88	0.00	3.00	38.70	26	0.05
CRD0005	1.05	-3.32	-1.35	0.21	0.33	-1.00	11.95	14	0.61
CRD0006	0.01	-96.85	6.20	125.13	0.00	1.30	38.17	26	0.06
CRD0007	0.83	-4.64	-2.14	0.61	0.20	-2.40	9.75	13	0.71
CRD0008	0.97	-3.64	-2.14	-0.07	0.28	-2.50	11.68	13	0.55
CRD0009	1.28	-2.96	-2.24	-0.74	0.50	-2.30	7.47	8	0.49
CRD0010	1.27	-3.15	-2.07	-0.29	0.49	-2.40	16.77	9	0.05
CRD0011	1.30	-2.15	-1.05	0.37	0.52	-1.30	18.76	17	0.34
CRD0012	0.59	-4.86	-2.89	1.09	0.11	-3.00	35.42	15	0.00
CRD0013	1.39	-2.78	-1.56	-0.19	0.58	-1.70	27.04	12	0.01
CRD0014	0.49	-5.10	-1.46	2.98	0.07	-2.30	17.52	22	0.73
CRD0015	0.63	-4.98	-2.78	0.10	0.12	-3.00	20.73	14	0.11
CRD0016	0.80	-4.60	-2.37	0.43	0.19	-3.00	11.59	13	0.56
CRD0017	0.62	-4.87	-2.84	0.60	0.12	-3.00	23.93	15	0.07
CRD0018	0.51	-4.47	-1.27	2.06	0.08	-1.40	30.08	21	0.09
CRD0019	1.08	-2.33	-0.99	0.59	0.36	-1.10	20.59	19	0.36
CRD0020	0.37	-5.39	-0.58	3.10	0.04	0.00	19.44	25	0.78

CRD0021	0.83	-3.24	-1.36	1.12	0.21	-1.80	19.78	19	0.41
CRD0022	0.58	-5.08	-3.06	-0.08	0.10	-3.00	16.68	14	0.27
CRD0023	1.32	-1.57	-0.99	-0.07	0.55	-0.90	36.22	16	0.00
CRD0024	1.67	-1.36	-0.54	0.58	0.85	-0.70	31.15	18	0.03
CRD0025	0.91	-2.27	-0.80	0.55	0.26	-0.80	26.79	22	0.22
CRD0026	1.15	-1.64	-0.78	0.31	0.41	-0.70	22.52	21	0.37
CRD0027	1.26	-1.93	-0.97	0.29	0.49	-1.00	30.98	19	0.04
CRD0028	0.86	-1.91	-0.73	1.22	0.23	-0.70	30.85	24	0.16
CRD0029	1.41	-1.40	-0.69	0.24	0.62	-0.60	17.55	20	0.62
CRD0030	0.70	-2.15	-0.91	1.58	0.15	-0.80	26.18	25	0.40
CRD0031	0.53	-2.56	-0.63	2.31	0.09	-0.60	31.33	26	0.22
CRD0032	0.35	-2.36	0.70	3.82	0.04	0.70	18.95	26	0.84
CRD0033	0.29	-5.93	-1.62	4.02	0.03	-1.90	28.70	26	0.33
CRD0034	0.46	-2.50	-0.35	2.29	0.07	-0.20	28.82	26	0.32
CRD0035	0.60	-4.28	-1.82	1.36	0.11	-2.30	25.33	20	0.19
CRD0036	0.46	-4.16	-1.42	2.44	0.07	-1.80	21.29	25	0.68
CRD0037	0.67	-4.48	-2.64	0.27	0.14	-3.00	11.23	14	0.67
CRD0038	0.35	-4.13	-0.58	3.92	0.04	-0.80	25.12	26	0.51
CRD0039	0.17	-11.16	-1.82	6.86	0.01	-1.50	25.11	26	0.51
CRD0040	0.50	-3.92	-0.63	3.53	0.08	-1.40	19.52	24	0.72
CRD0041	0.09	-23.23	-3.76	13.27	0.00	-1.50	17.17	26	0.90
CRD0042	-0.15	1.78	-6.84	-20.94	0.01	-3.00	26.09	16	0.05
CRD0043	0.23	-8.87	-3.50	-0.09	0.02	-3.00	15.29	25	0.93
CRD0044	0.81	-3.70	-2.23	-0.79	0.20	-2.20	9.18	13	0.76
CRD0045	0.06	-23.68	0.51	25.36	0.00	0.40	26.84	26	0.42

Table B-59: IRT statistics – Palestine, 45-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	1.02	-2.96	-2.10	0.57	0.31	-2.40	10.32	8	0.24
CRD0002	0.71	-4.69	-2.05	0.47	0.15	-1.90	19.73	14	0.14
CRD0003	0.56	-3.33	-1.20	1.84	0.10	-1.40	20.95	22	0.52
CRD0004	0.40	-1.96	1.24	4.18	0.05	1.20	27.51	23	0.24
CRD0005	0.92	-3.74	-1.58	0.10	0.25	-1.20	23.99	13	0.03
CRD0006	-0.11	11.21	-4.50	-18.70	0.00	-3.00	20.96	23	0.58
CRD0007	1.24	-2.91	-1.89	0.61	0.46	-2.30	14.46	9	0.11
CRD0008	1.25	-2.92	-2.26	-0.05	0.46	-2.50	17.31	6	0.01
CRD0009	0.76	-4.30	-3.20	-0.12	0.17	-3.00	9.88	6	0.13
CRD0010	1.25	-3.01	-2.30	-0.10	0.46	-2.50	12.04	6	0.06
CRD0011	1.24	-2.32	-1.31	0.41	0.46	-1.60	13.72	12	0.32
CRD0012	0.85	-6.51	-3.30	0.27	0.19	-3.00	24.81	7	0.00
CRD0013	1.20	-4.77	-3.22	-1.14	0.41	-3.00	7.69	3	0.05
CRD0014	0.92	-3.52	-1.80	1.03	0.25	-2.50	9.90	11	0.54
CRD0015	1.01	-3.71	-2.38	0.01	0.31	-2.80	12.11	9	0.21
CRD0016	0.78	-4.30	-2.71	0.10	0.19	-3.00	17.08	9	0.05
CRD0017	0.72	-6.67	-3.93	0.15	0.14	-3.00	3.86	7	0.80
CRD0018	0.74	-3.70	-1.88	0.78	0.17	-2.30	13.03	15	0.60
CRD0019	1.09	-3.07	-1.47	0.14	0.36	-1.50	13.12	13	0.44
CRD0020	1.15	-1.90	-0.50	1.12	0.40	-0.70	12.73	17	0.75
CRD0021	0.84	-3.43	-1.81	0.96	0.21	-2.30	7.88	14	0.90
CRD0022	0.62	-6.08	-3.89	-0.17	0.11	-3.00	14.51	7	0.04
CRD0023	1.73	-1.62	-1.16	-0.35	0.92	-1.10	13.08	11	0.29
CRD0024	1.53	-2.05	-1.08	0.24	0.71	-1.30	10.63	13	0.64
CRD0025	0.78	-2.05	-0.63	0.73	0.19	-0.60	27.99	24	0.26
CRD0026	2.04	-1.55	-0.95	-0.14	1.28	-1.00	20.10	10	0.03
CRD0027	1.55	-1.86	-1.35	-0.25	0.73	-1.30	15.00	10	0.13
CRD0028	0.98	-2.23	-1.16	0.53	0.30	-1.20	27.76	18	0.07
CRD0029	2.19	-1.44	-0.91	-0.12	1.47	-1.00	13.74	12	0.32
CRD0030	0.34	-4.42	-0.90	2.64	0.04	-0.90	28.88	26	0.32
CRD0031	0.24	-5.66	-1.50	3.91	0.02	-1.20	24.41	26	0.55
CRD0032	0.20	-4.76	0.37	6.69	0.01	0.70	21.45	26	0.72
CRD0033	0.22	-6.07	-1.47	4.96	0.01	-1.10	21.56	26	0.71

CRD0034	0.33	-3.69	-0.85	3.39	0.03	-0.50	18.76	26	0.85
CRD0035	0.73	-3.85	-1.76	1.60	0.16	-2.50	38.65	15	0.00
CRD0036	0.79	-2.66	-1.20	1.38	0.19	-1.50	33.71	19	0.02
CRD0037	0.68	-5.46	-3.39	-0.59	0.14	-3.00	17.76	9	0.04
CRD0038	0.66	-2.76	-0.80	1.44	0.13	-0.80	22.28	22	0.44
CRD0039	0.20	-10.91	-1.94	8.64	0.01	-3.00	26.39	20	0.15
CRD0040	0.17	-13.39	-2.64	9.41	0.01	-3.00	23.80	20	0.25
CRD0041	0.23	-9.78	-2.11	4.77	0.02	-1.40	26.47	20	0.15
CRD0042	-0.35	-0.10	-3.85	-7.02	0.04	-3.00	9.52	16	0.89
CRD0043	0.30	-7.40	-4.33	-0.43	0.03	-3.00	14.29	17	0.65
CRD0044	0.33	-9.58	-6.78	-2.31	0.03	-3.00	12.40	7	0.09
CRD0045	-0.22	3.97	-0.51	-5.47	0.01	-0.70	34.41	26	0.12

Table B-60: IRT statistics – Tunisia, 45-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	1.04	-3.65	-2.50	-0.47	0.33	-2.80	18.66	9	0.03
CRD0002	0.57	-5.62	-2.36	0.18	0.10	-1.90	20.86	15	0.14
CRD0003	1.29	-2.65	-1.39	0.28	0.50	-1.70	10.58	14	0.72
CRD0004	0.56	-2.28	-0.46	1.69	0.10	-0.40	47.82	26	0.01
CRD0005	1.22	-2.22	-1.48	-0.37	0.46	-1.40	14.11	14	0.44
CRD0006	0.97	-1.69	-0.63	1.25	0.29	-0.70	23.19	21	0.33
CRD0007	0.71	-5.63	-2.88	0.19	0.15	-3.00	18.30	12	0.11
CRD0008	0.97	-3.62	-2.42	-0.43	0.29	-2.60	12.77	10	0.24
CRD0009	1.25	-3.66	-2.65	-0.89	0.47	-2.90	16.16	6	0.01
CRD0010	1.66	-2.98	-1.90	-0.61	0.82	-2.10	14.43	7	0.04
CRD0011	1.26	-2.97	-1.85	-0.17	0.48	-2.20	14.74	12	0.26
CRD0012	0.65	-5.78	-3.17	0.77	0.12	-3.00	13.19	12	0.36
CRD0013	1.05	-3.99	-2.77	-0.51	0.33	-3.00	19.96	7	0.01
CRD0014	0.40	-5.81	-2.01	2.11	0.05	-2.20	31.37	21	0.07
CRD0015	0.91	-3.26	-1.81	0.44	0.25	-2.20	29.49	15	0.01
CRD0016	1.26	-3.94	-2.53	-0.37	0.47	-3.00	12.49	7	0.09
CRD0017	1.17	-4.20	-2.79	-0.74	0.40	-3.00	11.12	5	0.05
CRD0018	0.88	-3.39	-1.11	0.59	0.23	-0.70	36.95	18	0.01
CRD0019	1.12	-2.98	-1.63	-0.13	0.38	-1.70	20.70	13	0.08
CRD0020	0.93	-2.60	-1.20	0.66	0.27	-1.40	19.13	18	0.38

CRD0021	0.96	-3.79	-2.06	0.30	0.27	-2.60	18.07	13	0.16
CRD0022	0.84	-5.23	-3.04	-0.17	0.20	-3.00	10.93	9	0.28
CRD0023	2.64	-1.58	-1.26	-0.56	2.13	-1.30	8.08	9	0.53
CRD0024	2.28	-1.81	-0.97	-0.09	1.54	-1.00	17.39	11	0.10
CRD0025	0.75	-2.18	-1.00	0.65	0.18	-0.80	21.85	22	0.47
CRD0026	1.61	-1.75	-1.15	-0.55	0.80	-1.20	9.19	13	0.76
CRD0027	3.14	-1.56	-1.13	-0.49	3.00	-1.20	13.55	6	0.04
CRD0028	1.48	-2.09	-1.29	0.09	0.67	-1.50	15.73	13	0.26
CRD0029	2.30	-1.35	-0.99	-0.51	1.65	-0.90	10.63	11	0.48
CRD0030	0.54	-3.53	-1.29	1.19	0.09	-1.30	34.21	24	0.08
CRD0031	-0.04	18.48	-4.71	-26.78	0.00	-3.00	18.66	26	0.85
CRD0032	0.20	-8.52	-3.14	4.95	0.01	-3.00	34.18	26	0.13
CRD0033	-0.16	7.69	1.04	-6.35	0.01	0.80	32.53	26	0.18
CRD0034	0.16	-10.51	-1.04	8.55	0.01	-1.10	24.71	26	0.54
CRD0035	0.65	-3.99	-1.49	1.79	0.13	-2.20	20.01	20	0.46
CRD0036	0.53	-4.22	-1.72	2.26	0.09	-2.40	26.85	22	0.22
CRD0037	0.97	-4.13	-2.51	-0.04	0.28	-3.00	12.37	10	0.26
CRD0038	0.50	-4.92	-3.30	0.07	0.08	-3.00	13.82	15	0.54
CRD0039	0.02	-91.23	-11.89	81.24	0.00	-3.00	29.06	26	0.31
CRD0040	0.31	-5.96	-2.00	3.33	0.03	-2.30	37.47	26	0.07
CRD0041	0.12	-14.64	-2.20	13.05	0.00	-3.00	42.13	26	0.02
CRD0042	-0.13	-0.20	-10.99	-25.99	0.01	-3.00	14.30	16	0.58
CRD0043	0.44	-5.58	-3.84	-0.50	0.06	-3.00	20.26	14	0.12
CRD0044	0.70	-5.23	-3.78	-1.61	0.15	-3.00	8.68	7	0.28
CRD0045	0.06	-16.94	-0.02	21.12	0.00	0.80	24.71	26	0.54

Table B-61: IRT statistics – pooled, 30-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	0.92	-3.65	-2.31	0.18	0.26	-2.70	31.34	21	0.07
CRD0002	0.72	-4.71	-2.10	0.22	0.16	-1.80	40.64	22	0.01
CRD0003	0.73	-2.94	-1.27	1.25	0.16	-1.50	47.73	26	0.01
CRD0005	1.03	-3.02	-1.50	-0.04	0.33	-1.50	26.89	23	0.26
CRD0007	0.93	-4.09	-2.20	0.47	0.25	-2.80	33.98	19	0.02
CRD0008	1.05	-3.38	-2.27	-0.19	0.33	-2.60	22.03	19	0.28
CRD0009	0.96	-3.85	-2.86	-0.68	0.28	-3.00	15.86	16	0.46

CRD0010	1.37	-3.05	-2.09	-0.35	0.57	-2.40	31.73	15	0.01
CRD0011	1.26	-2.45	-1.39	0.19	0.48	-1.60	40.51	22	0.01
CRD0012	0.70	-5.21	-3.05	0.65	0.14	-3.00	26.45	21	0.19
CRD0013	1.16	-3.66	-2.35	-0.59	0.41	-2.70	27.30	15	0.03
CRD0014	0.60	-4.41	-1.70	1.75	0.11	-2.40	29.24	25	0.25
CRD0015	0.75	-4.26	-2.49	0.19	0.17	-2.90	24.69	23	0.37
CRD0016	0.93	-4.16	-2.49	0.02	0.26	-3.00	27.70	19	0.09
CRD0017	0.82	-4.79	-3.03	-0.10	0.20	-3.00	36.27	17	0.00
CRD0018	0.71	-3.71	-1.38	1.01	0.15	-1.40	49.78	25	0.00
CRD0019	1.08	-2.77	-1.37	0.20	0.35	-1.50	26.39	22	0.24
CRD0020	0.83	-2.63	-0.73	1.22	0.21	-0.80	52.63	25	0.00
CRD0021	0.90	-3.35	-1.69	0.75	0.25	-2.20	29.76	23	0.16
CRD0022	0.64	-5.52	-3.40	-0.14	0.12	-3.00	39.42	19	0.00
CRD0023	1.95	-1.51	-1.09	-0.34	1.18	-1.00	32.90	18	0.02
CRD0024	1.91	-1.63	-0.82	0.22	1.10	-1.00	33.92	20	0.03
CRD0025	0.80	-2.18	-0.82	0.64	0.20	-0.80	31.07	26	0.23
CRD0026	1.64	-1.57	-0.94	-0.16	0.83	-0.90	23.21	20	0.28
CRD0027	1.91	-1.67	-1.09	-0.19	1.13	-1.10	23.37	18	0.18
CRD0028	1.16	-1.94	-1.02	0.51	0.41	-1.10	33.74	24	0.09
CRD0029	2.08	-1.33	-0.84	-0.16	1.34	-0.80	20.36	19	0.37
CRD0030	0.55	-2.97	-0.99	1.60	0.09	-0.90	28.15	26	0.35
CRD0035	0.60	-4.36	-1.80	1.72	0.11	-2.50	37.40	25	0.05
CRD0036	0.56	-3.69	-1.47	2.05	0.09	-1.90	41.28	26	0.03

Table B-62: IRT statistics – Egypt, 30-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	0.77	-4.41	-2.29	0.57	0.18	-2.90	13.79	14	0.47
CRD0002	1.21	-3.25	-1.57	0.06	0.43	-1.50	27.53	13	0.01
CRD0003	0.44	-3.70	-1.16	3.23	0.06	-1.60	40.41	26	0.04
CRD0005	1.04	-3.35	-1.36	0.21	0.32	-1.00	14.04	15	0.52
CRD0007	0.84	-4.60	-2.12	0.61	0.20	-2.40	13.72	14	0.47
CRD0008	1.03	-3.45	-2.03	-0.06	0.32	-2.40	16.62	13	0.22
CRD0009	1.30	-2.93	-2.22	-0.73	0.51	-2.30	6.99	8	0.54
CRD0010	1.29	-3.12	-2.04	-0.28	0.50	-2.40	13.20	9	0.15
CRD0011	1.23	-2.22	-1.09	0.39	0.46	-1.30	35.03	18	0.01

CRD0012	0.56	-5.15	-3.06	1.16	0.09	-3.00	22.83	15	0.09
CRD0013	1.42	-2.75	-1.54	-0.18	0.60	-1.70	16.55	12	0.17
CRD0014	0.51	-4.91	-1.41	2.88	0.08	-2.20	17.33	21	0.69
CRD0015	0.64	-4.90	-2.75	0.10	0.12	-3.00	16.55	14	0.28
CRD0016	0.78	-4.69	-2.42	0.43	0.18	-3.00	20.01	14	0.13
CRD0017	0.59	-5.08	-2.96	0.61	0.11	-3.00	14.34	14	0.42
CRD0018	0.50	-4.56	-1.31	2.08	0.08	-1.40	29.09	22	0.14
CRD0019	1.05	-2.37	-1.02	0.59	0.34	-1.20	22.14	20	0.33
CRD0020	0.38	-5.27	-0.57	3.02	0.04	0.00	19.97	26	0.79
CRD0021	0.84	-3.21	-1.35	1.10	0.21	-1.80	14.56	19	0.75
CRD0022	0.58	-5.06	-3.04	-0.08	0.10	-3.00	13.02	14	0.53
CRD0023	1.36	-1.55	-0.98	-0.08	0.57	-0.90	32.51	16	0.01
CRD0024	1.69	-1.35	-0.55	0.56	0.87	-0.70	31.45	17	0.02
CRD0025	0.98	-2.15	-0.77	0.51	0.30	-0.80	23.82	21	0.30
CRD0026	1.19	-1.60	-0.77	0.29	0.44	-0.70	30.63	20	0.06
CRD0027	1.28	-1.91	-0.97	0.28	0.50	-1.00	27.68	19	0.09
CRD0028	0.84	-1.94	-0.75	1.23	0.22	-0.70	28.26	24	0.25
CRD0029	1.53	-1.33	-0.67	0.21	0.73	-0.60	15.77	20	0.73
CRD0030	0.70	-2.16	-0.92	1.56	0.15	-0.80	22.48	25	0.61
CRD0035	0.58	-4.39	-1.86	1.40	0.10	-2.40	32.39	20	0.04
CRD0036	0.47	-4.14	-1.42	2.42	0.07	-1.80	20.91	25	0.70

Table B-63: IRT statistics – Palestine, 30-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	1.04	-2.93	-2.07	0.57	0.32	-2.30	11.95	8	0.15
CRD0002	0.71	-4.67	-2.04	0.48	0.15	-1.90	16.69	14	0.27
CRD0003	0.56	-3.35	-1.21	1.85	0.10	-1.40	24.24	22	0.33
CRD0005	0.88	-3.87	-1.63	0.11	0.23	-1.20	21.69	14	0.09
CRD0007	1.29	-2.84	-1.83	0.60	0.49	-2.30	6.90	9	0.65
CRD0008	1.24	-2.93	-2.28	-0.05	0.45	-2.50	14.78	6	0.02
CRD0009	0.71	-4.59	-3.41	-0.13	0.15	-3.00	10.55	6	0.10
CRD0010	1.23	-3.04	-2.33	-0.11	0.45	-2.60	11.66	6	0.07
CRD0011	1.36	-2.16	-1.23	0.39	0.56	-1.50	13.63	13	0.40
CRD0012	0.81	-6.80	-3.44	0.28	0.18	-3.00	17.24	7	0.02
CRD0013	1.12	-5.04	-3.38	-1.19	0.36	-3.00	12.58	4	0.01

CRD0014	0.95	-3.43	-1.76	1.01	0.27	-2.40	11.32	11	0.42
CRD0015	0.91	-4.07	-2.60	0.00	0.25	-3.00	12.00	8	0.15
CRD0016	0.75	-4.49	-2.83	0.11	0.17	-3.00	14.75	9	0.10
CRD0017	0.69	-6.92	-4.08	0.15	0.12	-0.20	7.22	7	0.41
CRD0018	0.72	-3.83	-1.94	0.80	0.16	-2.40	20.43	14	0.12
CRD0019	1.04	-3.19	-1.52	0.14	0.33	-1.50	13.05	13	0.44
CRD0020	1.15	-1.89	-0.50	1.11	0.40	-0.70	37.35	18	0.00
CRD0021	0.82	-3.50	-1.85	0.98	0.20	-2.40	14.46	13	0.34
CRD0022	0.57	-6.61	-4.22	-0.19	0.09	-3.00	16.65	7	0.02
CRD0023	1.83	-1.57	-1.13	-0.35	1.04	-1.00	13.09	12	0.36
CRD0024	1.58	-2.02	-1.06	0.23	0.76	-1.30	11.43	11	0.41
CRD0025	0.79	-2.04	-0.63	0.72	0.19	-0.70	25.15	23	0.34
CRD0026	2.15	-1.51	-0.93	-0.14	1.42	-1.00	17.80	12	0.12
CRD0027	1.61	-1.82	-1.33	-0.26	0.79	-1.30	5.86	12	0.92
CRD0028	1.03	-2.15	-1.12	0.50	0.33	-1.10	29.04	18	0.05
CRD0029	2.32	-1.41	-0.89	-0.13	1.65	-1.00	11.73	12	0.47
CRD0030	0.35	-4.35	-0.89	2.59	0.04	-0.90	37.30	26	0.07
CRD0035	0.73	-3.83	-1.75	1.59	0.16	-2.50	26.28	15	0.04
CRD0036	0.76	-2.73	-1.23	1.43	0.17	-1.50	31.27	19	0.04

Table B-64: IRT statistics – Tunisia, 30-item model (Respect for Diversity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
CRD0001	0.93	-4.02	-2.75	-0.52	0.27	-3.00	18.00	8	0.02
CRD0002	0.53	-5.97	-2.51	0.18	0.09	-2.00	22.51	16	0.13
CRD0003	1.12	-2.96	-1.54	0.31	0.38	-1.90	12.54	13	0.48
CRD0005	1.16	-2.30	-1.53	-0.38	0.42	-1.40	16.19	14	0.30
CRD0007	0.69	-5.80	-2.97	0.18	0.14	-3.00	12.10	12	0.44
CRD0008	1.01	-3.50	-2.34	-0.43	0.31	-2.60	12.90	10	0.23
CRD0009	1.17	-3.86	-2.78	-0.93	0.42	-3.00	12.37	6	0.05
CRD0010	1.71	-2.95	-1.89	-0.61	0.87	-2.10	25.74	6	0.00
CRD0011	1.17	-3.15	-1.96	-0.19	0.42	-2.30	28.79	11	0.00
CRD0012	0.70	-5.39	-2.96	0.72	0.14	-3.00	12.92	11	0.30
CRD0013	1.03	-4.07	-2.82	-0.52	0.32	-3.00	13.67	7	0.06
CRD0014	0.39	-5.98	-2.07	2.16	0.05	-2.30	29.39	21	0.11
CRD0015	0.89	-3.34	-1.85	0.44	0.24	-2.20	20.62	15	0.15

CRD0016	1.17	-4.17	-2.66	-0.36	0.40	-3.00	14.54	8	0.07
CRD0017	1.12	-4.34	-2.87	-0.74	0.37	-3.00	15.01	6	0.02
CRD0018	0.88	-3.39	-1.10	0.61	0.23	-0.70	43.23	17	0.00
CRD0019	1.07	-3.07	-1.67	-0.11	0.35	-1.80	22.84	14	0.06
CRD0020	0.93	-2.59	-1.19	0.67	0.26	-1.40	18.50	19	0.49
CRD0021	0.97	-3.75	-2.04	0.32	0.28	-2.60	12.26	12	0.42
CRD0022	0.81	-5.39	-3.12	-0.16	0.19	-3.00	15.69	9	0.07
CRD0023	2.69	-1.56	-1.24	-0.55	2.21	-1.20	10.41	8	0.24
CRD0024	2.33	-1.79	-0.96	-0.08	1.60	-1.00	15.02	10	0.13
CRD0025	0.75	-2.17	-0.99	0.67	0.18	-0.80	18.16	22	0.70
CRD0026	1.70	-1.69	-1.10	-0.53	0.90	-1.10	17.07	13	0.20
CRD0027	3.31	-1.53	-1.11	-0.47	3.32	-1.20	14.65	6	0.02
CRD0028	1.48	-2.09	-1.28	0.10	0.66	-1.50	20.94	14	0.10
CRD0029	2.43	-1.32	-0.96	-0.50	1.84	-0.90	9.32	10	0.50
CRD0030	0.56	-3.37	-1.23	1.15	0.10	-1.20	31.31	24	0.14
CRD0035	0.64	-4.05	-1.50	1.82	0.12	-2.20	21.49	20	0.37
CRD0036	0.52	-4.29	-1.74	2.29	0.08	-2.40	41.87	22	0.01

Model Statistics

Table B-65: Fit indices and reliability, 45-item model (Respect for Diversity)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1709.67	855	0.00	0.03	0.05	0.90	0.91	0.84
	(59.73)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	1193.94	855	0.00	0.03	0.06	0.87	0.88	0.82
	(33.87)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Palestine	1132.01	855	0.00	0.03	0.06	0.89	0.90	0.84
	(45.43)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Tunisia	1223.04	855	0.00	0.04	0.06	0.89	0.90	0.85
	(50.28)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-66: Measurement invariance test, 45-item model (Respect for Diversity)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3548.90	2565	0.00	0.02	0.06	0.06	0.06	0.93	0.93
	(61.16)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Metric model	3711.57	2655	0.00	0.02	0.07	0.07	0.06	0.92	0.93
	(64.11)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	4289.32	2923	0.00	0.02	0.07	0.07	0.06	0.91	0.90
	(44.23)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	162.67	90	0.00	0.00	0.01	0.00	0.00	-0.01	-0.01
Difference: Scalar - Metric	577.76	268	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02

Table B-67: Fit indices and reliability, 30-item model (Respect for Diversity)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	577.71	345	0.00	0.03	0.05	0.96	0.97	0.82
	(29.47)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	441.46	345	0.01	0.03	0.06	0.95	0.95	0.81
	(29.35)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-
Palestine	442.92	345	0.01	0.03	0.07	0.95	0.95	0.83
	(28.40)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-
Tunisia	491.26	345	0.00	0.03	0.06	0.94	0.94	0.83
	(14.52)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-68: Measurement invariance test, 30-item model (Respect for Diversity)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1415.13	1035	0.00	0.02	0.06	0.07	0.07	0.96	0.97
	(48.61)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Metric model	1494.12	1095	0.00	0.02	0.07	0.07	0.06	0.96	0.96
	(40.89)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Scalar model	1823.10	1273	0.00	0.02	0.07	0.07	0.06	0.96	0.95
	(39.00)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	78.98	60	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	328.98	178	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01

LEARNING: CREATIVITY | ITEM STATISTICS

Table B-69: Response frequencies for all items, pooled model (Creativity)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.04	0.10	0.50	0.36
CPA0002	0.05	0.09	0.35	0.52
CPA0003	0.06	0.19	0.33	0.42
CPA0004	0.04	0.06	0.24	0.66
CPA0005	0.08	0.19	0.43	0.31
CPA0006	0.14	0.32	0.29	0.25
CPA0007	0.18	0.37	0.28	0.17
CPA0008	0.24	0.36	0.22	0.17
CPA0009	0.03	0.06	0.31	0.59
CPA0010	0.10	0.22	0.40	0.28
CPA0011	0.15	0.35	0.35	0.16
CPA0012	0.13	0.28	0.28	0.32
CPA0013	0.09	0.21	0.39	0.31
CPA0014	0.11	0.37	0.33	0.19
CPA0015	0.16	0.30	0.30	0.24
CPA0016	0.19	0.31	0.32	0.18
CPA0017	0.04	0.08	0.38	0.50
CPA0018	0.05	0.14	0.42	0.39
CPA0019	0.10	0.26	0.39	0.26
CPA0020	0.11	0.24	0.40	0.25
CPA0021	0.11	0.26	0.31	0.32
CPA0022	0.12	0.34	0.32	0.23
CPA0023	0.13	0.21	0.34	0.32
CPA0024	0.10	0.18	0.32	0.40
CPA0025	0.05	0.19	0.38	0.39
CPA0026	0.09	0.27	0.36	0.28
CPA0027	0.16	0.33	0.31	0.20
CPA0028	0.08	0.22	0.39	0.32
CPA0029	0.11	0.20	0.31	0.38
CPA0030	0.09	0.16	0.36	0.39
CPA0031	0.02	0.04	0.28	0.66
CPA0032	0.05	0.08	0.33	0.54

CPA0033	0.03	0.08	0.36	0.53
CPA0034	0.04	0.11	0.22	0.62
CPA0035	0.13	0.23	0.36	0.28
CPA0036	0.04	0.11	0.32	0.54
CPA0037	0.06	0.19	0.44	0.31
CPA0038	0.01	0.03	0.24	0.72
CPA0039	0.07	0.12	0.37	0.44
CPA0040	0.10	0.25	0.43	0.22
CPA0041	0.05	0.15	0.38	0.43
CPA0042	0.04	0.11	0.43	0.42
CPA0043	0.07	0.12	0.45	0.36
CPA0044	0.09	0.23	0.43	0.26
CPA0045	0.04	0.11	0.39	0.47

Table B-70: Response frequencies for all items, Egypt model (Creativity)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
CPA0001	0.05	0.14	0.52	0.29
CPA0002	0.07	0.09	0.34	0.49
CPA0003	0.05	0.20	0.27	0.47
CPA0004	0.06	0.07	0.20	0.67
CPA0005	0.10	0.24	0.39	0.27
CPA0006	0.13	0.30	0.34	0.24
CPA0007	0.14	0.36	0.33	0.17
CPA0008	0.22	0.36	0.25	0.18
CPA0009	0.05	0.11	0.35	0.48
CPA0010	0.07	0.23	0.44	0.25
CPA0011	0.14	0.37	0.33	0.16
CPA0012	0.14	0.23	0.30	0.34
CPA0013	0.09	0.14	0.38	0.39
CPA0014	0.09	0.33	0.37	0.21
CPA0015	0.15	0.23	0.36	0.25
CPA0016	0.22	0.30	0.32	0.15
CPA0017	0.03	0.05	0.32	0.60
CPA0018	0.04	0.12	0.40	0.44
CPA0019	0.09	0.20	0.40	0.31
CPA0020	0.07	0.22	0.41	0.30

CPA0021	0.15	0.27	0.36	0.21
CPA0022	0.09	0.33	0.36	0.22
CPA0023	0.14	0.21	0.35	0.30
CPA0024	0.14	0.27	0.34	0.25
CPA0025	0.05	0.24	0.39	0.31
CPA0026	0.07	0.27	0.40	0.26
CPA0027	0.11	0.22	0.42	0.24
CPA0028	0.08	0.23	0.42	0.26
CPA0029	0.11	0.22	0.32	0.34
CPA0030	0.09	0.22	0.37	0.32
CPA0031	0.03	0.05	0.29	0.63
CPA0032	0.05	0.09	0.31	0.54
CPA0033	0.03	0.08	0.35	0.53
CPA0034	0.06	0.18	0.34	0.42
CPA0035	0.16	0.27	0.33	0.23
CPA0036	0.04	0.15	0.35	0.46
CPA0037	0.05	0.14	0.46	0.35
CPA0038	0.02	0.06	0.25	0.67
CPA0039	0.09	0.13	0.36	0.42
CPA0040	0.08	0.26	0.40	0.26
CPA0041	0.06	0.14	0.36	0.44
CPA0042	0.05	0.14	0.37	0.43
CPA0043	0.10	0.17	0.37	0.36
CPA0044	0.08	0.20	0.46	0.26
CPA0045	0.04	0.12	0.37	0.47

Table B-71: Response frequencies for all items, Palestine model (Creativity)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.04	0.05	0.43	0.49
CPA0002	0.02	0.04	0.39	0.55
CPA0003	0.07	0.13	0.37	0.44
CPA0004	0.02	0.03	0.27	0.69
CPA0005	0.04	0.15	0.48	0.33
CPA0006	0.10	0.34	0.30	0.26
CPA0007	0.18	0.33	0.28	0.21
CPA0008	0.20	0.35	0.22	0.22

CPA0009	0.02	0.05	0.40	0.53
CPA0010	0.10	0.18	0.39	0.34
CPA0011	0.12	0.29	0.43	0.17
CPA0012	0.10	0.25	0.27	0.38
CPA0013	0.05	0.18	0.45	0.33
CPA0014	0.07	0.34	0.41	0.18
CPA0015	0.11	0.34	0.29	0.26
CPA0016	0.19	0.30	0.33	0.18
CPA0017	0.05	0.11	0.41	0.43
CPA0018	0.06	0.09	0.50	0.35
CPA0019	0.11	0.25	0.36	0.28
CPA0020	0.13	0.20	0.43	0.24
CPA0021	0.08	0.27	0.24	0.40
CPA0022	0.13	0.32	0.29	0.26
CPA0023	0.13	0.20	0.34	0.33
CPA0024	0.10	0.15	0.35	0.40
CPA0025	0.04	0.14	0.39	0.43
CPA0026	0.09	0.24	0.36	0.30
CPA0027	0.16	0.33	0.29	0.22
CPA0028	0.08	0.18	0.38	0.36
CPA0029	0.13	0.19	0.31	0.37
CPA0030	0.09	0.15	0.32	0.44
CPA0031	0.00	0.04	0.28	0.68
CPA0032	0.04	0.06	0.36	0.54
CPA0033	0.03	0.05	0.41	0.52
CPA0034	0.04	0.08	0.14	0.74
CPA0035	0.08	0.16	0.47	0.29
CPA0036	0.02	0.07	0.27	0.64
CPA0037	0.05	0.22	0.46	0.28
CPA0038	0.01	0.02	0.26	0.71
CPA0039	0.04	0.11	0.42	0.43
CPA0040	0.08	0.19	0.55	0.18
CPA0041	0.04	0.15	0.40	0.41
CPA0042	0.03	0.08	0.40	0.49
CPA0043	0.04	0.10	0.54	0.33
CPA0044	0.03	0.22	0.48	0.27
CPA0045	0.02	0.08	0.46	0.44

Table B-72: Response frequencies for all items, Tunisia model (Creativity)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
CPA0001	0.02	0.11	0.54	0.33
CPA0002	0.05	0.12	0.31	0.52
CPA0003	0.06	0.22	0.37	0.35
CPA0004	0.04	0.08	0.27	0.62
CPA0005	0.08	0.18	0.42	0.32
CPA0006	0.19	0.32	0.23	0.26
CPA0007	0.23	0.41	0.22	0.14
CPA0008	0.29	0.38	0.20	0.12
CPA0009	0.01	0.02	0.19	0.77
CPA0010	0.13	0.25	0.37	0.25
CPA0011	0.19	0.37	0.29	0.15
CPA0012	0.14	0.36	0.26	0.23
CPA0013	0.12	0.32	0.36	0.21
CPA0014	0.17	0.43	0.22	0.17
CPA0015	0.21	0.32	0.25	0.22
CPA0016	0.15	0.34	0.31	0.20
CPA0017	0.04	0.10	0.43	0.44
CPA0018	0.07	0.20	0.36	0.37
CPA0019	0.11	0.32	0.39	0.18
CPA0020	0.14	0.30	0.35	0.21
CPA0021	0.10	0.25	0.30	0.36
CPA0022	0.14	0.35	0.29	0.22
CPA0023	0.12	0.23	0.33	0.33
CPA0024	0.05	0.11	0.27	0.56
CPA0025	0.05	0.17	0.35	0.43
CPA0026	0.12	0.29	0.33	0.27
CPA0027	0.21	0.45	0.21	0.13
CPA0028	0.08	0.23	0.35	0.34
CPA0029	0.09	0.17	0.30	0.44
CPA0030	0.08	0.11	0.39	0.42
CPA0031	0.02	0.04	0.28	0.67
CPA0032	0.07	0.09	0.31	0.54
CPA0033	0.04	0.09	0.33	0.54
CPA0034	0.03	0.06	0.17	0.74

CPA0035	0.13	0.23	0.30	0.34
CPA0036	0.05	0.10	0.32	0.53
CPA0037	0.08	0.23	0.39	0.30
CPA0038	0.01	0.01	0.20	0.78
CPA0039	0.07	0.13	0.34	0.46
CPA0040	0.12	0.29	0.36	0.22
CPA0041	0.04	0.16	0.37	0.43
CPA0042	0.04	0.11	0.50	0.35
CPA0043	0.06	0.10	0.47	0.38
CPA0044	0.14	0.27	0.35	0.24
CPA0045	0.05	0.12	0.34	0.49

Table B-73: Descriptive statistics for all items, pooled model (Creativity)

		Measures of Central Tendency		Measures of dispersion
Item	**n**	**Median**	**Mode**	**IQR**
LCR0001	666	3	3	1
LCR0002	667	4	4	1
LCR0003	664	3	4	1
LCR0004	669	4	4	1
LCR0005	666	3	3	2
LCR0006	669	3	2	2
LCR0007	665	2	2	1
LCR0008	665	2	2	1
LCR0009	670	4	4	1
LCR0010	670	3	3	2
LCR0011	668	3	2	1
LCR0012	668	3	4	2
LCR0013	668	3	3	2
LCR0014	665	3	2	1
LCR0015	666	3	3	1
LCR0016	664	2	3	1
LCR0017	663	3	4	1
LCR0018	669	3	3	1
LCR0019	664	3	3	2
LCR0020	664	3	3	2
LCR0021	666	3	4	2
LCR0022	663	3	2	1

LCR0023	664	3	3	2
LCR0024	663	3	4	2
LCR0025	665	3	4	1
LCR0026	667	3	3	2
LCR0027	667	3	2	1
LCR0028	669	3	3	2
LCR0029	666	3	4	2
LCR0030	659	3	4	1.5
LCR0031	677	4	4	1
LCR0032	676	4	4	1
LCR0033	679	4	4	1
LCR0034	679	4	4	1
LCR0035	675	3	3	2
LCR0036	678	4	4	1
LCR0037	674	3	3	1.75
LCR0038	679	4	4	1
LCR0039	678	3	4	1
LCR0040	676	3	3	1
LCR0041	675	3	4	1
LCR0042	675	3	3	1
LCR0043	675	3	3	1
LCR0044	678	3	3	2
LCR0045	678	3	4	1

Table B-74: Descriptive statistics for all items, Egypt model (Creativity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCR0001	241	3	3	1
LCR0002	243	3	4	1
LCR0003	238	3	4	1.75
LCR0004	245	4	4	1
LCR0005	241	3	3	2
LCR0006	244	3	2	1
LCR0007	241	3	2	1
LCR0008	242	2	2	1
LCR0009	244	3	4	1
LCR0010	244	3	3	1.25

LCR0011	243	2	2	1
LCR0012	244	3	4	2
LCR0013	244	3	3	1
LCR0014	243	3	2	1
LCR0015	244	3	3	2
LCR0016	246	2	3	1
LCR0017	245	4	4	1
LCR0018	246	3	3	1
LCR0019	245	3	3	2
LCR0020	246	3	3	2
LCR0021	245	3	4	1
LCR0022	244	3	2	1
LCR0023	245	3	3	2
LCR0024	244	3	4	1.25
LCR0025	245	3	4	2
LCR0026	245	3	3	2
LCR0027	245	3	2	1
LCR0028	246	3	3	2
LCR0029	245	3	4	2
LCR0030	243	3	4	2
LCR0031	249	4	4	1
LCR0032	248	4	4	1
LCR0033	251	4	4	1
LCR0034	250	3	4	1
LCR0035	249	3	3	1
LCR0036	250	3	4	1
LCR0037	248	3	3	1
LCR0038	250	4	4	1
LCR0039	251	3	4	1
LCR0040	251	3	3	2
LCR0041	250	3	4	1
LCR0042	249	3	3	1
LCR0043	251	3	3	2
LCR0044	252	3	3	2
LCR0045	252	3	4	1

Table B-75: Descriptive statistics for all items, Palestine model (Creativity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCR0001	199	3	3	1
LCR0002	198	4	4	1
LCR0003	199	3	4	1
LCR0004	198	4	4	1
LCR0005	198	3	3	1
LCR0006	198	3	2	2
LCR0007	199	2	2	1
LCR0008	198	2	2	1
LCR0009	199	4	4	1
LCR0010	199	3	3	2
LCR0011	199	3	2	1
LCR0012	198	3	4	2
LCR0013	199	3	3	1
LCR0014	197	3	2	1
LCR0015	196	3	3	2
LCR0016	193	3	3	1
LCR0017	191	3	4	1
LCR0018	195	3	3	1
LCR0019	192	3	3	2
LCR0020	191	3	3	1
LCR0021	193	3	4	2
LCR0022	193	3	2	2
LCR0023	193	3	3	2
LCR0024	193	3	4	1
LCR0025	192	3	4	1
LCR0026	194	3	3	2
LCR0027	194	3	2	1
LCR0028	195	3	3	2
LCR0029	194	3	4	2
LCR0030	190	3	4	1
LCR0031	199	4	4	1
LCR0032	199	4	4	1
LCR0033	198	4	4	1
LCR0034	199	4	4	1

LCR0035	198	3	3	1
LCR0036	198	4	4	1
LCR0037	197	3	3	2
LCR0038	199	4	4	1
LCR0039	198	3	4	1
LCR0040	197	3	3	1
LCR0041	197	3	4	1
LCR0042	198	3	3	1
LCR0043	196	3	3	1
LCR0044	198	3	3	1
LCR0045	199	3	4	1

Table B-76: Descriptive statistics for all items, Tunisia model (Creativity)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCR0001	226	3	3	1
LCR0002	226	4	4	1
LCR0003	227	3	4	2
LCR0004	226	4	4	1
LCR0005	227	3	3	2
LCR0006	227	2	2	2
LCR0007	225	2	2	1
LCR0008	225	2	2	2
LCR0009	227	4	4	0
LCR0010	227	3	3	1.5
LCR0011	226	2	2	1
LCR0012	226	2	4	1
LCR0013	225	3	3	1
LCR0014	225	2	2	1
LCR0015	226	2	3	1
LCR0016	225	3	3	1
LCR0017	227	3	4	1
LCR0018	228	3	3	2
LCR0019	227	3	3	1
LCR0020	227	3	3	1
LCR0021	228	3	4	2
LCR0022	226	3	2	1

LCR0023	226	3	3	2
LCR0024	226	4	4	1
LCR0025	228	3	4	1
LCR0026	228	3	3	2
LCR0027	228	2	2	1
LCR0028	228	3	3	2
LCR0029	227	3	4	2
LCR0030	226	3	4	1
LCR0031	229	4	4	1
LCR0032	229	4	4	1
LCR0033	230	4	4	1
LCR0034	230	4	4	1
LCR0035	228	3	3	2
LCR0036	230	4	4	1
LCR0037	229	3	3	2
LCR0038	230	4	4	0
LCR0039	229	3	4	1
LCR0040	228	3	3	1
LCR0041	228	3	4	1
LCR0042	228	3	3	1
LCR0043	228	3	3	1
LCR0044	228	3	3	1
LCR0045	227	3	4	1

Table B-77: IRT statistics – pooled, 45-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ1	δ2	δ3	Maximum Information	θ	χ2	df	p-value
LCR0001	0.76	-4.72	-2.76	0.77	0.17	-3.00	23.70	20	0.26
LCR0002	0.60	-5.37	-3.38	-0.14	0.11	-3.00	37.43	22	0.02
LCR0003	0.52	-5.43	-2.30	0.64	0.08	-2.20	26.62	25	0.37
LCR0004	0.46	-7.16	-5.03	-1.51	0.06	-3.00	27.50	21	0.15
LCR0005	0.42	-6.17	-2.56	1.99	0.05	-3.00	25.38	26	0.50
LCR0006	0.66	-3.02	-0.30	1.79	0.13	0.00	23.40	26	0.61
LCR0007	0.78	-2.18	0.27	2.23	0.18	0.70	28.93	26	0.31
LCR0008	0.75	-1.78	0.57	2.29	0.17	0.80	36.63	26	0.08
LCR0009	0.51	-7.31	-4.81	-0.82	0.07	-3.00	22.87	19	0.24

LCR0010	0.66	-3.62	-1.26	1.57	0.13	-1.70	37.27	26	0.07
LCR0011	0.80	-2.50	-0.08	2.35	0.19	-0.10	28.73	26	0.32
LCR0012	0.88	-2.54	-0.55	0.99	0.24	-0.40	23.54	25	0.55
LCR0013	0.85	-3.17	-1.19	1.08	0.22	-1.50	30.41	24	0.17
LCR0014	0.92	-2.66	-0.16	1.84	0.25	0.40	20.16	25	0.74
LCR0015	0.78	-2.45	-0.30	1.61	0.19	-0.10	28.05	26	0.36
LCR0016	0.42	-3.61	-0.01	3.74	0.05	-0.10	31.79	26	0.20
LCR0017	0.71	-4.84	-2.99	0.06	0.15	-3.00	27.33	20	0.13
LCR0018	0.76	-4.09	-2.12	0.68	0.17	-2.70	26.42	23	0.28
LCR0019	1.05	-2.47	-0.66	1.25	0.33	-0.80	27.37	24	0.29
LCR0020	1.04	-2.35	-0.71	1.26	0.33	-1.10	25.64	25	0.43
LCR0021	0.73	-3.13	-0.80	1.12	0.16	-0.60	27.98	26	0.36
LCR0022	0.97	-2.43	-0.23	1.45	0.28	0.20	26.29	25	0.39
LCR0023	0.86	-2.48	-0.89	1.00	0.23	-1.00	25.64	25	0.43
LCR0024	0.10	-22.47	-9.91	3.89	0.00	-3.00	38.25	26	0.06
LCR0025	0.66	-4.83	-1.95	0.75	0.13	-1.70	23.12	23	0.45
LCR0026	0.86	-2.99	-0.77	1.28	0.22	-0.60	32.89	25	0.13
LCR0027	0.98	-2.01	-0.06	1.68	0.29	0.20	22.98	25	0.58
LCR0028	0.72	-3.71	-1.35	1.17	0.16	-1.50	31.67	25	0.17
LCR0029	0.45	-4.80	-1.94	1.07	0.06	-1.90	14.42	26	0.97
LCR0030	0.50	-4.87	-2.35	0.90	0.08	-2.50	19.97	26	0.79
LCR0031	1.66	-3.09	-2.17	-0.53	0.82	-2.50	18.36	10	0.05
LCR0032	0.87	-3.63	-2.38	-0.18	0.23	-2.60	31.15	22	0.09
LCR0033	1.33	-3.09	-1.99	-0.09	0.53	-2.40	14.09	16	0.59
LCR0034	0.85	-4.10	-2.28	-0.70	0.22	-2.20	45.51	21	0.00
LCR0035	0.57	-3.57	-1.15	1.74	0.10	-1.40	26.25	26	0.45
LCR0036	1.46	-2.80	-1.58	-0.14	0.63	-1.80	34.95	17	0.01
LCR0037	1.08	-2.94	-1.17	0.92	0.35	-1.50	15.30	22	0.85
LCR0038	1.35	-3.81	-2.79	-0.88	0.55	-3.00	17.51	10	0.06
LCR0039	0.71	-3.97	-2.25	0.40	0.15	-2.50	26.84	25	0.36
LCR0040	0.89	-2.79	-0.82	1.63	0.23	-1.30	28.46	25	0.29
LCR0041	0.92	-3.60	-1.73	0.40	0.26	-2.00	26.76	22	0.22
LCR0042	1.07	-3.37	-1.90	0.38	0.34	-2.40	25.81	20	0.17
LCR0043	0.93	-3.18	-1.79	0.77	0.26	-2.30	18.62	23	0.72
LCR0044	0.92	-2.87	-0.96	1.35	0.25	-1.40	24.76	25	0.48
LCR0045	1.30	-2.97	-1.71	0.15	0.50	-2.10	17.76	18	0.47

Table B-78: IRT statistics – Egypt, 45-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.74	-4.38	-2.30	1.21	0.17	-3.00	23.26	14	0.06
LCR0002	0.74	-3.87	-2.48	-0.04	0.17	-2.60	13.83	14	0.46
LCR0003	0.48	-6.27	-2.47	0.14	0.07	-2.10	18.56	17	0.35
LCR0004	0.81	-3.78	-2.65	-1.10	0.21	-2.50	8.43	11	0.67
LCR0005	0.37	-6.07	-1.95	2.62	0.04	-2.30	14.03	22	0.90
LCR0006	0.51	-3.99	-0.73	2.33	0.08	-0.60	34.28	22	0.05
LCR0007	0.58	-3.51	-0.15	2.80	0.10	0.30	29.95	22	0.12
LCR0008	0.64	-2.26	0.41	2.52	0.13	0.70	33.08	25	0.13
LCR0009	0.75	-4.39	-2.52	0.00	0.17	-2.90	15.00	14	0.38
LCR0010	0.64	-4.32	-1.47	1.80	0.12	-1.90	18.75	20	0.54
LCR0011	0.75	-2.84	-0.05	2.38	0.17	0.40	22.66	20	0.31
LCR0012	0.57	-3.57	-1.23	1.15	0.10	-1.20	26.18	22	0.24
LCR0013	0.93	-2.96	-1.68	0.45	0.26	-1.90	22.42	16	0.13
LCR0014	1.02	-2.81	-0.53	1.46	0.30	-0.30	14.94	19	0.73
LCR0015	0.66	-2.98	-0.92	1.68	0.13	-1.20	26.37	22	0.24
LCR0016	0.23	-5.50	0.54	7.59	0.02	0.10	24.02	26	0.57
LCR0017	0.82	-4.59	-3.25	-0.50	0.20	-3.00	22.16	8	0.00
LCR0018	0.58	-5.79	-2.96	0.51	0.10	-3.00	16.84	15	0.33
LCR0019	0.96	-2.73	-1.02	1.06	0.28	-1.40	26.32	18	0.09
LCR0020	1.02	-2.90	-1.02	1.04	0.31	-1.20	20.20	17	0.26
LCR0021	0.52	-3.42	-0.55	2.71	0.08	-0.80	20.38	25	0.73
LCR0022	0.87	-2.98	-0.39	1.72	0.23	0.10	24.38	18	0.14
LCR0023	1.02	-2.03	-0.67	1.04	0.32	-0.90	29.83	21	0.10
LCR0024	-0.15	12.35	2.45	-7.52	0.01	2.50	36.25	26	0.09
LCR0025	0.90	-3.52	-1.07	1.08	0.24	-0.70	20.65	16	0.19
LCR0026	0.93	-3.10	-0.74	1.39	0.25	-0.50	16.07	18	0.59
LCR0027	0.95	-2.46	-0.81	1.45	0.27	-1.30	23.16	18	0.18
LCR0028	0.62	-4.11	-1.26	1.88	0.11	-1.60	32.91	20	0.03
LCR0029	0.49	-4.39	-1.44	1.43	0.07	-1.40	17.62	23	0.78
LCR0030	0.38	-6.12	-2.16	2.07	0.05	-2.40	22.91	21	0.35
LCR0031	1.45	-2.92	-2.08	-0.42	0.64	-2.40	17.33	8	0.03
LCR0032	0.88	-3.69	-2.25	-0.16	0.24	-2.50	18.95	12	0.09
LCR0033	1.46	-3.00	-1.83	-0.08	0.63	-2.30	11.84	9	0.22

LCR0034	0.87	-3.56	-1.48	0.49	0.23	-1.40	28.30	16	0.03
LCR0035	0.27	-6.03	-0.86	4.64	0.02	-0.90	26.16	26	0.45
LCR0036	1.31	-2.93	-1.40	0.20	0.50	-1.50	18.94	13	0.12
LCR0037	0.86	-3.73	-1.85	0.89	0.22	-2.50	14.15	15	0.51
LCR0038	1.79	-3.02	-1.94	-0.53	0.93	-2.20	19.59	6	0.00
LCR0039	0.74	-3.39	-1.90	0.50	0.17	-2.00	17.76	18	0.47
LCR0040	0.76	-3.41	-0.92	1.60	0.17	-1.00	28.11	19	0.08
LCR0041	0.86	-3.49	-1.77	0.39	0.23	-2.10	31.93	16	0.01
LCR0042	0.94	-3.37	-1.68	0.39	0.27	-2.00	15.58	16	0.48
LCR0043	1.11	-2.34	-1.07	0.68	0.37	-1.30	20.80	19	0.35
LCR0044	0.82	-3.23	-1.26	1.49	0.20	-1.90	15.52	18	0.63
LCR0045	1.06	-3.29	-1.82	0.19	0.34	-2.20	14.91	13	0.31

Table B-79: IRT statistics – Palestine, 45-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.71	-4.99	-3.72	0.08	0.14	-3.00	12.95	7	0.07
LCR0002	0.39	-10.07	-7.14	-0.51	0.04	-1.60	6.68	6	0.35
LCR0003	0.63	-4.31	-2.40	0.43	0.12	-2.70	15.66	13	0.27
LCR0004	0.48	-8.89	-6.78	-1.75	0.06	-3.00	7.85	6	0.25
LCR0005	0.73	-4.91	-2.24	1.14	0.15	-2.90	11.28	12	0.51
LCR0006	0.95	-2.65	-0.31	1.31	0.27	0.20	23.22	19	0.23
LCR0007	0.81	-2.12	0.05	1.86	0.20	0.30	16.34	21	0.75
LCR0008	0.85	-1.87	0.27	1.69	0.22	0.50	19.31	21	0.57
LCR0009	0.57	-7.12	-4.80	-0.23	0.09	-1.00	15.79	7	0.03
LCR0010	0.60	-3.96	-1.72	1.23	0.11	-2.10	12.14	20	0.91
LCR0011	0.80	-2.88	-0.60	2.27	0.19	-1.20	16.09	18	0.59
LCR0012	1.20	-2.24	-0.67	0.50	0.44	-0.40	17.61	17	0.41
LCR0013	0.91	-3.77	-1.57	0.96	0.24	-1.90	13.05	13	0.44
LCR0014	0.71	-4.05	-0.61	2.33	0.15	-0.20	18.61	15	0.23
LCR0015	0.80	-2.99	-0.35	1.46	0.19	0.20	21.47	19	0.31
LCR0016	0.59	-2.68	-0.19	2.68	0.11	-0.40	17.89	23	0.76
LCR0017	0.70	-4.63	-2.64	0.39	0.15	-3.00	8.41	10	0.59
LCR0018	0.86	-3.68	-2.39	0.80	0.22	-2.90	16.80	9	0.05
LCR0019	1.08	-2.40	-0.71	1.09	0.35	-0.80	12.07	16	0.74
LCR0020	1.06	-2.20	-0.85	1.33	0.34	-1.30	16.56	15	0.35

LCR0021	1.07	-2.73	-0.74	0.42	0.35	-0.40	13.81	17	0.68
LCR0022	1.08	-2.17	-0.24	1.19	0.35	0.10	14.25	18	0.71
LCR0023	0.92	-2.36	-0.93	0.88	0.26	-1.10	20.34	18	0.31
LCR0024	0.36	-6.19	-3.22	1.06	0.04	-3.00	31.14	18	0.03
LCR0025	0.46	-7.02	-3.37	0.69	0.06	-3.00	26.06	14	0.03
LCR0026	0.69	-3.61	-1.12	1.30	0.15	-1.00	18.15	18	0.45
LCR0027	1.00	-2.01	-0.08	1.53	0.30	0.20	18.06	19	0.52
LCR0028	0.75	-3.72	-1.63	0.84	0.17	-2.00	17.58	16	0.35
LCR0029	0.58	-3.58	-1.49	0.96	0.10	-1.50	20.28	21	0.50
LCR0030	0.69	-3.67	-1.86	0.32	0.15	-1.90	19.79	15	0.18
LCR0031	1.68	-2.39	-0.61	-	0.74	-0.80	4.89	6	0.56
LCR0032	1.14	-3.31	-2.30	-0.19	0.39	-2.60	6.95	6	0.33
LCR0033	1.34	-3.22	-2.33	-0.04	0.54	-2.70	14.25	6	0.03
LCR0034	1.15	-3.27	-2.06	-1.09	0.41	-2.10	10.27	6	0.11
LCR0035	0.55	-4.64	-2.22	1.75	0.09	-2.90	30.64	17	0.02
LCR0036	1.52	-3.29	-1.96	-0.51	0.68	-2.10	5.68	6	0.46
LCR0037	1.35	-2.69	-0.99	0.89	0.52	-1.10	6.87	12	0.87
LCR0038	1.45	-3.65	-2.85	-0.80	0.63	-3.00	7.18	4	0.13
LCR0039	0.70	-4.74	-2.67	0.43	0.15	-3.00	18.94	12	0.09
LCR0040	0.93	-2.86	-1.22	1.83	0.26	-1.90	12.50	13	0.49
LCR0041	0.98	-3.68	-1.73	0.41	0.29	-1.90	18.71	13	0.13
LCR0042	1.34	-3.17	-1.92	0.06	0.53	-2.40	14.17	7	0.05
LCR0043	0.98	-3.67	-2.15	0.88	0.29	-2.80	9.80	10	0.46
LCR0044	1.13	-3.45	-1.14	1.07	0.36	-1.10	9.25	12	0.68
LCR0045	2.11	-2.51	-1.53	0.16	1.27	-1.90	7.21	6	0.30

Table B-80: IRT statistics – Tunisia, 45-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.74	-5.44	-2.74	1.14	0.16	-3.00	9.49	9	0.39
LCR0002	0.64	-4.93	-2.66	-0.05	0.12	-2.90	14.87	13	0.32
LCR0003	0.46	-6.12	-2.08	1.46	0.06	-1.60	16.52	17	0.49
LCR0004	0.12	-24.66	-16.01	-3.71	0.00	-3.00	7.42	8	0.49
LCR0005	0.17	-14.51	-6.31	4.62	0.01	-3.00	15.47	19	0.69
LCR0006	0.57	-2.76	0.11	2.04	0.10	0.20	20.91	26	0.75
LCR0007	1.00	-1.38	0.77	2.19	0.30	1.20	31.33	20	0.05

LCR0008	0.67	-1.44	1.20	3.20	0.14	1.50	33.15	22	0.06
LCR0009	0.47	-9.46	-7.28	-2.69	0.06	-3.00	2.47	6	0.87
LCR0010	0.68	-3.04	-0.77	1.82	0.14	-1.00	20.05	19	0.39
LCR0011	0.78	-2.04	0.40	2.57	0.18	0.70	28.01	22	0.18
LCR0012	0.89	-2.28	0.07	1.60	0.24	0.50	22.56	19	0.26
LCR0013	0.78	-2.84	-0.31	1.98	0.18	0.00	23.03	18	0.19
LCR0014	1.09	-1.69	0.53	1.81	0.36	1.00	15.69	18	0.61
LCR0015	0.93	-1.60	0.22	1.68	0.27	0.40	28.10	22	0.17
LCR0016	0.44	-4.14	-0.12	3.31	0.06	0.30	21.17	25	0.68
LCR0017	0.68	-5.05	-2.97	0.39	0.14	-3.00	8.32	11	0.68
LCR0018	0.81	-3.59	-1.47	0.69	0.20	-1.50	19.98	17	0.28
LCR0019	1.06	-2.40	-0.34	1.69	0.33	-0.30	8.95	14	0.83
LCR0020	1.04	-2.12	-0.30	1.45	0.32	-0.20	24.19	19	0.19
LCR0021	0.70	-3.46	-1.05	0.90	0.15	-0.80	14.20	19	0.77
LCR0022	0.90	-2.37	-0.08	1.55	0.25	0.30	16.35	20	0.69
LCR0023	0.71	-3.11	-1.07	1.05	0.15	-1.10	32.83	20	0.04
LCR0024	0.22	-12.95	-7.35	-1.15	0.02	-3.00	24.93	15	0.05
LCR0025	0.81	-4.10	-1.82	0.32	0.20	-1.70	18.32	15	0.25
LCR0026	0.93	-2.57	-0.56	1.22	0.26	-0.30	28.49	19	0.07
LCR0027	0.92	-1.75	0.74	2.26	0.26	1.20	21.45	19	0.31
LCR0028	0.76	-3.55	-1.24	0.95	0.17	-1.10	15.48	18	0.63
LCR0029	0.40	-5.94	-2.78	0.56	0.05	-2.80	11.75	19	0.90
LCR0030	0.51	-4.97	-2.99	0.68	0.08	-3.00	14.99	16	0.53
LCR0031	1.87	-2.89	-2.11	-0.54	1.04	-2.40	8.56	5	0.13
LCR0032	0.70	-3.91	-2.55	-0.20	0.15	-2.50	15.63	14	0.34
LCR0033	1.27	-2.98	-1.83	-0.14	0.49	-2.20	18.52	12	0.10
LCR0034	0.90	-4.41	-2.91	-1.32	0.25	-2.90	9.86	6	0.13
LCR0035	0.99	-2.25	-0.67	0.83	0.30	-0.60	27.95	20	0.11
LCR0036	1.54	-2.45	-1.48	-0.08	0.72	-1.80	28.40	11	0.00
LCR0037	1.14	-2.56	-0.85	0.94	0.38	-1.00	9.27	16	0.90
LCR0038	1.14	-4.64	-4.02	-1.36	0.34	-1.60	5.44	4	0.24
LCR0039	0.66	-4.17	-2.31	0.27	0.13	-2.50	14.29	15	0.50
LCR0040	0.97	-2.30	-0.42	1.49	0.28	-0.40	34.12	20	0.03
LCR0041	0.96	-3.58	-1.67	0.37	0.28	-1.80	14.12	14	0.44
LCR0042	0.98	-3.62	-2.11	0.75	0.29	-2.70	17.63	13	0.17
LCR0043	0.75	-4.02	-2.49	0.76	0.17	-3.00	15.92	13	0.25
LCR0044	0.85	-2.33	-0.48	1.51	0.22	-0.60	28.78	22	0.15
LCR0045	1.02	-3.33	-1.86	0.05	0.32	-2.20	8.86	13	0.78

Table B-81: IRT statistics – pooled, 30-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.73	-4.90	-2.86	0.79	0.16	-3.00	34.93	19	0.01
LCR0002	0.57	-5.63	-3.55	-0.15	0.10	-3.00	36.98	22	0.02
LCR0006	0.66	-3.02	-0.31	1.78	0.13	0.00	43.00	26	0.02
LCR0007	0.80	-2.13	0.25	2.16	0.20	0.60	22.10	26	0.68
LCR0008	0.78	-1.73	0.54	2.20	0.19	0.80	33.50	26	0.15
LCR0010	0.69	-3.49	-1.22	1.50	0.15	-1.60	28.32	25	0.29
LCR0011	0.84	-2.41	-0.09	2.24	0.21	-0.10	28.01	26	0.36
LCR0012	0.90	-2.49	-0.54	0.97	0.25	-0.30	31.55	25	0.17
LCR0015	0.73	-2.60	-0.33	1.69	0.16	-0.20	31.49	26	0.21
LCR0017	0.65	-5.29	-3.25	0.08	0.12	-3.00	30.28	22	0.11
LCR0018	0.79	-3.98	-2.06	0.66	0.19	-2.60	34.61	23	0.06
LCR0019	1.21	-2.25	-0.60	1.15	0.43	-0.70	42.16	24	0.01
LCR0020	1.17	-2.18	-0.65	1.18	0.41	-1.00	29.12	24	0.22
LCR0022	0.87	-2.64	-0.25	1.58	0.23	0.20	28.88	25	0.27
LCR0023	0.77	-2.70	-0.95	1.12	0.18	-1.00	25.08	26	0.51
LCR0025	0.66	-4.83	-1.95	0.76	0.13	-1.70	29.56	23	0.16
LCR0026	0.87	-2.95	-0.76	1.28	0.23	-0.60	44.29	25	0.01
LCR0028	0.71	-3.73	-1.35	1.19	0.15	-1.50	26.38	25	0.39
LCR0032	0.83	-3.80	-2.48	-0.18	0.21	-2.70	29.52	22	0.13
LCR0033	1.32	-3.09	-2.00	-0.09	0.53	-2.40	22.80	16	0.12
LCR0036	1.33	-2.97	-1.66	-0.14	0.53	-1.90	32.00	18	0.02
LCR0037	1.16	-2.79	-1.11	0.88	0.40	-1.40	29.16	22	0.14
LCR0038	1.15	-4.29	-3.12	-0.98	0.39	-3.00	23.25	11	0.02
LCR0039	0.69	-4.06	-2.29	0.41	0.15	-2.60	20.99	25	0.69
LCR0040	0.96	-2.63	-0.78	1.55	0.27	-1.30	31.53	25	0.17
LCR0041	0.95	-3.50	-1.68	0.39	0.27	-2.00	24.12	22	0.34
LCR0042	1.09	-3.31	-1.87	0.37	0.36	-2.40	26.70	19	0.11
LCR0043	0.87	-3.38	-1.89	0.82	0.23	-2.40	30.17	24	0.18
LCR0044	0.92	-2.88	-0.96	1.36	0.25	-1.40	35.97	25	0.07
LCR0045	1.35	-2.89	-1.67	0.15	0.54	-2.10	22.71	18	0.20

Table B-82: IRT statistics – Egypt, 30-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.73	-4.48	-2.35	1.22	0.16	-3.00	17.74	15	0.28
LCR0002	0.65	-4.38	-2.81	-0.05	0.13	-2.90	16.68	14	0.27
LCR0006	0.56	-3.72	-0.70	2.13	0.09	-0.50	37.89	23	0.03
LCR0007	0.64	-3.25	-0.15	2.55	0.12	0.30	33.46	23	0.07
LCR0008	0.75	-2.01	0.35	2.20	0.17	0.60	29.14	23	0.18
LCR0010	0.66	-4.24	-1.44	1.75	0.13	-1.90	26.46	19	0.12
LCR0011	0.79	-2.73	-0.06	2.25	0.19	0.30	32.46	20	0.04
LCR0012	0.59	-3.47	-1.20	1.11	0.11	-1.20	33.89	23	0.07
LCR0015	0.68	-2.93	-0.91	1.62	0.14	-1.20	15.27	23	0.88
LCR0017	0.70	-5.30	-3.75	-0.58	0.14	-3.00	13.47	7	0.06
LCR0018	0.54	-6.25	-3.19	0.54	0.09	-3.00	26.11	15	0.04
LCR0019	1.02	-2.64	-0.98	1.03	0.31	-1.30	18.68	17	0.35
LCR0020	1.07	-2.83	-0.99	1.03	0.34	-1.20	27.25	17	0.05
LCR0022	0.82	-3.14	-0.41	1.80	0.20	0.10	26.47	18	0.09
LCR0023	0.93	-2.18	-0.70	1.13	0.26	-0.90	24.70	22	0.31
LCR0025	0.95	-3.38	-1.02	1.05	0.26	-0.70	20.20	16	0.21
LCR0026	0.92	-3.14	-0.74	1.41	0.25	-0.50	28.36	18	0.06
LCR0028	0.67	-3.84	-1.17	1.77	0.13	-1.50	19.23	19	0.44
LCR0032	0.89	-3.61	-2.19	-0.14	0.24	-2.40	11.26	12	0.51
LCR0033	1.46	-2.95	-1.80	-0.07	0.63	-2.20	17.02	10	0.07
LCR0036	1.25	-2.98	-1.40	0.22	0.46	-1.50	19.59	14	0.14
LCR0037	0.90	-3.58	-1.78	0.87	0.24	-2.40	19.37	15	0.20
LCR0038	1.53	-3.24	-2.06	-0.56	0.70	-2.40	16.64	7	0.02
LCR0039	0.74	-3.36	-1.88	0.51	0.17	-2.00	20.95	19	0.34
LCR0040	0.84	-3.09	-0.83	1.48	0.21	-0.90	24.15	19	0.19
LCR0041	0.94	-3.23	-1.63	0.39	0.27	-1.90	36.56	16	0.00
LCR0042	0.96	-3.29	-1.63	0.41	0.28	-2.00	13.99	16	0.60
LCR0043	1.09	-2.34	-1.06	0.70	0.36	-1.30	25.98	18	0.10
LCR0044	0.80	-3.26	-1.26	1.52	0.19	-1.90	17.11	18	0.52
LCR0045	1.14	-3.07	-1.70	0.20	0.39	-2.10	13.59	13	0.40

Table B-83: IRT statistics – Palestine, 30-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.67	-5.27	-3.92	0.09	0.12	-3.00	10.33	7	0.17
LCR0002	0.39	-10.20	-7.22	-0.52	0.04	-1.60	4.38	6	0.63
LCR0006	0.93	-2.68	-0.32	1.32	0.26	0.20	17.49	19	0.56
LCR0007	0.84	-2.07	0.04	1.81	0.21	0.30	19.05	22	0.64
LCR0008	0.87	-1.84	0.27	1.66	0.23	0.50	31.35	23	0.11
LCR0010	0.64	-3.74	-1.62	1.17	0.13	-2.00	10.01	19	0.95
LCR0011	0.83	-2.79	-0.58	2.19	0.20	-1.10	23.46	17	0.13
LCR0012	1.28	-2.16	-0.64	0.49	0.50	-0.40	21.64	17	0.20
LCR0015	0.71	-3.29	-0.37	1.60	0.15	0.10	14.04	19	0.78
LCR0017	0.65	-4.97	-2.82	0.43	0.13	-3.00	10.79	11	0.46
LCR0018	0.83	-3.82	-2.49	0.82	0.20	-3.00	17.63	9	0.04
LCR0019	1.23	-2.20	-0.65	1.01	0.45	-0.80	28.99	14	0.01
LCR0020	1.08	-2.17	-0.84	1.32	0.35	-1.30	18.52	13	0.14
LCR0022	0.98	-2.33	-0.26	1.28	0.29	0.10	19.88	18	0.34
LCR0023	0.93	-2.35	-0.91	0.90	0.26	-1.10	17.61	19	0.55
LCR0025	0.48	-6.79	-3.26	0.68	0.07	-3.00	26.18	14	0.02
LCR0026	0.71	-3.54	-1.10	1.28	0.15	-1.00	7.83	18	0.98
LCR0028	0.75	-3.71	-1.62	0.85	0.17	-2.00	21.53	14	0.09
LCR0032	1.06	-3.51	-2.43	-0.19	0.34	-2.80	6.92	7	0.44
LCR0033	1.48	-3.02	-2.20	-0.05	0.65	-2.60	19.09	5	0.00
LCR0036	1.53	-3.28	-1.95	-0.51	0.69	-2.10	10.36	7	0.17
LCR0037	1.41	-2.61	-0.97	0.86	0.56	-1.10	15.01	12	0.24
LCR0038	1.41	-3.74	-2.91	-0.82	0.59	-3.00	8.20	3	0.04
LCR0039	0.64	-5.17	-2.91	0.47	0.12	-3.00	15.33	12	0.22
LCR0040	0.95	-2.83	-1.21	1.80	0.27	-1.90	13.90	14	0.46
LCR0041	0.94	-3.83	-1.79	0.42	0.26	-2.00	18.29	13	0.15
LCR0042	1.43	-3.04	-1.85	0.05	0.61	-2.30	6.75	7	0.46
LCR0043	0.92	-3.91	-2.28	0.93	0.25	-3.00	11.29	10	0.34
LCR0044	1.12	-3.48	-1.15	1.07	0.35	-1.10	10.12	11	0.52
LCR0045	2.13	-2.51	-1.53	0.16	1.30	-1.90	9.00	6	0.17

Table B-84: IRT statistics – Tunisia, 30-item model (Creativity)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCR0001	0.75	-5.42	-2.74	1.13	0.16	-3.00	13.19	11	0.28
LCR0002	0.60	-5.24	-2.83	-0.07	0.11	-3.00	26.47	13	0.01
LCR0006	0.53	-2.96	0.11	2.17	0.09	0.10	30.52	26	0.25
LCR0007	0.99	-1.41	0.76	2.19	0.30	1.20	28.34	20	0.10
LCR0008	0.70	-1.40	1.14	3.04	0.15	1.40	28.63	22	0.16
LCR0010	0.68	-3.04	-0.77	1.81	0.14	-1.00	23.86	21	0.30
LCR0011	0.82	-1.98	0.36	2.46	0.20	0.70	25.93	21	0.21
LCR0012	0.91	-2.25	0.07	1.57	0.25	0.50	25.28	21	0.24
LCR0015	0.79	-1.85	0.22	1.88	0.19	0.40	27.96	24	0.26
LCR0017	0.55	-6.08	-3.57	0.49	0.09	-3.00	17.71	10	0.06
LCR0018	0.93	-3.22	-1.32	0.63	0.26	-1.40	18.79	17	0.34
LCR0019	1.38	-2.03	-0.28	1.43	0.54	-0.30	19.78	15	0.18
LCR0020	1.38	-1.76	-0.24	1.21	0.56	-0.20	27.90	16	0.03
LCR0022	0.81	-2.57	-0.08	1.71	0.20	0.40	23.62	22	0.37
LCR0023	0.51	-4.13	-1.37	1.44	0.08	-1.40	21.64	23	0.54
LCR0025	0.75	-4.35	-1.93	0.36	0.17	-1.80	10.54	16	0.84
LCR0026	0.97	-2.48	-0.53	1.19	0.28	-0.30	19.79	19	0.41
LCR0028	0.73	-3.66	-1.27	1.00	0.16	-1.10	18.68	18	0.41
LCR0032	0.60	-4.47	-2.90	-0.22	0.11	-2.80	17.97	14	0.21
LCR0033	1.18	-3.15	-1.93	-0.15	0.42	-2.30	13.62	10	0.19
LCR0036	1.32	-2.70	-1.63	-0.09	0.53	-1.90	22.22	10	0.01
LCR0037	1.26	-2.39	-0.80	0.89	0.46	-0.90	13.94	17	0.67
LCR0038	0.92	-5.56	-4.79	-1.60	0.22	-1.90	9.08	5	0.11
LCR0039	0.66	-4.16	-2.30	0.28	0.13	-2.50	21.41	16	0.16
LCR0040	1.07	-2.14	-0.38	1.40	0.34	-0.40	24.33	20	0.23
LCR0041	1.01	-3.43	-1.60	0.36	0.31	-1.80	14.25	14	0.43
LCR0042	0.99	-3.60	-2.09	0.75	0.29	-2.70	19.09	10	0.04
LCR0043	0.63	-4.68	-2.88	0.88	0.12	-3.00	12.42	12	0.41
LCR0044	0.88	-2.28	-0.46	1.48	0.24	-0.60	35.15	22	0.04
LCR0045	1.09	-3.15	-1.76	0.05	0.36	-2.10	17.38	13	0.18

MODEL STATISTICS

Table B-85: Fit indices and reliability, 45-item model (Creativity)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1665.66	855	0.00	0.03	0.04	0.92	0.93	0.85
	(53.55)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	1070.25	855	0.00	0.03	0.05	0.93	0.93	0.84
	(47.78)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Palestine	1174.92	856	0.00	0.04	0.06	0.92	0.93	0.86
	(60.28)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	1183.84	855	0.00	0.03	0.06	0.91	0.91	0.85
	(26.26)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-86: Measurement invariance test, 45-item model (Creativity)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3379.12	2573	0.00	0.02	0.06	0.06	0.06		
	(101.99)	-	-	(0.00)	(0.00)	(0.00)	(0.00)		
Metric model	3455.45	2655	0.00	0.02	0.06	0.07	0.06		
	(85.37)	-	-	(0.00)	(0.00)	(0.00)	(0.00)		
Scalar model	4248.29	2923	0.00	0.02	0.06	0.06	0.06	0.92	0.92
	(83.97)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	76.33	82	0.00	0.00	0.00	0.00	0.00		
Difference: Scalar - Metric	792.84	268	0.00	0.00	0.00	0.00	0.00		

Table B-87: Fit indices and reliability, 30-item model (Creativity)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	615.76	345	0.00	0.03	0.04	0.95	0.95	0.81
	(18.40)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	402.35	345	0.05	0.02	0.05	0.96	0.96	0.80
	(25.02)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Palestine	465.09	345	0.00	0.03	0.06	0.93	0.94	0.83
	(16.04)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	481.18	345	0.00	0.03	0.06	0.92	0.93	0.81
	(30.58)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-

Table B-88: Measurement invariance test, 30-item model (Creativity)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1386.48	1035	0.00	0.02	0.05	0.06	0.06	0.96	0.96
	(56.73)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	1478.98	1095	0.00	0.02	0.06	0.06	0.06	0.96	0.96
	(57.92)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	1840.87	1273	0.00	0.02	0.06	0.06	0.06	0.94	0.94
	(49.84)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Difference: Metric - Configural	92.50	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	361.89	178	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02

LEARNING: PROBLEM SOLVING | ITEM STATISTICS

Table B-89: Response frequencies for all items, pooled model (Problem Solving)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
LPS0001	0.05	0.20	0.30	0.46
LPS0002	0.08	0.34	0.32	0.26
LPS0003	0.11	0.23	0.32	0.33
LPS0004	0.07	0.20	0.31	0.42
LPS0005	0.08	0.26	0.32	0.34
LPS0006	0.09	0.22	0.34	0.35
LPS0007	0.07	0.24	0.35	0.34
LPS0008	0.06	0.21	0.30	0.43
LPS0009	0.09	0.30	0.39	0.22
LPS0010	0.06	0.24	0.35	0.35
LPS0011	0.08	0.17	0.25	0.49
LPS0012	0.49	0.18	0.15	0.18
LPS0013	0.13	0.38	0.30	0.19
LPS0014	0.20	0.28	0.29	0.23
LPS0015	0.10	0.33	0.31	0.25
LPS0016	0.06	0.29	0.34	0.30
LPS0017	0.20	0.33	0.31	0.16
LPS0018	0.09	0.22	0.25	0.43
LPS0019	0.08	0.17	0.27	0.48
LPS0020	0.07	0.26	0.32	0.34
LPS0021	0.15	0.30	0.31	0.24
LPS0022	0.10	0.19	0.30	0.41
LPS0023	0.09	0.27	0.34	0.31
LPS0024	0.13	0.16	0.40	0.31
LPS0025	0.16	0.21	0.36	0.27
LPS0026	0.24	0.29	0.27	0.20
LPS0027	0.20	0.21	0.28	0.30
LPS0028	0.16	0.21	0.39	0.24
LPS0029	0.15	0.22	0.36	0.27
LPS0030	0.37	0.23	0.23	0.17
LPS0031	0.13	0.28	0.32	0.28
LPS0032	0.12	0.25	0.30	0.33

LPS0033	0.04	0.19	0.34	0.43
LPS0034	0.08	0.16	0.27	0.49
LPS0035	0.06	0.14	0.18	0.62
LPS0036	0.05	0.10	0.40	0.45
LPS0037	0.04	0.12	0.34	0.50
LPS0038	0.15	0.26	0.33	0.25
LPS0039	0.08	0.17	0.31	0.44
LPS0040	0.21	0.21	0.37	0.20
LPS0041	0.52	0.17	0.16	0.16
LPS0042	0.08	0.20	0.44	0.29
LPS0043	0.30	0.26	0.29	0.14
LPS0044	0.31	0.27	0.24	0.17
LPS0045	0.15	0.15	0.29	0.40

Table B-90: Response frequencies for all items, Egypt model (Problem Solving)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
LPS0001	0.07	0.16	0.30	0.48
LPS0002	0.06	0.34	0.30	0.30
LPS0003	0.12	0.20	0.36	0.32
LPS0004	0.10	0.24	0.31	0.35
LPS0005	0.09	0.31	0.29	0.32
LPS0006	0.11	0.25	0.34	0.30
LPS0007	0.08	0.24	0.37	0.31
LPS0008	0.06	0.23	0.31	0.40
LPS0009	0.10	0.31	0.38	0.21
LPS0010	0.07	0.23	0.35	0.35
LPS0011	0.09	0.21	0.23	0.47
LPS0012	0.53	0.15	0.15	0.17
LPS0013	0.12	0.40	0.29	0.19
LPS0014	0.21	0.27	0.28	0.24
LPS0015	0.12	0.33	0.29	0.27
LPS0016	0.05	0.26	0.36	0.33
LPS0017	0.15	0.32	0.34	0.19
LPS0018	0.09	0.24	0.26	0.41
LPS0019	0.09	0.12	0.26	0.54
LPS0020	0.07	0.29	0.36	0.28

LPS0021	0.11	0.29	0.32	0.27
LPS0022	0.10	0.20	0.29	0.41
LPS0023	0.07	0.22	0.36	0.34
LPS0024	0.09	0.15	0.39	0.38
LPS0025	0.15	0.23	0.37	0.25
LPS0026	0.25	0.30	0.25	0.20
LPS0027	0.14	0.17	0.32	0.36
LPS0028	0.18	0.20	0.37	0.25
LPS0029	0.10	0.21	0.39	0.30
LPS0030	0.26	0.25	0.26	0.22
LPS0031	0.14	0.25	0.31	0.29
LPS0032	0.15	0.23	0.34	0.28
LPS0033	0.05	0.20	0.29	0.47
LPS0034	0.08	0.17	0.27	0.49
LPS0035	0.06	0.14	0.18	0.63
LPS0036	0.03	0.10	0.38	0.50
LPS0037	0.06	0.16	0.39	0.39
LPS0038	0.13	0.28	0.30	0.29
LPS0039	0.06	0.20	0.26	0.48
LPS0040	0.22	0.22	0.33	0.22
LPS0041	0.45	0.19	0.16	0.20
LPS0042	0.08	0.21	0.44	0.27
LPS0043	0.29	0.32	0.24	0.15
LPS0044	0.22	0.29	0.27	0.22
LPS0045	0.08	0.16	0.26	0.49

Table B-91: Response frequencies for all items, Palestine model (Problem Solving)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
LPS0001	0.05	0.17	0.26	0.53
LPS0002	0.12	0.28	0.33	0.27
LPS0003	0.11	0.24	0.31	0.34
LPS0004	0.06	0.12	0.29	0.54
LPS0005	0.07	0.23	0.30	0.39
LPS0006	0.08	0.18	0.34	0.40
LPS0007	0.09	0.19	0.33	0.40
LPS0008	0.07	0.17	0.27	0.48

LPS0009	0.10	0.28	0.39	0.23
LPS0010	0.05	0.22	0.35	0.38
LPS0011	0.09	0.14	0.25	0.52
LPS0012	0.69	0.13	0.08	0.10
LPS0013	0.11	0.37	0.32	0.20
LPS0014	0.17	0.25	0.32	0.26
LPS0015	0.11	0.29	0.34	0.26
LPS0016	0.06	0.21	0.34	0.40
LPS0017	0.21	0.35	0.30	0.15
LPS0018	0.08	0.27	0.23	0.42
LPS0019	0.08	0.16	0.26	0.51
LPS0020	0.09	0.23	0.32	0.36
LPS0021	0.15	0.28	0.32	0.25
LPS0022	0.07	0.16	0.30	0.46
LPS0023	0.09	0.26	0.35	0.30
LPS0024	0.10	0.17	0.42	0.30
LPS0025	0.10	0.23	0.37	0.30
LPS0026	0.22	0.29	0.28	0.20
LPS0027	0.18	0.18	0.30	0.35
LPS0028	0.16	0.23	0.43	0.18
LPS0029	0.15	0.22	0.33	0.29
LPS0030	0.41	0.22	0.24	0.13
LPS0031	0.13	0.29	0.30	0.28
LPS0032	0.10	0.25	0.32	0.33
LPS0033	0.03	0.16	0.34	0.47
LPS0034	0.06	0.14	0.26	0.54
LPS0035	0.05	0.12	0.13	0.71
LPS0036	0.03	0.08	0.46	0.44
LPS0037	0.04	0.11	0.32	0.53
LPS0038	0.16	0.27	0.35	0.22
LPS0039	0.07	0.12	0.32	0.49
LPS0040	0.16	0.22	0.42	0.20
LPS0041	0.46	0.22	0.17	0.15
LPS0042	0.08	0.21	0.46	0.25
LPS0043	0.31	0.24	0.31	0.13
LPS0044	0.36	0.24	0.23	0.17
LPS0045	0.18	0.13	0.33	0.36

Table B-92: Response frequencies for all items, Tunisia model (Problem Solving)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
LPS0001	0.03	0.27	0.34	0.36
LPS0002	0.07	0.39	0.34	0.20
LPS0003	0.10	0.26	0.30	0.34
LPS0004	0.04	0.23	0.33	0.39
LPS0005	0.07	0.24	0.36	0.33
LPS0006	0.07	0.22	0.34	0.38
LPS0007	0.05	0.28	0.34	0.32
LPS0008	0.05	0.22	0.33	0.40
LPS0009	0.08	0.31	0.39	0.22
LPS0010	0.05	0.28	0.35	0.32
LPS0011	0.08	0.15	0.28	0.50
LPS0012	0.27	0.27	0.21	0.25
LPS0013	0.15	0.36	0.30	0.18
LPS0014	0.21	0.32	0.28	0.19
LPS0015	0.08	0.37	0.32	0.23
LPS0016	0.07	0.40	0.33	0.20
LPS0017	0.24	0.34	0.29	0.13
LPS0018	0.10	0.17	0.27	0.47
LPS0019	0.07	0.23	0.30	0.40
LPS0020	0.06	0.25	0.29	0.40
LPS0021	0.20	0.33	0.29	0.18
LPS0022	0.12	0.21	0.32	0.35
LPS0023	0.09	0.33	0.31	0.28
LPS0024	0.19	0.17	0.40	0.24
LPS0025	0.21	0.18	0.33	0.28
LPS0026	0.24	0.27	0.30	0.19
LPS0027	0.29	0.28	0.23	0.21
LPS0028	0.13	0.19	0.39	0.28
LPS0029	0.21	0.24	0.34	0.21
LPS0030	0.45	0.23	0.19	0.13
LPS0031	0.11	0.30	0.33	0.26
LPS0032	0.11	0.27	0.25	0.37
LPS0033	0.03	0.21	0.41	0.36
LPS0034	0.08	0.17	0.29	0.46

LPS0035	0.06	0.18	0.23	0.53
LPS0036	0.09	0.12	0.38	0.41
LPS0037	0.04	0.07	0.30	0.59
LPS0038	0.17	0.23	0.36	0.23
LPS0039	0.12	0.17	0.33	0.37
LPS0040	0.25	0.19	0.37	0.19
LPS0041	0.63	0.10	0.15	0.12
LPS0042	0.07	0.18	0.41	0.33
LPS0043	0.29	0.23	0.34	0.14
LPS0044	0.37	0.28	0.23	0.12
LPS0045	0.19	0.17	0.30	0.34

Table B-93: Descriptive statistics for all items, pooled model (Problem Solving)

	Measures of Central Tendency			Measures of dispersion
Item	n	Median	Mode	IQR
LPS0001	668	3	4	1
LPS0002	666	3	2	2
LPS0003	660	3	4	2
LPS0004	666	3	4	2
LPS0005	664	3	4	2
LPS0006	667	3	4	2
LPS0007	666	3	3	2
LPS0008	668	3	4	2
LPS0009	666	3	3	1
LPS0010	667	3	3	2
LPS0011	663	3	4	2
LPS0012	661	2	1	2
LPS0013	663	2	2	1
LPS0014	661	3	3	1
LPS0015	660	3	2	2
LPS0016	666	3	3	2
LPS0017	666	2	2	1
LPS0018	665	3	4	2
LPS0019	665	3	4	1
LPS0020	668	3	4	2
LPS0021	663	3	3	1
LPS0022	668	3	4	2

LPS0023	667	3	3	2
LPS0024	664	3	3	2
LPS0025	660	3	3	2
LPS0026	660	2	2	1
LPS0027	657	3	4	2
LPS0028	659	3	3	1
LPS0029	663	3	3	2
LPS0030	665	2	1	2
LPS0031	676	3	3	2
LPS0032	675	3	4	2
LPS0033	679	3	4	1
LPS0034	679	3	4	1
LPS0035	679	4	4	1
LPS0036	675	3	4	1
LPS0037	675	4	4	1
LPS0038	667	3	3	2
LPS0039	672	3	4	1.25
LPS0040	675	3	3	1
LPS0041	673	1	1	2
LPS0042	666	3	3	2
LPS0043	665	2	1	2
LPS0044	670	2	1	2
LPS0045	673	3	4	2

Table B-94: Descriptive statistics for all items, Egypt model (Problem Solving)

	Measures of Central Tendency			Measures of dispersion
Item	n	Median	Mode	IQR
LPS0001	244	3	4	1
LPS0002	244	3	2	2
LPS0003	242	3	4	2
LPS0004	244	3	4	2
LPS0005	242	3	4	2
LPS0006	244	3	4	2
LPS0007	242	3	3	2
LPS0008	245	3	4	2
LPS0009	243	3	3	1
LPS0010	243	3	3	2

LPS0011	243	3	4	2
LPS0012	240	1	1	2
LPS0013	241	2	2	1
LPS0014	239	3	3	1
LPS0015	238	3	2	2
LPS0016	245	3	3	2
LPS0017	245	3	2	1
LPS0018	245	3	4	2
LPS0019	247	4	4	1
LPS0020	246	3	4	2
LPS0021	245	3	3	2
LPS0022	245	3	4	2
LPS0023	245	3	3	2
LPS0024	247	3	3	1
LPS0025	244	3	3	1
LPS0026	246	2	2	1
LPS0027	245	3	4	2
LPS0028	245	3	3	2
LPS0029	246	3	3	2
LPS0030	247	2	1	2
LPS0031	249	3	3	2
LPS0032	250	3	4	2
LPS0033	252	3	4	1
LPS0034	251	3	4	1
LPS0035	249	4	4	1
LPS0036	252	3	4	1
LPS0037	251	3	4	1
LPS0038	248	3	3	2
LPS0039	248	3	4	2
LPS0040	251	3	3	1
LPS0041	250	2	1	2
LPS0042	246	3	3	2
LPS0043	245	2	1	2
LPS0044	248	2	1	1
LPS0045	249	3	4	1

Table B-95: Descriptive statistics for all items, Palestine model (Problem Solving)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LPS0001	199	4	4	1
LPS0002	196	3	2	2
LPS0003	193	3	4	2
LPS0004	196	4	4	1
LPS0005	198	3	4	2
LPS0006	197	3	4	2
LPS0007	199	3	3	2
LPS0008	197	3	4	1
LPS0009	198	3	3	1
LPS0010	198	3	3	2
LPS0011	194	4	4	1
LPS0012	196	1	1	1
LPS0013	197	3	2	1
LPS0014	198	3	3	2
LPS0015	198	3	2	2
LPS0016	192	3	3	2
LPS0017	193	2	2	1
LPS0018	191	3	4	2
LPS0019	191	4	4	1
LPS0020	193	3	4	2
LPS0021	191	3	3	1.5
LPS0022	194	3	4	1
LPS0023	193	3	3	2
LPS0024	191	3	3	2
LPS0025	190	3	3	2
LPS0026	187	2	2	1
LPS0027	188	3	4	2
LPS0028	188	3	3	1
LPS0029	189	3	3	2
LPS0030	190	2	1	2
LPS0031	198	3	3	2
LPS0032	198	3	4	2
LPS0033	198	3	4	1
LPS0034	199	4	4	1

LPS0035	200	4	4	1
LPS0036	196	3	4	1
LPS0037	197	4	4	1
LPS0038	193	3	3	1
LPS0039	197	3	4	1
LPS0040	197	3	3	1
LPS0041	197	2	1	2
LPS0042	195	3	3	1.5
LPS0043	194	2	1	2
LPS0044	195	2	1	2
LPS0045	197	3	4	2

Table B-96: Descriptive statistics for all items, Tunisia model (Problem Solving)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LPS0001	225	3	4	2
LPS0002	226	3	2	1
LPS0003	225	3	4	2
LPS0004	226	3	4	2
LPS0005	224	3	4	2
LPS0006	226	3	4	2
LPS0007	225	3	3	2
LPS0008	226	3	4	2
LPS0009	225	3	3	1
LPS0010	226	3	3	2
LPS0011	226	3	4	1
LPS0012	225	2	1	3
LPS0013	225	2	2	1
LPS0014	224	2	3	1
LPS0015	224	3	2	1
LPS0016	229	3	3	1
LPS0017	228	2	2	1
LPS0018	229	3	4	2
LPS0019	227	3	4	2
LPS0020	229	3	4	2
LPS0021	227	2	3	1
LPS0022	229	3	4	2

LPS0023	229	3	3	2
LPS0024	226	3	3	1
LPS0025	226	3	3	2
LPS0026	227	2	2	1
LPS0027	224	2	4	2
LPS0028	226	3	3	2
LPS0029	228	3	3	1
LPS0030	228	2	1	2
LPS0031	229	3	3	2
LPS0032	227	3	4	2
LPS0033	229	3	4	1
LPS0034	229	3	4	1
LPS0035	230	4	4	1
LPS0036	227	3	4	1
LPS0037	227	4	4	1
LPS0038	226	3	3	1
LPS0039	227	3	4	2
LPS0040	227	3	3	1
LPS0041	226	1	1	2
LPS0042	225	3	3	2
LPS0043	226	2	1	2
LPS0044	227	2	1	2
LPS0045	227	3	4	2

Table B-97: IRT statistics – pooled, 45-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.13	-3.18	-1.30	0.15	0.38	-0.90	30.21	20	0.07
LPS0002	0.73	-3.55	-0.47	1.63	0.16	0.20	25.95	24	0.36
LPS0003	0.95	-2.52	-0.79	0.88	0.27	-0.70	24.55	25	0.49
LPS0004	0.57	-4.85	-1.93	0.54	0.10	-1.70	27.48	24	0.28
LPS0005	1.09	-2.72	-0.77	0.72	0.36	-0.40	28.54	23	0.20
LPS0006	0.99	-2.79	-1.00	0.72	0.30	-0.90	16.85	24	0.85
LPS0007	1.15	-2.65	-0.89	0.68	0.40	-0.70	26.23	22	0.24
LPS0008	1.29	-2.64	-1.00	0.29	0.50	-0.70	31.28	21	0.07
LPS0009	0.40	-5.82	-1.09	3.28	0.05	-0.70	40.57	26	0.03
LPS0010	0.82	-3.86	-1.21	0.85	0.20	-0.70	17.18	22	0.75

LPS0011	0.98	-2.84	-1.32	0.03	0.30	-1.30	23.15	24	0.51
LPS0012	-0.06	0.09	-11.85	-24.47	0.00	-3.00	27.19	26	0.40
LPS0013	1.16	-2.06	0.03	1.55	0.40	0.50	28.32	23	0.20
LPS0014	0.57	-2.67	-0.22	2.27	0.10	-0.20	24.13	26	0.57
LPS0015	1.09	-2.35	-0.30	1.22	0.36	0.20	29.68	24	0.20
LPS0016	1.07	-3.00	-0.69	0.93	0.34	-0.10	40.32	22	0.01
LPS0017	0.83	-1.86	0.23	2.30	0.21	0.30	31.50	26	0.21
LPS0018	0.80	-3.17	-1.12	0.37	0.20	-1.00	27.60	25	0.33
LPS0019	0.88	-3.17	-1.45	0.11	0.24	-1.40	28.49	24	0.24
LPS0020	0.70	-3.87	-1.11	0.99	0.15	-0.70	19.40	25	0.78
LPS0021	0.87	-2.22	-0.23	1.57	0.23	-0.10	38.35	26	0.06
LPS0022	0.88	-2.86	-1.17	0.50	0.24	-1.20	31.01	25	0.19
LPS0023	0.99	-2.77	-0.71	1.01	0.29	-0.30	26.19	24	0.34
LPS0024	0.20	-9.66	-4.53	3.99	0.01	-3.00	20.40	26	0.77
LPS0025	0.15	-11.60	-3.71	6.59	0.01	-3.00	17.50	26	0.89
LPS0026	0.14	-8.18	0.72	9.69	0.01	0.70	35.73	26	0.10
LPS0027	0.14	-9.96	-2.57	5.96	0.01	-2.20	11.10	26	1.00
LPS0028	0.16	-10.70	-3.50	7.51	0.01	-3.00	26.73	26	0.42
LPS0029	0.39	-4.51	-1.34	2.68	0.05	-1.50	18.91	26	0.84
LPS0030	-0.06	9.21	-7.53	-28.86	0.00	-3.00	26.66	26	0.43
LPS0031	0.28	-7.01	-1.34	3.48	0.02	-1.00	18.68	26	0.85
LPS0032	0.61	-3.49	-0.95	1.26	0.12	-0.90	35.68	26	0.10
LPS0033	1.07	-3.52	-1.38	0.32	0.34	-0.90	40.29	20	0.00
LPS0034	0.91	-3.09	-1.49	0.04	0.26	-1.50	21.07	24	0.63
LPS0035	1.19	-2.79	-1.41	-0.51	0.44	-1.40	32.70	21	0.05
LPS0036	0.35	-8.73	-5.18	0.64	0.04	-3.00	17.55	25	0.86
LPS0037	0.74	-4.45	-2.45	0.00	0.17	-2.80	39.49	22	0.01
LPS0038	0.19	-9.31	-1.87	6.01	0.01	-2.00	19.39	26	0.82
LPS0039	0.66	-3.85	-1.82	0.39	0.13	-1.80	44.87	25	0.01
LPS0040	-0.03	43.50	10.25	-45.30	0.00	3.00	24.32	26	0.56
LPS0041	-0.29	-0.22	-2.69	-5.79	0.03	-3.00	47.24	26	0.01
LPS0042	0.51	-5.03	-1.96	1.92	0.08	-2.60	36.58	26	0.08
LPS0043	0.04	-23.28	6.85	49.37	0.00	3.00	45.00	26	0.01
LPS0044	-0.03	26.22	-11.72	-53.37	0.00	-3.00	32.77	26	0.17
LPS0045	0.49	-3.61	-1.75	0.87	0.08	-1.50	33.96	26	0.14

Table B-98: IRT statistics – Egypt, 45-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.15	-2.85	-1.43	0.02	0.40	-1.40	15.09	16	0.52
LPS0002	0.70	-4.23	-0.63	1.34	0.15	0.10	25.50	18	0.11
LPS0003	0.83	-2.75	-1.11	0.98	0.21	-1.30	21.27	19	0.32
LPS0004	0.53	-4.34	-1.38	1.15	0.09	-1.20	17.36	21	0.69
LPS0005	0.83	-3.20	-0.62	1.00	0.21	-0.20	13.08	20	0.87
LPS0006	0.82	-2.91	-0.82	1.15	0.20	-0.70	20.92	21	0.46
LPS0007	0.89	-3.05	-1.01	0.98	0.24	-0.90	33.22	20	0.03
LPS0008	0.87	-3.57	-1.21	0.48	0.23	-0.80	22.36	17	0.17
LPS0009	0.03	-79.83	-12.97	48.67	0.00	-3.00	34.47	25	0.10
LPS0010	0.86	-3.42	-1.18	0.78	0.22	-0.90	20.18	19	0.38
LPS0011	1.09	-2.63	-1.00	0.11	0.36	-0.90	20.65	17	0.24
LPS0012	-0.50	-0.35	-1.70	-3.49	0.08	-1.90	26.21	25	0.40
LPS0013	0.91	-2.56	0.10	1.83	0.25	0.70	30.58	19	0.04
LPS0014	0.24	-5.67	-0.42	4.89	0.02	-0.40	18.45	26	0.86
LPS0015	0.71	-3.15	-0.36	1.55	0.15	0.10	24.85	22	0.30
LPS0016	0.85	-3.75	-0.96	1.04	0.22	-0.30	32.81	18	0.02
LPS0017	0.16	-10.49	-0.67	8.87	0.01	-0.50	15.23	26	0.95
LPS0018	0.80	-3.04	-0.94	0.59	0.20	-0.80	28.92	21	0.12
LPS0019	1.09	-2.52	-1.43	-0.11	0.37	-1.40	13.69	17	0.69
LPS0020	0.62	-4.29	-0.96	1.69	0.11	-0.30	17.94	19	0.53
LPS0021	0.76	-2.87	-0.44	1.52	0.18	-0.10	21.31	21	0.44
LPS0022	0.66	-3.47	-1.32	0.64	0.14	-1.30	21.60	22	0.48
LPS0023	1.06	-2.70	-0.88	0.83	0.34	-0.70	21.45	17	0.21
LPS0024	-0.11	22.08	11.22	-4.47	0.00	3.00	25.50	21	0.23
LPS0025	0.05	-33.69	-9.29	21.59	0.00	-3.00	17.83	26	0.88
LPS0026	-0.18	6.37	-1.09	-7.75	0.01	-1.00	16.79	26	0.92
LPS0027	0.19	-9.52	-4.13	3.05	0.01	-3.00	21.52	26	0.71
LPS0028	-0.06	25.16	8.30	-18.19	0.00	3.00	21.65	26	0.71
LPS0029	0.58	-3.99	-1.45	1.59	0.10	-1.80	20.08	22	0.58
LPS0030	-0.07	15.70	-0.90	-19.06	0.00	-1.30	40.83	26	0.03
LPS0031	0.18	-10.13	-2.39	4.97	0.01	-2.40	21.38	26	0.72
LPS0032	0.44	-4.10	-1.22	2.16	0.06	-1.30	23.07	25	0.57
LPS0033	0.86	-3.79	-1.44	0.19	0.22	-1.00	39.96	17	0.00

LPS0034	0.72	-3.67	-1.69	0.12	0.16	-1.70	30.08	19	0.05
LPS0035	1.15	-2.82	-1.49	-0.55	0.41	-1.50	19.27	14	0.15
LPS0036	0.70	-5.34	-2.93	0.05	0.15	-3.00	8.28	12	0.76
LPS0037	1.06	-3.03	-1.44	0.53	0.34	-1.80	27.68	15	0.02
LPS0038	0.15	-12.98	-2.47	5.89	0.01	-2.10	29.07	26	0.31
LPS0039	1.14	-2.76	-1.11	0.13	0.40	-0.90	21.73	17	0.20
LPS0040	0.10	-12.74	-2.24	12.70	0.00	-1.70	31.59	26	0.21
LPS0041	-0.63	0.29	-1.06	-2.41	0.12	-1.10	30.28	25	0.21
LPS0042	0.81	-3.34	-1.21	1.43	0.20	-1.70	22.55	20	0.31
LPS0043	-0.08	10.32	-5.41	-20.35	0.00	-3.00	37.24	26	0.07
LPS0044	0.03	-47.18	0.56	46.29	0.00	0.40	30.49	26	0.25
LPS0045	0.81	-3.28	-1.62	0.01	0.20	-1.60	29.15	19	0.06

Table B-99: IRT statistics – Palestine, 45-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.06	-3.32	-1.54	-0.14	0.34	-1.30	26.39	13	0.02
LPS0002	0.83	-2.67	-0.51	1.41	0.21	-0.30	18.17	19	0.51
LPS0003	1.38	-1.92	-0.51	0.71	0.57	-0.30	14.17	15	0.51
LPS0004	0.73	-4.23	-2.32	-0.20	0.16	-2.40	30.33	12	0.00
LPS0005	1.34	-2.45	-0.78	0.49	0.53	-0.40	16.84	15	0.33
LPS0006	1.21	-2.50	-1.02	0.53	0.44	-1.10	12.06	15	0.67
LPS0007	1.11	-2.56	-1.04	0.50	0.38	-1.10	20.60	15	0.15
LPS0008	1.33	-2.44	-1.03	0.15	0.53	-0.80	18.69	15	0.23
LPS0009	0.72	-3.33	-0.67	1.92	0.15	-0.60	22.65	17	0.16
LPS0010	1.05	-3.40	-1.15	0.59	0.33	-0.70	9.13	14	0.82
LPS0011	0.99	-2.71	-1.38	-0.03	0.31	-1.40	12.34	14	0.58
LPS0012	-0.25	-3.34	-6.22	-8.83	0.02	-3.00	18.22	9	0.03
LPS0013	0.97	-2.53	-0.06	1.70	0.28	0.50	25.79	16	0.06
LPS0014	0.46	-3.57	-0.70	2.48	0.06	-0.70	21.46	25	0.67
LPS0015	1.31	-2.00	-0.35	1.09	0.50	-0.10	18.62	15	0.23
LPS0016	1.41	-2.58	-0.99	0.38	0.59	-0.80	18.82	13	0.13
LPS0017	1.41	-1.30	0.21	1.62	0.58	0.30	18.92	16	0.27
LPS0018	0.84	-3.24	-0.90	0.36	0.22	-0.70	10.71	18	0.91
LPS0019	0.56	-4.72	-2.29	-0.07	0.10	-2.30	29.72	16	0.02
LPS0020	0.76	-3.39	-1.11	0.85	0.18	-0.90	22.80	18	0.20
LPS0021	0.91	-2.22	-0.41	1.38	0.25	-0.40	30.79	21	0.08

LPS0022	1.11	-2.82	-1.33	0.15	0.37	-1.30	13.95	14	0.45
LPS0023	0.83	-3.12	-0.87	1.15	0.21	-0.60	13.79	18	0.74
LPS0024	0.40	-5.71	-2.59	2.12	0.05	-3.00	24.99	20	0.20
LPS0025	0.36	-6.35	-2.06	2.43	0.04	-2.20	16.45	19	0.63
LPS0026	0.22	-5.75	0.33	6.32	0.01	0.30	21.48	26	0.72
LPS0027	0.19	-8.34	-3.24	3.36	0.01	-2.80	20.28	26	0.78
LPS0028	0.31	-5.27	-1.34	5.03	0.03	-2.20	18.93	26	0.84
LPS0029	0.37	-4.78	-1.43	2.49	0.04	-1.40	23.91	25	0.52
LPS0030	0.08	-4.89	6.45	23.75	0.00	3.00	26.70	26	0.42
LPS0031	0.60	-3.39	-0.57	1.66	0.11	-0.30	20.91	22	0.53
LPS0032	0.88	-2.80	-0.77	0.92	0.24	-0.50	22.42	19	0.26
LPS0033	1.21	-3.45	-1.47	0.12	0.43	-1.10	34.61	12	0.00
LPS0034	1.06	-2.98	-1.55	-0.20	0.34	-1.50	16.15	13	0.24
LPS0035	1.55	-2.42	-1.39	-0.78	0.74	-1.40	13.64	8	0.09
LPS0036	0.26	-13.96	-8.35	0.97	0.02	-1.20	6.58	7	0.47
LPS0037	0.87	-4.13	-2.29	-0.15	0.23	-2.60	12.24	12	0.43
LPS0038	0.37	-4.62	-0.80	3.59	0.04	-1.00	34.15	24	0.08
LPS0039	0.68	-4.15	-2.37	0.05	0.14	-2.50	16.47	13	0.22
LPS0040	0.00	460.60	136.61	-392.89	0.00	3.00	25.63	26	0.48
LPS0041	-0.22	0.67	-3.52	-7.93	0.01	-3.00	29.34	26	0.30
LPS0042	0.71	-3.64	-1.38	1.70	0.15	-2.00	18.99	17	0.33
LPS0043	-0.06	13.59	-3.98	-32.55	0.00	-3.00	19.72	25	0.76
LPS0044	-0.12	4.69	-3.64	-13.44	0.00	-3.00	45.15	26	0.01
LPS0045	0.46	-3.38	-1.77	1.35	0.06	-1.30	19.64	23	0.66

Table B-100: IRT statistics – Tunisia, 45-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.24	-3.43	-0.96	0.51	0.45	-0.30	22.56	14	0.07
LPS0002	0.67	-4.14	-0.26	2.25	0.13	0.70	8.12	18	0.98
LPS0003	0.76	-3.17	-0.84	1.01	0.18	-0.60	20.34	21	0.50
LPS0004	0.34	-9.26	-2.95	1.32	0.03	-1.70	23.14	16	0.11
LPS0005	0.96	-3.05	-0.99	0.88	0.28	-0.80	26.55	16	0.05
LPS0006	1.05	-2.93	-1.09	0.55	0.33	-0.90	25.47	16	0.06
LPS0007	1.29	-2.74	-0.75	0.67	0.49	-0.30	13.25	15	0.58
LPS0008	1.75	-2.30	-0.89	0.29	0.88	-0.70	9.91	13	0.70
LPS0009	0.33	-7.29	-1.34	3.88	0.03	-0.50	30.28	20	0.07

LPS0010	0.51	-6.09	-1.54	1.55	0.08	-0.50	13.13	16	0.66
LPS0011	0.88	-3.24	-1.65	-0.01	0.24	-1.70	19.76	16	0.23
LPS0012	0.67	-1.61	0.23	1.74	0.14	0.10	28.60	26	0.33
LPS0013	1.66	-1.48	0.01	1.26	0.80	0.20	17.00	13	0.20
LPS0014	1.05	-1.60	0.03	1.60	0.33	0.10	17.01	20	0.65
LPS0015	1.45	-2.16	-0.21	1.09	0.62	0.30	15.27	15	0.43
LPS0016	0.85	-3.35	-0.17	1.86	0.22	0.60	11.42	16	0.78
LPS0017	1.12	-1.25	0.39	2.08	0.37	0.30	21.40	19	0.31
LPS0018	0.89	-2.83	-1.33	0.18	0.25	-1.30	21.25	19	0.32
LPS0019	0.99	-3.01	-1.02	0.48	0.30	-0.70	11.55	17	0.83
LPS0020	0.82	-3.69	-1.15	0.53	0.20	-0.70	17.46	16	0.36
LPS0021	0.80	-1.99	0.13	2.12	0.19	0.20	18.76	23	0.72
LPS0022	0.95	-2.48	-0.90	0.79	0.28	-1.00	25.23	21	0.24
LPS0023	1.07	-2.51	-0.38	1.11	0.35	0.10	16.88	19	0.60
LPS0024	0.06	-24.02	-9.68	18.77	0.00	-3.00	18.15	26	0.87
LPS0025	-0.01	111.02	38.07	-80.59	0.00	3.00	22.87	26	0.64
LPS0026	0.30	-3.98	0.14	4.85	0.03	0.10	42.16	26	0.02
LPS0027	-0.13	6.98	-2.10	-10.38	0.01	-1.90	26.42	26	0.44
LPS0028	0.18	-10.53	-4.07	5.18	0.01	-3.00	22.72	26	0.65
LPS0029	0.17	-7.78	-1.19	7.89	0.01	-1.20	14.55	26	0.97
LPS0030	-0.33	0.68	-2.25	-5.83	0.03	-2.50	18.40	25	0.83
LPS0031	-0.05	38.37	6.62	-19.33	0.00	3.00	14.04	25	0.96
LPS0032	0.63	-3.56	-0.86	0.94	0.12	-0.70	23.09	22	0.40
LPS0033	1.15	-3.42	-1.23	0.65	0.38	-1.00	12.88	14	0.54
LPS0034	1.11	-2.51	-1.16	0.21	0.38	-1.20	14.31	17	0.64
LPS0035	0.94	-3.25	-1.37	-0.12	0.27	-1.20	13.28	16	0.65
LPS0036	-0.01	288.50	166.29	-48.45	0.00	3.00	32.64	22	0.07
LPS0037	0.57	-6.01	-3.84	-0.66	0.10	-3.00	22.49	9	0.01
LPS0038	-0.02	69.52	16.67	-52.45	0.00	3.00	24.54	26	0.55
LPS0039	0.25	-7.89	-3.47	2.21	0.02	-3.00	14.92	25	0.94
LPS0040	-0.36	3.13	0.63	-4.20	0.04	0.60	42.18	26	0.02
LPS0041	-0.28	-1.95	-3.60	-7.10	0.02	-3.00	26.83	23	0.26
LPS0042	0.14	-17.94	-7.59	4.83	0.01	-3.00	24.52	16	0.08
LPS0043	0.10	-9.14	0.72	18.60	0.00	0.70	26.02	26	0.46
LPS0044	-0.11	5.09	-5.61	-18.07	0.00	-3.00	24.80	26	0.53
LPS0045	0.28	-5.12	-2.05	2.33	0.02	-1.60	38.38	26	0.06

Table B-101: IRT statistics – pooled, 30-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.13	-3.20	-1.30	0.15	0.38	-0.90	31.23	20	0.05
LPS0002	0.75	-3.50	-0.46	1.60	0.17	0.20	30.27	25	0.21
LPS0003	0.95	-2.53	-0.79	0.88	0.27	-0.70	21.10	25	0.69
LPS0004	0.57	-4.89	-1.95	0.54	0.10	-1.70	17.52	25	0.86
LPS0005	1.10	-2.72	-0.77	0.71	0.36	-0.40	27.73	22	0.18
LPS0006	0.99	-2.78	-1.00	0.71	0.30	-0.90	24.40	24	0.44
LPS0007	1.16	-2.64	-0.88	0.67	0.40	-0.70	21.02	22	0.52
LPS0008	1.31	-2.61	-1.00	0.29	0.52	-0.70	31.16	21	0.07
LPS0009	0.40	-5.83	-1.09	3.28	0.05	-0.70	38.98	26	0.05
LPS0010	0.80	-3.92	-1.23	0.86	0.19	-0.70	20.86	22	0.53
LPS0011	0.98	-2.85	-1.33	0.03	0.30	-1.30	18.65	24	0.77
LPS0013	1.17	-2.05	0.02	1.53	0.40	0.50	34.42	23	0.06
LPS0014	0.57	-2.65	-0.22	2.25	0.10	-0.20	17.90	26	0.88
LPS0015	1.11	-2.34	-0.30	1.21	0.37	0.20	33.10	24	0.10
LPS0016	1.10	-2.94	-0.68	0.92	0.36	-0.10	24.69	22	0.31
LPS0017	0.85	-1.83	0.23	2.27	0.22	0.30	29.38	26	0.29
LPS0018	0.80	-3.19	-1.12	0.38	0.20	-1.00	23.60	25	0.54
LPS0019	0.88	-3.17	-1.45	0.11	0.24	-1.40	34.43	24	0.08
LPS0020	0.70	-3.87	-1.11	0.99	0.15	-0.70	28.67	25	0.28
LPS0021	0.84	-2.29	-0.24	1.62	0.21	-0.10	30.63	26	0.24
LPS0022	0.87	-2.89	-1.18	0.50	0.23	-1.20	26.23	25	0.40
LPS0023	0.99	-2.76	-0.70	1.01	0.30	-0.30	30.86	24	0.16
LPS0032	0.59	-3.62	-0.99	1.31	0.11	-0.90	26.31	26	0.45
LPS0033	1.10	-3.43	-1.35	0.31	0.36	-0.90	48.19	20	0.00
LPS0034	0.90	-3.13	-1.51	0.04	0.25	-1.50	25.43	24	0.38
LPS0035	1.17	-2.82	-1.42	-0.51	0.42	-1.40	33.79	21	0.04
LPS0037	0.75	-4.39	-2.42	0.00	0.17	-2.70	44.46	22	0.00
LPS0039	0.62	-4.04	-1.90	0.40	0.12	-1.90	35.42	25	0.08
LPS0042	0.48	-5.33	-2.07	2.03	0.07	-2.80	30.70	26	0.24
LPS0045	0.47	-3.76	-1.82	0.91	0.07	-1.60	44.43	26	0.01

Table B-102: IRT statistics – Egypt, 30-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.14	-2.88	-1.44	0.02	0.39	-1.50	29.85	15	0.01
LPS0002	0.72	-4.14	-0.62	1.31	0.15	0.10	26.53	18	0.09
LPS0003	0.86	-2.67	-1.08	0.95	0.22	-1.30	21.41	21	0.43
LPS0004	0.51	-4.47	-1.42	1.19	0.08	-1.30	33.11	23	0.08
LPS0005	0.89	-3.05	-0.59	0.96	0.24	-0.10	22.83	20	0.30
LPS0006	0.79	-2.99	-0.84	1.19	0.19	-0.70	22.07	21	0.40
LPS0007	0.94	-2.94	-0.97	0.94	0.27	-0.90	29.14	19	0.06
LPS0008	0.87	-3.57	-1.22	0.48	0.23	-0.80	20.79	17	0.24
LPS0009	0.07	-31.09	-5.08	18.89	0.00	-2.70	23.33	25	0.56
LPS0010	0.84	-3.47	-1.19	0.80	0.21	-0.90	24.43	19	0.18
LPS0011	1.07	-2.66	-1.01	0.12	0.35	-0.90	16.32	18	0.57
LPS0013	0.96	-2.46	0.09	1.76	0.28	0.70	28.25	19	0.08
LPS0014	0.27	-4.94	-0.38	4.24	0.02	-0.40	31.32	26	0.22
LPS0015	0.73	-3.06	-0.36	1.50	0.16	0.10	25.10	22	0.29
LPS0016	0.86	-3.72	-0.95	1.03	0.22	-0.30	37.82	17	0.00
LPS0017	0.19	-9.28	-0.59	7.85	0.01	-0.40	16.63	26	0.92
LPS0018	0.81	-3.03	-0.95	0.57	0.20	-0.80	26.79	21	0.18
LPS0019	1.05	-2.58	-1.47	-0.12	0.34	-1.50	17.90	17	0.39
LPS0020	0.66	-4.04	-0.90	1.58	0.13	-0.30	13.24	18	0.78
LPS0021	0.74	-2.95	-0.46	1.55	0.17	-0.10	26.50	22	0.23
LPS0022	0.62	-3.69	-1.41	0.67	0.12	-1.40	28.43	23	0.20
LPS0023	1.15	-2.56	-0.84	0.78	0.40	-0.70	14.92	17	0.60
LPS0032	0.38	-4.71	-1.40	2.48	0.05	-1.50	39.08	26	0.05
LPS0033	0.90	-3.65	-1.39	0.18	0.24	-1.00	36.96	16	0.00
LPS0034	0.67	-3.93	-1.81	0.13	0.14	-1.80	14.67	19	0.74
LPS0035	1.20	-2.75	-1.45	-0.53	0.44	-1.50	9.99	13	0.69
LPS0037	1.09	-2.96	-1.40	0.52	0.36	-1.80	22.71	16	0.12
LPS0039	1.10	-2.83	-1.13	0.14	0.37	-0.90	22.73	18	0.20
LPS0042	0.70	-3.76	-1.36	1.61	0.15	-1.90	32.68	19	0.03
LPS0045	0.71	-3.63	-1.78	0.02	0.16	-1.80	36.39	19	0.01

Table B-103: IRT statistics – Palestine, 30-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.04	-3.38	-1.57	-0.15	0.33	-1.30	34.75	14	0.00
LPS0002	0.85	-2.64	-0.51	1.38	0.22	-0.30	24.81	19	0.17
LPS0003	1.37	-1.93	-0.52	0.70	0.56	-0.30	13.40	15	0.57
LPS0004	0.74	-4.18	-2.30	-0.21	0.17	-2.40	20.75	13	0.08
LPS0005	1.34	-2.46	-0.78	0.48	0.53	-0.40	10.72	14	0.71
LPS0006	1.21	-2.51	-1.04	0.52	0.44	-1.10	6.96	13	0.90
LPS0007	1.12	-2.57	-1.05	0.49	0.38	-1.10	18.57	15	0.23
LPS0008	1.35	-2.42	-1.02	0.14	0.55	-0.80	11.60	13	0.56
LPS0009	0.72	-3.32	-0.67	1.90	0.16	-0.60	32.53	18	0.02
LPS0010	1.03	-3.47	-1.18	0.59	0.32	-0.70	22.53	15	0.09
LPS0011	0.98	-2.74	-1.40	-0.04	0.30	-1.40	16.72	16	0.40
LPS0013	0.98	-2.52	-0.06	1.69	0.28	0.50	21.44	16	0.16
LPS0014	0.46	-3.53	-0.69	2.43	0.07	-0.70	20.26	25	0.73
LPS0015	1.28	-2.03	-0.36	1.09	0.49	-0.10	26.62	17	0.06
LPS0016	1.49	-2.50	-0.96	0.37	0.65	-0.70	20.08	12	0.07
LPS0017	1.39	-1.30	0.22	1.64	0.57	0.30	18.57	16	0.29
LPS0018	0.83	-3.28	-0.90	0.38	0.21	-0.70	18.74	17	0.34
LPS0019	0.58	-4.55	-2.20	-0.06	0.10	-2.20	25.97	16	0.05
LPS0020	0.73	-3.51	-1.15	0.89	0.16	-0.90	13.57	18	0.76
LPS0021	0.86	-2.32	-0.42	1.44	0.23	-0.40	27.42	21	0.16
LPS0022	1.07	-2.89	-1.36	0.16	0.35	-1.30	11.03	14	0.68
LPS0023	0.83	-3.12	-0.86	1.16	0.21	-0.60	13.89	17	0.67
LPS0032	0.83	-2.95	-0.81	0.97	0.21	-0.60	26.31	21	0.20
LPS0033	1.26	-3.36	-1.43	0.12	0.46	-1.10	28.47	12	0.00
LPS0034	1.08	-2.94	-1.54	-0.20	0.36	-1.50	17.17	12	0.14
LPS0035	1.60	-2.36	-1.36	-0.76	0.79	-1.40	12.19	8	0.14
LPS0037	0.86	-4.16	-2.30	-0.14	0.22	-2.60	10.35	11	0.50
LPS0039	0.63	-4.40	-2.51	0.06	0.12	-2.60	17.17	13	0.19
LPS0042	0.70	-3.65	-1.38	1.72	0.15	-2.00	19.36	17	0.31
LPS0045	0.47	-3.28	-1.72	1.32	0.07	-1.30	17.90	23	0.76

Table B-104: IRT statistics – Tunisia, 30-item model (Problem Solving)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LPS0001	1.24	-3.43	-0.95	0.52	0.45	-0.30	17.36	13	0.18
LPS0002	0.67	-4.11	-0.25	2.24	0.13	0.70	12.17	17	0.79
LPS0003	0.75	-3.20	-0.84	1.02	0.17	-0.60	29.98	21	0.09
LPS0004	0.34	-9.28	-2.95	1.32	0.03	-1.70	20.22	16	0.21
LPS0005	0.96	-3.06	-0.99	0.89	0.28	-0.80	24.84	16	0.07
LPS0006	1.05	-2.94	-1.09	0.55	0.33	-0.90	17.10	16	0.38
LPS0007	1.26	-2.78	-0.76	0.69	0.47	-0.30	13.18	15	0.59
LPS0008	1.74	-2.31	-0.88	0.30	0.88	-0.70	17.31	13	0.19
LPS0009	0.33	-7.34	-1.35	3.91	0.03	-0.50	22.19	19	0.27
LPS0010	0.50	-6.20	-1.56	1.58	0.07	-0.50	11.92	16	0.75
LPS0011	0.90	-3.20	-1.62	-0.01	0.25	-1.60	14.69	15	0.47
LPS0013	1.72	-1.46	0.02	1.25	0.85	0.20	18.10	13	0.15
LPS0014	1.04	-1.60	0.04	1.62	0.33	0.10	17.21	21	0.70
LPS0015	1.46	-2.15	-0.20	1.10	0.62	0.30	19.16	14	0.16
LPS0016	0.91	-3.19	-0.16	1.77	0.24	0.60	18.03	16	0.32
LPS0017	1.13	-1.24	0.39	2.07	0.38	0.30	24.45	19	0.18
LPS0018	0.86	-2.91	-1.37	0.18	0.23	-1.40	17.65	18	0.48
LPS0019	0.97	-3.06	-1.03	0.49	0.28	-0.70	13.53	17	0.70
LPS0020	0.79	-3.78	-1.17	0.55	0.19	-0.70	15.85	17	0.53
LPS0021	0.79	-2.00	0.13	2.14	0.19	0.20	17.19	22	0.75
LPS0022	0.93	-2.52	-0.91	0.80	0.26	-1.00	31.87	21	0.06
LPS0023	1.09	-2.49	-0.38	1.10	0.35	0.10	21.91	19	0.29
LPS0032	0.63	-3.56	-0.86	0.94	0.12	-0.70	35.40	23	0.05
LPS0033	1.18	-3.36	-1.21	0.63	0.40	-1.00	13.48	14	0.49
LPS0034	1.05	-2.61	-1.20	0.21	0.34	-1.20	15.39	17	0.57
LPS0035	0.91	-3.34	-1.41	-0.13	0.25	-1.30	29.46	17	0.03
LPS0037	0.54	-6.35	-4.05	-0.70	0.09	-3.00	12.95	8	0.11
LPS0039	0.24	-8.32	-3.66	2.32	0.02	-3.00	23.92	25	0.52
LPS0042	0.14	-18.65	-7.89	5.02	0.01	-3.00	25.14	17	0.09
LPS0045	0.30	-4.76	-1.91	2.16	0.03	-1.50	32.36	26	0.18

MODEL STATISTICS

Table B-105: Fit indices and reliability, 45-item model (Problem Solving)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1316.81	855	0.00	0.02	0.04	0.91	0.92	0.81
	(31.20)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	1066.81	855	0.00	0.03	0.05	0.85	0.86	0.79
	(62.12)	-	-	(0.00)	(0.00)	(0.04)	(0.04)	-
Palestine	1000.90	855	0.01	0.02	0.06	0.94	0.94	0.84
	(36.47)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	1016.04	855	0.00	0.02	0.06	0.92	0.92	0.82
	(36.76)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-

Table B-106: Measurement invariance test, 45-item model (Problem Solving)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3083.69	2565	0.00	0.01	0.05	0.06	0.05	0.95	0.95
	(117.07)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	3204.20	2655	0.00	0.01	0.06	0.06	0.06	0.94	0.94
	(103.05)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	3810.54	2923	0.00	0.02	0.06	0.06	0.06	0.91	0.90
	(90.69)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	120.51	90	0.00	0.00	0.01	0.01	0.01	-0.01	-0.01
Difference: Scalar - Metric	606.34	268	0.00	0.00	0.00	0.00	0.00	-0.03	-0.04

Table B-107: Fit indices and reliability, 30-item model (Problem Solving)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	448.85	345	0.00	0.02	0.03	0.98	0.98	0.80
	(25.08)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	402.02	345	0.04	0.02	0.05	0.95	0.95	0.78
	(19.19)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-
Palestine	369.89	345	0.20	0.02	0.05	0.99	0.99	0.83
	(13.58)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	382.88	345	0.09	0.02	0.05	0.98	0.98	0.82
	(10.11)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-108: Measurement invariance test, 30-item model (Problem Solving)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1203.54	1035	0.00	0.01	0.05	0.05	0.05	0.98	0.98
	(32.44)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Metric model	1283.42	1095	0.00	0.01	0.07	0.06	0.06	0.98	0.98
	(40.60)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Scalar model	1646.64	1273	0.00	0.02	0.06	0.06	0.06	0.96	0.95
	(41.64)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Difference: Metric - Configural	79.88	60	0.00	0.00	0.02	0.01	0.01	0.00	0.00
Difference: Scalar - Metric	363.22	178	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02

PERSONAL EMPOWERMENT: COMMUNICATION
ITEM STATISTICS

Table B-109: Response frequencies for all items, pooled model (Communication)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PCO0001	0.08	0.29	0.47	0.17
PCO0002	0.35	0.40	0.17	0.08
PCO0003	0.02	0.04	0.14	0.80
PCO0004	0.30	0.43	0.20	0.07
PCO0005	0.36	0.33	0.20	0.10
PCO0006	0.20	0.43	0.30	0.07
PCO0007	0.03	0.06	0.21	0.70
PCO0008	0.21	0.32	0.24	0.24
PCO0009	0.44	0.30	0.20	0.06
PCO0010	0.17	0.23	0.26	0.34
PCO0011	0.09	0.29	0.27	0.35
PCO0012	0.45	0.27	0.15	0.13
PCO0013	0.19	0.26	0.26	0.29
PCO0014	0.16	0.24	0.23	0.38
PCO0015	0.14	0.27	0.29	0.29
PCO0016	0.09	0.32	0.32	0.27
PCO0017	0.14	0.25	0.28	0.33
PCO0018	0.17	0.17	0.29	0.37
PCO0019	0.17	0.20	0.25	0.38
PCO0020	0.15	0.29	0.26	0.30
PCO0021	0.17	0.21	0.33	0.30
PCO0022	0.09	0.22	0.23	0.47
PCO0023	0.12	0.36	0.33	0.19
PCO0024	0.26	0.26	0.29	0.19
PCO0025	0.20	0.29	0.32	0.20
PCO0026	0.13	0.17	0.28	0.42
PCO0027	0.25	0.19	0.32	0.23
PCO0028	0.14	0.14	0.31	0.41
PCO0029	0.14	0.19	0.34	0.33
PCO0030	0.37	0.25	0.21	0.17
PCO0031	0.17	0.25	0.38	0.20

PCO0032	0.08	0.24	0.28	0.40
PCO0033	0.04	0.08	0.13	0.75
PCO0034	0.06	0.21	0.32	0.41
PCO0035	0.13	0.28	0.28	0.30
PCO0036	0.17	0.17	0.33	0.33
PCO0037	0.13	0.21	0.41	0.25
PCO0038	0.24	0.26	0.32	0.19
PCO0039	0.42	0.30	0.17	0.11
PCO0040	0.30	0.27	0.27	0.16
PCO0041	0.03	0.09	0.35	0.53
PCO0042	0.28	0.31	0.25	0.16
PCO0043	0.15	0.20	0.43	0.22
PCO0044	0.27	0.23	0.26	0.24
PCO0045	0.10	0.12	0.32	0.47

Table B-110: Response frequencies for all items, Egypt model (Communication)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
PCO0001	0.06	0.28	0.43	0.23
PCO0002	0.27	0.39	0.22	0.12
PCO0003	0.03	0.07	0.16	0.75
PCO0004	0.27	0.39	0.21	0.14
PCO0005	0.36	0.33	0.19	0.12
PCO0006	0.18	0.41	0.29	0.12
PCO0007	0.06	0.10	0.26	0.58
PCO0008	0.20	0.26	0.21	0.33
PCO0009	0.28	0.35	0.27	0.10
PCO0010	0.15	0.20	0.27	0.39
PCO0011	0.10	0.29	0.29	0.31
PCO0012	0.39	0.29	0.17	0.15
PCO0013	0.15	0.24	0.28	0.33
PCO0014	0.15	0.22	0.22	0.40
PCO0015	0.18	0.23	0.32	0.27
PCO0016	0.08	0.33	0.32	0.26
PCO0017	0.17	0.24	0.29	0.30
PCO0018	0.24	0.20	0.30	0.26
PCO0019	0.18	0.22	0.21	0.39

PCO0020	0.15	0.27	0.20	0.37
PCO0021	0.19	0.25	0.26	0.30
PCO0022	0.10	0.20	0.22	0.48
PCO0023	0.12	0.37	0.31	0.20
PCO0024	0.23	0.25	0.30	0.22
PCO0025	0.15	0.24	0.34	0.27
PCO0026	0.18	0.16	0.26	0.40
PCO0027	0.25	0.17	0.33	0.26
PCO0028	0.17	0.15	0.27	0.41
PCO0029	0.10	0.19	0.36	0.35
PCO0030	0.36	0.23	0.22	0.18
PCO0031	0.23	0.30	0.33	0.14
PCO0032	0.09	0.27	0.25	0.39
PCO0033	0.05	0.10	0.10	0.75
PCO0034	0.09	0.19	0.34	0.38
PCO0035	0.16	0.28	0.29	0.26
PCO0036	0.15	0.15	0.34	0.36
PCO0037	0.10	0.20	0.44	0.26
PCO0038	0.23	0.26	0.27	0.24
PCO0039	0.38	0.28	0.18	0.16
PCO0040	0.22	0.27	0.29	0.21
PCO0041	0.04	0.08	0.32	0.56
PCO0042	0.22	0.30	0.30	0.18
PCO0043	0.15	0.21	0.41	0.23
PCO0044	0.31	0.26	0.23	0.21
PCO0045	0.15	0.13	0.30	0.42

Table B-111: Response frequencies for all items, Palestine model (Communication)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PCO0001	0.12	0.29	0.42	0.17
PCO0002	0.42	0.38	0.13	0.07
PCO0003	0.03	0.04	0.13	0.81
PCO0004	0.30	0.49	0.15	0.06
PCO0005	0.39	0.37	0.18	0.07
PCO0006	0.27	0.42	0.25	0.06
PCO0007	0.02	0.04	0.18	0.77
PCO0008	0.27	0.31	0.24	0.19

PCO0009	0.54	0.24	0.20	0.03
PCO0010	0.16	0.23	0.22	0.39
PCO0011	0.13	0.26	0.26	0.35
PCO0012	0.51	0.26	0.15	0.08
PCO0013	0.21	0.32	0.23	0.24
PCO0014	0.20	0.18	0.26	0.37
PCO0015	0.13	0.31	0.31	0.24
PCO0016	0.07	0.26	0.31	0.37
PCO0017	0.10	0.26	0.30	0.35
PCO0018	0.15	0.16	0.20	0.48
PCO0019	0.17	0.23	0.28	0.31
PCO0020	0.12	0.25	0.36	0.27
PCO0021	0.16	0.23	0.31	0.30
PCO0022	0.09	0.25	0.22	0.44
PCO0023	0.13	0.29	0.39	0.19
PCO0024	0.22	0.26	0.30	0.23
PCO0025	0.21	0.25	0.33	0.22
PCO0026	0.11	0.18	0.26	0.45
PCO0027	0.25	0.16	0.34	0.24
PCO0028	0.12	0.13	0.32	0.43
PCO0029	0.17	0.21	0.33	0.29
PCO0030	0.32	0.25	0.23	0.20
PCO0031	0.15	0.23	0.35	0.28
PCO0032	0.07	0.19	0.27	0.46
PCO0033	0.03	0.06	0.14	0.77
PCO0034	0.04	0.16	0.30	0.50
PCO0035	0.07	0.28	0.32	0.33
PCO0036	0.20	0.20	0.26	0.34
PCO0037	0.14	0.25	0.40	0.21
PCO0038	0.27	0.26	0.34	0.14
PCO0039	0.41	0.34	0.17	0.09
PCO0040	0.30	0.25	0.29	0.15
PCO0041	0.03	0.07	0.36	0.55
PCO0042	0.29	0.36	0.23	0.13
PCO0043	0.13	0.22	0.43	0.22
PCO0044	0.26	0.27	0.23	0.23
PCO0045	0.07	0.08	0.29	0.57

Table B-112: Response frequencies for all items, Tunisia model (Communication)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PCO0001	0.06	0.29	0.55	0.11
PCO0002	0.36	0.42	0.17	0.05
PCO0003	0.00	0.01	0.15	0.84
PCO0004	0.32	0.43	0.23	0.02
PCO0005	0.35	0.31	0.24	0.10
PCO0006	0.15	0.47	0.35	0.03
PCO0007	0.00	0.03	0.19	0.78
PCO0008	0.16	0.38	0.27	0.19
PCO0009	0.52	0.31	0.13	0.04
PCO0010	0.21	0.27	0.29	0.24
PCO0011	0.04	0.30	0.27	0.38
PCO0012	0.46	0.25	0.14	0.15
PCO0013	0.22	0.23	0.25	0.29
PCO0014	0.13	0.30	0.21	0.35
PCO0015	0.11	0.29	0.25	0.35
PCO0016	0.11	0.36	0.33	0.19
PCO0017	0.14	0.26	0.26	0.33
PCO0018	0.13	0.14	0.33	0.39
PCO0019	0.15	0.15	0.27	0.43
PCO0020	0.17	0.35	0.24	0.24
PCO0021	0.15	0.14	0.41	0.29
PCO0022	0.08	0.21	0.24	0.47
PCO0023	0.12	0.41	0.29	0.18
PCO0024	0.33	0.27	0.28	0.12
PCO0025	0.24	0.37	0.30	0.09
PCO0026	0.10	0.16	0.32	0.41
PCO0027	0.27	0.24	0.31	0.19
PCO0028	0.13	0.15	0.34	0.38
PCO0029	0.17	0.17	0.32	0.34
PCO0030	0.42	0.26	0.19	0.13
PCO0031	0.13	0.22	0.45	0.20
PCO0032	0.07	0.24	0.33	0.36
PCO0033	0.03	0.08	0.16	0.73
PCO0034	0.06	0.27	0.31	0.37

PCO0035	0.16	0.29	0.23	0.32
PCO0036	0.15	0.15	0.39	0.30
PCO0037	0.14	0.17	0.39	0.30
PCO0038	0.22	0.26	0.35	0.18
PCO0039	0.49	0.28	0.16	0.07
PCO0040	0.39	0.30	0.22	0.10
PCO0041	0.04	0.13	0.37	0.47
PCO0042	0.34	0.29	0.21	0.16
PCO0043	0.16	0.19	0.44	0.21
PCO0044	0.22	0.15	0.33	0.29
PCO0045	0.06	0.13	0.37	0.44

Table B-113: Descriptive statistics for all items, pooled model (Communication)

	Measures of Central Tendency			Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	662	3	3	1
PCO0002	659	2	2	2
PCO0003	666	4	4	0
PCO0004	661	2	2	2
PCO0005	660	2	1	2
PCO0006	663	2	2	1
PCO0007	665	4	4	1
PCO0008	662	2	2	1
PCO0009	663	2	1	2
PCO0010	655	3	4	2
PCO0011	662	3	4	2
PCO0012	657	2	1	2
PCO0013	663	3	4	2
PCO0014	663	3	4	2
PCO0015	662	3	3	2
PCO0016	667	3	3	2
PCO0017	663	3	4	2
PCO0018	663	3	4	2
PCO0019	663	3	4	2
PCO0020	662	3	4	2
PCO0021	664	3	3	2
PCO0022	666	3	4	2

PCO0023	665	3	2	1
PCO0024	664	2	3	2
PCO0025	661	3	3	1
PCO0026	662	3	4	2
PCO0027	665	3	3	2
PCO0028	667	3	4	2
PCO0029	668	3	3	2
PCO0030	668	2	1	2
PCO0031	656	3	3	1
PCO0032	660	3	4	2
PCO0033	655	4	4	0
PCO0034	658	3	4	2
PCO0035	657	3	4	2
PCO0036	657	3	4	2
PCO0037	656	3	3	2
PCO0038	658	3	3	1
PCO0039	657	2	1	2
PCO0040	656	2	1	2
PCO0041	659	4	4	1
PCO0042	658	2	2	2
PCO0043	655	3	3	1
PCO0044	654	3	1	2
PCO0045	659	3	4	1

Table B-114: Descriptive statistics for all items, Egypt model (Communication)

	Measures of Central Tendency			Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	241	3	3	1
PCO0002	241	2	2	2
PCO0003	244	4	4	1
PCO0004	240	2	2	2
PCO0005	242	2	1	2
PCO0006	242	2	2	1
PCO0007	243	4	4	1
PCO0008	241	3	2	2
PCO0009	239	2	1	2
PCO0010	241	3	4	2
PCO0011	242	3	4	2

PCO0012	241	2	1	2
PCO0013	241	3	4	2
PCO0014	243	3	4	2
PCO0015	242	3	3	2
PCO0016	249	3	3	2
PCO0017	248	3	4	2
PCO0018	246	3	4	2
PCO0019	245	3	4	2
PCO0020	246	3	4	2
PCO0021	247	3	3	2
PCO0022	248	3	4	2
PCO0023	247	3	2	1
PCO0024	248	3	3	1
PCO0025	247	3	3	2
PCO0026	247	3	4	2
PCO0027	247	3	3	2
PCO0028	248	3	4	2
PCO0029	248	3	3	2
PCO0030	249	2	1	2
PCO0031	237	2	3	1
PCO0032	242	3	4	2
PCO0033	239	4	4	0
PCO0034	240	3	4	2
PCO0035	239	3	4	2
PCO0036	239	3	4	2
PCO0037	239	3	3	2
PCO0038	240	3	3	1
PCO0039	240	2	1	2
PCO0040	238	3	1	1
PCO0041	240	4	4	1
PCO0042	239	2	2	1
PCO0043	239	3	3	1
PCO0044	238	2	1	2
PCO0045	240	3	4	2

Table B-115: Descriptive statistics for all items, Palestine model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	197	3	3	1
PCO0002	197	2	2	1
PCO0003	198	4	4	0
PCO0004	197	2	2	1
PCO0005	197	2	1	1
PCO0006	198	2	2	2
PCO0007	198	4	4	0
PCO0008	199	2	2	2
PCO0009	200	1	1	1
PCO0010	195	3	4	2
PCO0011	197	3	4	2
PCO0012	196	1	1	1
PCO0013	198	2	4	1
PCO0014	197	3	4	2
PCO0015	197	3	3	1
PCO0016	196	3	3	2
PCO0017	196	3	4	2
PCO0018	196	3	4	2
PCO0019	196	3	4	2
PCO0020	195	3	4	2
PCO0021	196	3	3	2
PCO0022	196	3	4	2
PCO0023	196	3	2	1
PCO0024	195	3	3	1
PCO0025	195	3	3	1
PCO0026	195	3	4	2
PCO0027	196	3	3	1.25
PCO0028	197	3	4	1
PCO0029	198	3	3	2
PCO0030	197	2	1	2
PCO0031	202	3	3	2
PCO0032	201	3	4	2
PCO0033	199	4	4	0
PCO0034	201	4	4	1

PCO0035	201	3	4	2
PCO0036	198	3	4	2
PCO0037	198	3	3	1
PCO0038	200	2	3	2
PCO0039	200	2	1	2
PCO0040	198	2	1	2
PCO0041	200	4	4	1
PCO0042	200	2	2	2
PCO0043	201	3	3	1
PCO0044	197	2	1	2
PCO0045	200	4	4	1

Table B-116: Descriptive statistics for all items, Tunisia model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	**n**	**Median**	**Mode**	**IQR**
PCO0001	224	3	3	1
PCO0002	221	2	2	1
PCO0003	224	4	4	0
PCO0004	224	2	2	1.25
PCO0005	221	2	1	2
PCO0006	223	2	2	1
PCO0007	224	4	4	0
PCO0008	222	2	2	1
PCO0009	224	1	1	1
PCO0010	219	3	4	1
PCO0011	223	3	4	2
PCO0012	220	2	1	2
PCO0013	224	3	4	2
PCO0014	223	3	4	2
PCO0015	223	3	3	2
PCO0016	222	3	3	1
PCO0017	219	3	4	2
PCO0018	221	3	4	2
PCO0019	222	3	4	2
PCO0020	221	2	4	1
PCO0021	221	3	3	2
PCO0022	222	3	4	2

PCO0023	222	2	2	1
PCO0024	221	2	3	2
PCO0025	219	2	3	1
PCO0026	220	3	4	2
PCO0027	222	2	3	2
PCO0028	222	3	4	2
PCO0029	222	3	3	2
PCO0030	222	2	1	2
PCO0031	217	3	3	1
PCO0032	217	3	4	2
PCO0033	217	4	4	1
PCO0034	217	3	4	2
PCO0035	217	3	4	2
PCO0036	220	3	4	2
PCO0037	219	3	3	2
PCO0038	218	3	3	1
PCO0039	217	2	1	1
PCO0040	220	2	1	2
PCO0041	219	3	4	1
PCO0042	219	2	2	2
PCO0043	215	3	3	1
PCO0044	219	3	1	2
PCO0045	200	4	4	1

Table B-117: IRT statistics – pooled, 45-item two-factor model by attributes (Communication)

	IRT parameters				
Item	**a (F1)**	**a (F2)**	**δ_1**	**δ_2**	**δ_3**
PCO0001	-	1.16	-1.96	0.71	2.89
PCO0002	-	1.46	-3.25	-1.47	0.86
PCO0003	-	0.22	1.41	2.85	3.94
PCO0004	-	1.27	-3.21	-1.22	1.15
PCO0005	-	1.24	-2.78	-1.05	0.74
PCO0006	-	1.37	-3.33	-0.69	1.83
PCO0007	-	0.20	0.91	2.43	3.65
PCO0008	0.87	-	-1.32	-0.09	1.55
PCO0009	0.89	-	-3.20	-1.24	0.26
PCO0010	0.28	-	-0.67	0.41	1.61

PCO0011	0.68	-	-0.67	0.56	2.45
PCO0012	0.07	-	-1.92	-0.94	0.19
PCO0013	0.45	-	-0.95	0.18	1.49
PCO0014	-	0.37	-0.53	0.43	1.68
PCO0015	0.64	-	-0.97	0.37	1.95
PCO0016	0.72	-	-1.10	0.41	2.52
PCO0017	-	0.19	-0.73	0.44	1.85
PCO0018	-	0.06	-0.49	0.66	1.57
PCO0019	0.03	-	-0.50	0.53	1.60
PCO0020	0.89	-	-1.03	0.26	1.96
PCO0021	0.07	-	-0.87	0.50	1.60
PCO0022	-	0.34	-0.15	0.82	2.39
PCO0023	0.75	-	-1.62	0.08	2.12
PCO0024	0.24	-	-1.47	-0.08	1.06
PCO0025	-	0.31	-1.46	0.06	1.41
PCO0026	-	0.43	-0.34	0.87	1.94
PCO0027	-0.01	-	-1.21	0.22	1.08
PCO0028	-	0.23	-0.39	0.94	1.85
PCO0029	0.12	-	-0.73	0.68	1.77
PCO0030	0.03	-	-1.59	-0.47	0.53
PCO0031	-	0.03	-1.35	0.33	1.59
PCO0032	-	0.51	-0.39	0.85	2.58
PCO0033	-	0.48	1.18	2.12	3.40
PCO0034	-	0.41	-0.32	1.07	2.83
PCO0035	-	0.47	-0.86	0.37	1.98
PCO0036	-	0.23	-0.69	0.69	1.63
PCO0037	-	0.45	-1.12	0.73	2.03
PCO0038	0.50	-	-1.56	0.03	1.24
PCO0039	0.08	-	-2.12	-0.97	0.30
PCO0040	-	0.20	-1.71	-0.30	0.85
PCO0041	0.11	-	0.10	1.94	3.35
PCO0042	0.16	-	-1.72	-0.40	0.93
PCO0043	0.25	-	-1.29	0.62	1.79
PCO0044	0.38	-	-1.17	0.04	1.06
PCO0045	0.21	-	-0.09	1.36	2.30

Table B-118: IRT statistics – Egypt, 45-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	0.94	-1.37	0.82	3.05
PCO0002	-	1.62	-2.78	-0.89	1.46
PCO0003	-	-0.23	1.08	2.23	3.41
PCO0004	-	1.15	-2.23	-0.67	1.34
PCO0005	-	1.40	-2.53	-0.97	0.84
PCO0006	-	1.17	-2.43	-0.38	1.89
PCO0007	-	-0.06	0.34	1.65	2.80
PCO0008	0.54	-	-0.74	0.19	1.49
PCO0009	0.82	-	-2.43	-0.58	1.09
PCO0010	0.36	-	-0.47	0.67	1.82
PCO0011	0.20	-	-0.78	0.44	2.18
PCO0012	0.75	-	-1.86	-0.79	0.53
PCO0013	0.25	-	-0.71	0.48	1.77
PCO0014	-	0.26	-0.40	0.52	1.74
PCO0015	0.58	-	-1.07	0.38	1.60
PCO0016	0.40	-	-1.10	0.32	2.43
PCO0017	-	0.26	-0.87	0.34	1.60
PCO0018	-	-0.19	-1.03	0.28	1.19
PCO0019	-0.38	-	-0.44	0.43	1.55
PCO0020	0.47	-	-0.54	0.33	1.76
PCO0021	-0.18	-	-0.85	0.24	1.47
PCO0022	-	0.30	-0.09	0.85	2.25
PCO0023	0.57	-	-1.50	0.04	2.11
PCO0024	0.43	-	-1.33	0.05	1.23
PCO0025	-	0.43	-1.07	0.42	1.75
PCO0026	-	0.57	-0.44	0.70	1.58
PCO0027	0.14	-	-1.08	0.33	1.11
PCO0028	-	0.38	-0.38	0.78	1.63
PCO0029	0.25	-	-0.64	0.89	2.20
PCO0030	0.57	-	-1.61	-0.43	0.59
PCO0031	-	-0.35	-1.94	-0.17	1.22
PCO0032	-	0.13	-0.43	0.59	2.37
PCO0033	-	0.09	1.12	1.74	3.04
PCO0034	-	0.18	-0.47	0.97	2.37

PCO0035	-	0.59	-1.04	0.29	1.77
PCO0036	-	0.58	-0.60	0.91	1.87
PCO0037	-	0.21	-1.07	0.86	2.22
PCO0038	0.93	-	-1.30	0.10	1.44
PCO0039	0.54	-	-1.74	-0.67	0.55
PCO0040	-	0.42	-1.31	0.08	1.35
PCO0041	-0.16	-	0.23	1.98	3.14
PCO0042	0.65	-	-1.61	-0.04	1.40
PCO0043	0.19	-	-1.21	0.61	1.75
PCO0044	0.71	-	-1.42	-0.25	0.93
PCO0045	-0.01	-	-0.34	0.95	1.77

Table B-119: IRT statistics – Palestine, 45-item two-factor model by attributes (Communication)

	IRT parameters				
Item	**a (F1)**	**a (F2)**	**δ_1**	**δ_2**	**δ_3**
PCO0001	-	1.70	-2.21	0.55	2.73
PCO0002	-	1.10	-3.03	-1.68	0.42
PCO0003	-	0.99	1.71	3.08	4.03
PCO0004	-	1.01	-3.21	-1.50	1.02
PCO0005	-	1.17	-3.16	-1.31	0.61
PCO0006	-	1.29	-3.48	-1.00	1.32
PCO0007	-	0.58	1.28	2.97	4.03
PCO0008	1.63	-	-1.96	-0.36	1.47
PCO0009	0.75	-	-3.89	-1.35	-0.14
PCO0010	-0.03	-	-0.43	0.45	1.67
PCO0011	0.81	-	-0.71	0.50	2.10
PCO0012	0.11	-	-2.42	-1.21	-0.04
PCO0013	0.51	-	-1.22	-0.13	1.42
PCO0014	-	0.91	-0.61	0.60	1.60
PCO0015	0.62	-	-1.20	0.26	2.01
PCO0016	0.54	-	-0.59	0.79	2.76
PCO0017	-	-0.12	-0.63	0.60	2.24
PCO0018	-	0.08	-0.06	0.80	1.75
PCO0019	-0.02	-	-0.79	0.37	1.56
PCO0020	0.82	-	-1.18	0.57	2.14
PCO0021	0.03	-	-0.84	0.46	1.67
PCO0022	-	0.20	-0.23	0.68	2.37

PCO0023	0.94	-	-1.69	0.36	2.13
PCO0024	-0.17	-	-1.21	0.12	1.30
PCO0025	-	0.43	-1.34	0.17	1.39
PCO0026	-	0.21	-0.23	0.86	2.07
PCO0027	-0.19	-	-1.13	0.36	1.11
PCO0028	-	0.14	-0.31	1.09	2.02
PCO0029	0.22	-	-0.89	0.52	1.62
PCO0030	-0.32	-	-1.43	-0.30	0.76
PCO0031	-	0.12	-0.96	0.51	1.75
PCO0032	-	1.07	-0.19	1.21	2.99
PCO0033	-	0.78	1.44	2.67	3.78
PCO0034	-	0.41	0.03	1.46	3.28
PCO0035	-	0.25	-0.73	0.61	2.62
PCO0036	-	0.11	-0.65	0.41	1.41
PCO0037	-	0.58	-1.40	0.53	2.00
PCO0038	0.21	-	-1.84	-0.09	1.03
PCO0039	-0.13	-	-2.32	-1.08	0.36
PCO0040	-	0.12	-1.72	-0.22	0.84
PCO0041	-0.11	-	0.20	2.32	3.67
PCO0042	0.18	-	-1.96	-0.60	0.90
PCO0043	0.22	-	-1.29	0.63	1.92
PCO0044	0.24	-	-1.23	-0.15	1.05
PCO0045	0.10	-	0.26	1.74	2.59

Table B-120: IRT statistics – Tunisia, 45-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	0.84	-2.42	0.71	3.03
PCO0002	-	1.40	-3.94	-1.78	0.76
PCO0003	-	0.53	-999.00	1.76	4.82
PCO0004	-	1.35	-4.89	-1.49	0.97
PCO0005	-	1.01	-2.62	-0.84	0.72
PCO0006	-	1.47	-4.46	-0.69	2.30
PCO0007	-	0.79	-999.00	1.37	3.66
PCO0008	0.66	-	-1.56	-0.17	1.82
PCO0009	0.91	-	-3.69	-1.85	-0.11
PCO0010	0.52	-	-1.21	0.14	1.44

PCO0011	1.15	-	-0.61	0.77	3.58
PCO0012	-0.26	-	-1.76	-0.91	0.16
PCO0013	0.41	-	-0.93	0.18	1.28
PCO0014	-	0.05	-0.60	0.26	1.86
PCO0015	0.87	-	-0.71	0.47	2.36
PCO0016	1.02	-	-1.70	0.14	2.44
PCO0017	-	0.37	-0.72	0.40	1.84
PCO0018	-	0.59	-0.49	1.02	2.00
PCO0019	0.48	-	-0.31	0.88	1.83
PCO0020	0.91	-	-1.33	-0.12	1.81
PCO0021	0.43	-	-0.94	0.88	1.77
PCO0022	-	0.53	-0.12	0.94	2.60
PCO0023	0.82	-	-1.71	-0.13	2.21
PCO0024	0.38	-	-2.06	-0.41	0.73
PCO0025	-	-0.08	-2.30	-0.45	1.14
PCO0026	-	0.52	-0.39	1.07	2.30
PCO0027	-0.02	-	-1.46	-0.02	1.02
PCO0028	-	0.27	-0.49	0.98	1.96
PCO0029	-0.31	-	-0.69	0.67	1.61
PCO0030	-0.04	-	-1.94	-0.76	0.31
PCO0031	-	0.52	-1.46	0.66	1.97
PCO0032	-	0.64	-0.60	0.89	2.72
PCO0033	-	0.58	1.06	2.17	3.57
PCO0034	-	0.63	-0.57	0.81	3.02
PCO0035	-	0.34	-0.79	0.19	1.69
PCO0036	-	0.24	-0.85	0.83	1.73
PCO0037	-	0.14	-0.87	0.78	1.82
PCO0038	0.42	-	-1.59	0.12	1.34
PCO0039	-0.35	-	-2.57	-1.23	0.05
PCO0040	-	-0.10	-2.26	-0.77	0.46
PCO0041	0.27	-	-0.14	1.61	3.30
PCO0042	-0.32	-	-1.72	-0.53	0.70
PCO0043	0.24	-	-1.35	0.63	1.69
PCO0044	0.41	-	-0.93	0.52	1.27
PCO0045	0.54	-	-0.25	1.52	2.80

Table B-121: IRT statistics – pooled, 30-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	1.16	-1.96	0.71	2.89
PCO0002	-	1.53	-3.32	-1.50	0.88
PCO0004	-	1.30	-3.24	-1.23	1.16
PCO0005	-	1.26	-2.80	-1.06	0.74
PCO0006	-	1.39	-3.36	-0.69	1.84
PCO0008	0.85	-	-1.32	-0.10	1.54
PCO0009	0.90	-	-3.20	-1.24	0.26
PCO0010	0.29	-	-0.67	0.41	1.62
PCO0011	0.70	-	-0.68	0.56	2.47
PCO0013	0.44	-	-0.95	0.18	1.49
PCO0014	-	0.35	-0.53	0.43	1.68
PCO0015	0.65	-	-0.98	0.37	1.96
PCO0016	0.75	-	-1.11	0.41	2.54
PCO0020	0.90	-	-1.04	0.27	1.96
PCO0022	-	0.34	-0.15	0.82	2.39
PCO0023	0.75	-	-1.62	0.08	2.13
PCO0024	0.24	-	-1.47	-0.08	1.06
PCO0025	-	0.28	-1.45	0.06	1.41
PCO0026	-	0.40	-0.34	0.87	1.94
PCO0028	-	0.21	-0.39	0.94	1.85
PCO0032	-	0.50	-0.39	0.85	2.58
PCO0033	-	0.48	1.18	2.13	3.41
PCO0034	-	0.40	-0.32	1.07	2.82
PCO0035	-	0.49	-0.86	0.37	1.99
PCO0036	-	0.24	-0.69	0.69	1.63
PCO0037	-	0.44	-1.12	0.73	2.03
PCO0038	0.47	-	-1.55	0.03	1.23
PCO0043	0.25	-	-1.29	0.62	1.79
PCO0044	0.37	-	-1.17	0.03	1.06
PCO0045	0.20	-	-0.09	1.36	2.30

Table B-122: IRT statistics – Egypt, 30-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	0.99	-1.41	0.81	3.04
PCO0002	-	1.40	-2.65	-0.87	1.32
PCO0004	-	1.34	-2.38	-0.74	1.38
PCO0005	-	1.19	-2.42	-0.94	0.77
PCO0006	-	1.29	-2.54	-0.43	1.90
PCO0008	0.78	-	-0.81	0.18	1.54
PCO0009	0.74	-	-2.40	-0.61	1.04
PCO0010	0.35	-	-0.48	0.66	1.81
PCO0011	0.38	-	-0.80	0.45	2.22
PCO0013	0.30	-	-0.71	0.48	1.77
PCO0014	-	0.27	-0.41	0.51	1.73
PCO0015	0.63	-	-1.09	0.37	1.60
PCO0016	0.41	-	-1.10	0.32	2.44
PCO0020	0.55	-	-0.55	0.34	1.80
PCO0022	-	0.47	-0.09	0.87	2.30
PCO0023	0.58	-	-1.51	0.02	2.11
PCO0024	0.26	-	-1.28	0.07	1.22
PCO0025	-	0.34	-1.04	0.43	1.74
PCO0026	-	0.54	-0.42	0.71	1.58
PCO0028	-	0.31	-0.37	0.78	1.62
PCO0032	-	0.24	-0.43	0.60	2.39
PCO0033	-	0.51	1.20	1.84	3.17
PCO0034	-	0.35	-0.46	1.00	2.41
PCO0035	-	1.01	-1.12	0.36	1.97
PCO0036	-	0.41	-0.59	0.87	1.80
PCO0037	-	0.42	-1.09	0.91	2.29
PCO0038	0.89	-	-1.30	0.09	1.43
PCO0043	0.38	-	-1.23	0.62	1.79
PCO0044	0.42	-	-1.35	-0.23	0.88
PCO0045	0.05	-	-0.33	0.95	1.77

Table B-123: IRT statistics – Palestine, 30-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	1.73	-2.23	0.58	2.75
PCO0002	-	1.28	-3.16	-1.75	0.46
PCO0004	-	1.11	-3.28	-1.52	1.06
PCO0005	-	1.30	-3.26	-1.35	0.64
PCO0006	-	1.37	-3.53	-1.00	1.35
PCO0008	1.62	-	-1.95	-0.35	1.47
PCO0009	0.77	-	-3.90	-1.36	-0.14
PCO0010	-0.09	-	-0.43	0.45	1.67
PCO0011	0.80	-	-0.71	0.50	2.10
PCO0013	0.53	-	-1.23	-0.13	1.42
PCO0014	-	0.84	-0.60	0.59	1.58
PCO0015	0.60	-	-1.20	0.26	2.01
PCO0016	0.55	-	-0.60	0.79	2.76
PCO0020	0.88	-	-1.21	0.57	2.17
PCO0022	-	0.16	-0.23	0.68	2.36
PCO0023	0.81	-	-1.63	0.35	2.06
PCO0024	-0.11	-	-1.21	0.11	1.30
PCO0025	-	0.45	-1.34	0.18	1.40
PCO0026	-	0.19	-0.23	0.86	2.07
PCO0028	-	0.14	-0.31	1.09	2.02
PCO0032	-	0.90	-0.19	1.15	2.86
PCO0033	-	0.74	1.43	2.64	3.75
PCO0034	-	0.35	0.03	1.45	3.26
PCO0035	-	0.27	-0.73	0.61	2.63
PCO0036	-	0.14	-0.65	0.42	1.42
PCO0037	-	0.60	-1.41	0.53	2.00
PCO0038	0.18	-	-1.83	-0.08	1.03
PCO0043	0.21	-	-1.28	0.63	1.92
PCO0044	0.25	-	-1.24	-0.15	1.05
PCO0045	0.15	-	0.26	1.74	2.60

Table B-124: IRT statistics – Tunisia, 30-item two-factor model by attributes (Communication)

	IRT parameters				
Item	a (F1)	a (F2)	δ_1	δ_2	δ_3
PCO0001	-	0.94	-2.48	0.74	3.10
PCO0002	-	1.64	-4.21	-1.91	0.82
PCO0004	-	1.47	-5.04	-1.53	1.01
PCO0005	-	1.11	-2.70	-0.87	0.74
PCO0006	-	1.48	-4.46	-0.69	2.30
PCO0008	0.56	-	-1.52	-0.17	1.79
PCO0009	0.92	-	-3.69	-1.84	-0.10
PCO0010	0.52	-	-1.21	0.14	1.44
PCO0011	1.12	-	-0.60	0.77	3.58
PCO0013	0.29	-	-0.91	0.18	1.26
PCO0014	-	0.01	-0.60	0.26	1.86
PCO0015	0.94	-	-0.72	0.48	2.42
PCO0016	1.05	-	-1.72	0.12	2.45
PCO0020	1.15	-	-1.43	-0.15	1.92
PCO0022	-	0.40	-0.12	0.93	2.55
PCO0023	0.79	-	-1.70	-0.14	2.19
PCO0024	0.45	-	-2.09	-0.42	0.73
PCO0025	-	-0.03	-2.30	-0.45	1.14
PCO0026	-	0.47	-0.38	1.07	2.28
PCO0028	-	0.21	-0.48	0.98	1.95
PCO0032	-	0.51	-0.57	0.87	2.65
PCO0033	-	0.41	1.03	2.11	3.49
PCO0034	-	0.65	-0.57	0.82	3.03
PCO0035	-	0.36	-0.79	0.20	1.69
PCO0036	-	0.27	-0.85	0.83	1.73
PCO0037	-	0.17	-0.87	0.78	1.82
PCO0038	0.57	-	-1.63	0.12	1.39
PCO0043	0.29	-	-1.36	0.63	1.70
PCO0044	0.48	-	-0.94	0.53	1.29
PCO0045	0.53	-	-0.24	1.51	2.79

MODEL STATISTICS

Table B-125: Fit indices and reliability, 45-item two-factor model by attributes (Communication)

								Empirical Reliability	
	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Factor 1	Factor 2
Pooled Model	1299.40	854	0.00	0.02	0.04	0.79	0.80	0.55	0.62
	(41.05)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-	-
Egypt	1039.17	854	0.00	0.02	0.06	0.80	0.81	0.60	0.65
	(38.90)	-	-	(0.00)	(0.00)	(0.05)	(0.04)	-	-
Palestine	956.26	854	0.02	0.02	0.06	0.85	0.86	0.60	0.66
	(30.06)	-	-	(0.00)	(0.00)	(0.04)	(0.04)	-	-
Tunisia	993.31	856	0.01	0.02	0.06	0.87	0.87	0.62	0.64
	(48.56)	-	-	(0.00)	(0.00)	(0.05)	(0.04)	-	-

Table B-126: Measurement invariance test, 45-item two-factor model by attributes – factor 1 (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	677.66	552	0.00	0.01	0.05	0.06	0.06	0.87	0.88
	(38.29)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.04)	(0.04)
Metric model	731.59	598	0.00	0.01	0.06	0.06	0.06	0.82	0.82
	(29.78)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.04)	(0.04)
Scalar model	1002.01	734	0.00	0.02	0.06	0.06	0.06	0.69	0.63
	(29.83)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.05)	(0.05)
Difference: Metric - Configural	53.94	46	0.00	0.00	0.01	0.00	0.00	-0.05	-0.06
Difference: Scalar - Metric	270.42	136	0.00	0.00	0.00	0.00	0.00	-0.13	-0.19

Table B-127: Measurement invariance test, 45-item two-factor model by attributes – factor 2 (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	696.54	511	0.00	0.02	0.06	0.06	0.06	1.00	1.00
	(34.45)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(1.00)	(1.00)
Metric model	700.10	539	0.00	0.02	0.06	0.07	0.06	1.00	1.00
	(43.78)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(1.00)	(1.00)
Scalar model	1056.28	669	0.00	0.02	0.06	0.07	0.07	1.00	1.00
	(33.06)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(1.00)	(1.00)
Difference: Metric - Configural	3.56	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	356.18	130	0.00	0.01	0.00	0.00	0.00	0.00	0.00

Table B-128: Fit indices and reliability, 30-item two-factor model by attributes (Communication)

								Empirical Reliability	
	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Factor 1	Factor 2
Pooled Model	442.79	344	0.01	0.02	0.04	0.93	0.93	0.54	0.61
	(30.65)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-	-
Egypt	391.62	344	0.09	0.02	0.05	0.89	0.90	0.57	0.66
	(20.40)	-	-	(0.01)	(0.00)	(0.05)	(0.04)	-	-
Palestine	398.29	344	0.03	0.02	0.06	0.89	0.90	0.57	0.65
	(12.04)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-	-
Tunisia	403.41	344	0.08	0.02	0.06	0.90	0.91	0.60	0.60
	(33.39)	-	-	(0.01)	(0.00)	(0.05)	(0.05)	-	-

Table B-129: Measurement invariance test, 30-item two-factor model by attributes – factor 1 (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	169.16	147	0.15	0.01	0.05	0.06	0.05	0.87	0.90
	(13.51)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.09)	(0.07)
Metric model	211.00	175	0.08	0.01	0.06	0.06	0.06	0.83	0.84
	(18.22)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.09)	(0.08)
Scalar model	383.32	257	0.00	0.02	0.06	0.06	0.06	0.56	0.40
	(22.74)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.09)	(0.12)
Difference: Metric - Configural	41.84	28	-0.07	0.00	0.01	0.00	0.01	-0.04	-0.06
Difference: Scalar - Metric	172.32	82	-0.08	0.01	0.00	0.00	0.00	-0.27	-0.44

Table B-130: Measurement invariance test, 30-item two-factor model by attributes – factor 2 (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	257.93	216	0.10	0.01	0.05	0.06	0.06	0.95	0.96
	(23.40)	-	-	(0.01)	(0.00)	(0.00)	(0.00)	(0.03)	(0.02)
Metric model	295.73	248	0.08	0.01	0.05	0.06	0.06	0.95	0.95
	(24.39)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
Scalar model	478.55	342	0.00	0.02	0.06	0.06	0.06	0.90	0.87
	(16.47)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.02)
Difference: Metric - Configural	37.80	32	-0.03	0.00	0.00	0.00	0.00	0.00	-0.01
Difference: Scalar - Metric	182.82	94	-0.08	0.01	0.00	0.00	0.00	-0.05	-0.09

PERSONAL EMPOWERMENT: SELF-MANAGEMENT
ITEM STATISTICS

Table B-131: Response frequencies for all items, pooled model (Self-management)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PSM0001	0.04	0.06	0.24	0.66
PSM0002	0.04	0.08	0.48	0.41
PSM0003	0.03	0.08	0.35	0.54
PSM0004	0.06	0.08	0.36	0.49
PSM0005	0.09	0.16	0.39	0.36
PSM0006	0.04	0.07	0.29	0.61
PSM0007	0.04	0.06	0.31	0.60
PSM0008	0.05	0.09	0.35	0.51
PSM0009	0.03	0.04	0.22	0.71
PSM0010	0.04	0.17	0.51	0.27
PSM0011	0.04	0.11	0.34	0.50
PSM0012	0.05	0.08	0.34	0.53
PSM0013	0.03	0.09	0.46	0.41
PSM0014	0.09	0.18	0.38	0.36
PSM0015	0.10	0.12	0.35	0.43
PSM0016	0.03	0.06	0.41	0.50
PSM0017	0.03	0.11	0.42	0.44
PSM0018	0.08	0.20	0.30	0.41
PSM0019	0.05	0.08	0.27	0.60
PSM0020	0.05	0.06	0.32	0.57
PSM0021	0.08	0.14	0.36	0.42
PSM0022	0.05	0.07	0.33	0.55
PSM0023	0.02	0.04	0.25	0.69
PSM0024	0.05	0.14	0.43	0.38
PSM0025	0.09	0.15	0.41	0.35
PSM0026	0.06	0.10	0.38	0.46
PSM0027	0.03	0.10	0.34	0.54
PSM0028	0.06	0.09	0.41	0.45
PSM0029	0.05	0.08	0.38	0.49
PSM0030	0.04	0.07	0.30	0.59
PSM0031	0.05	0.10	0.39	0.46

PSM0032	0.10	0.25	0.33	0.31
PSM0033	0.16	0.37	0.29	0.18
PSM0034	0.15	0.18	0.28	0.38
PSM0035	0.19	0.32	0.26	0.24
PSM0036	0.06	0.13	0.42	0.38
PSM0037	0.10	0.15	0.34	0.41
PSM0038	0.04	0.15	0.42	0.39
PSM0039	0.03	0.09	0.34	0.55
PSM0040	0.11	0.26	0.36	0.28
PSM0041	0.11	0.13	0.40	0.36
PSM0042	0.28	0.32	0.28	0.12
PSM0043	0.24	0.38	0.23	0.14
PSM0044	0.31	0.37	0.20	0.12
PSM0045	0.13	0.28	0.33	0.27

Table B-132: Response frequencies for all items, Egypt model (Self-management)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PSM0001	0.05	0.08	0.24	0.64
PSM0002	0.05	0.11	0.49	0.35
PSM0003	0.04	0.11	0.33	0.53
PSM0004	0.10	0.11	0.31	0.48
PSM0005	0.13	0.15	0.38	0.34
PSM0006	0.05	0.10	0.29	0.56
PSM0007	0.05	0.07	0.34	0.54
PSM0008	0.06	0.15	0.33	0.46
PSM0009	0.05	0.07	0.22	0.66
PSM0010	0.07	0.18	0.45	0.31
PSM0011	0.05	0.12	0.34	0.49
PSM0012	0.09	0.09	0.37	0.46
PSM0013	0.04	0.11	0.50	0.36
PSM0014	0.09	0.21	0.30	0.40
PSM0015	0.14	0.15	0.28	0.43
PSM0016	0.04	0.05	0.40	0.52
PSM0017	0.04	0.12	0.37	0.47
PSM0018	0.10	0.30	0.30	0.30
PSM0019	0.09	0.11	0.24	0.57

PSM0020	0.07	0.07	0.30	0.56
PSM0021	0.11	0.21	0.34	0.34
PSM0022	0.07	0.10	0.33	0.51
PSM0023	0.04	0.05	0.23	0.68
PSM0024	0.07	0.20	0.42	0.31
PSM0025	0.11	0.17	0.43	0.29
PSM0026	0.08	0.13	0.35	0.44
PSM0027	0.03	0.13	0.36	0.49
PSM0028	0.07	0.09	0.40	0.44
PSM0029	0.06	0.11	0.32	0.50
PSM0030	0.07	0.10	0.26	0.57
PSM0031	0.07	0.10	0.39	0.44
PSM0032	0.10	0.24	0.33	0.33
PSM0033	0.17	0.37	0.30	0.16
PSM0034	0.18	0.19	0.24	0.38
PSM0035	0.17	0.29	0.28	0.26
PSM0036	0.09	0.14	0.39	0.38
PSM0037	0.10	0.18	0.34	0.38
PSM0038	0.05	0.17	0.38	0.40
PSM0039	0.04	0.12	0.32	0.53
PSM0040	0.12	0.25	0.38	0.25
PSM0041	0.15	0.15	0.39	0.31
PSM0042	0.24	0.34	0.29	0.13
PSM0043	0.20	0.36	0.29	0.15
PSM0044	0.29	0.42	0.18	0.12
PSM0045	0.10	0.31	0.29	0.29

Table B-133: Response frequencies for all items, Palestine model (Self-management)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PSM0001	0.06	0.05	0.27	0.62
PSM0002	0.03	0.06	0.46	0.45
PSM0003	0.04	0.04	0.38	0.54
PSM0004	0.04	0.07	0.41	0.48
PSM0005	0.07	0.11	0.45	0.37
PSM0006	0.04	0.04	0.27	0.65
PSM0007	0.05	0.04	0.27	0.65
PSM0008	0.07	0.07	0.38	0.49

PSM0009	0.04	0.03	0.23	0.71
PSM0010	0.03	0.14	0.54	0.29
PSM0011	0.05	0.12	0.34	0.50
PSM0012	0.06	0.08	0.31	0.55
PSM0013	0.05	0.05	0.42	0.48
PSM0014	0.11	0.17	0.38	0.34
PSM0015	0.12	0.08	0.34	0.46
PSM0016	0.02	0.07	0.47	0.44
PSM0017	0.02	0.10	0.44	0.44
PSM0018	0.10	0.15	0.36	0.39
PSM0019	0.03	0.08	0.27	0.62
PSM0020	0.05	0.05	0.32	0.58
PSM0021	0.07	0.11	0.36	0.46
PSM0022	0.04	0.05	0.30	0.61
PSM0023	0.02	0.02	0.28	0.69
PSM0024	0.06	0.11	0.47	0.37
PSM0025	0.12	0.19	0.32	0.37
PSM0026	0.05	0.08	0.37	0.51
PSM0027	0.04	0.08	0.31	0.57
PSM0028	0.04	0.07	0.43	0.46
PSM0029	0.04	0.07	0.35	0.53
PSM0030	0.04	0.07	0.32	0.58
PSM0031	0.03	0.10	0.42	0.45
PSM0032	0.08	0.22	0.37	0.34
PSM0033	0.19	0.41	0.22	0.18
PSM0034	0.14	0.21	0.28	0.38
PSM0035	0.18	0.30	0.27	0.25
PSM0036	0.05	0.13	0.39	0.43
PSM0037	0.10	0.15	0.30	0.45
PSM0038	0.03	0.15	0.44	0.38
PSM0039	0.02	0.07	0.30	0.61
PSM0040	0.09	0.31	0.33	0.28
PSM0041	0.11	0.10	0.41	0.38
PSM0042	0.30	0.34	0.25	0.12
PSM0043	0.31	0.38	0.19	0.12
PSM0044	0.31	0.33	0.24	0.13
PSM0045	0.10	0.28	0.35	0.28

Table B-134: Response frequencies for all items, Tunisia model (Self-management)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PSM0001	0.01	0.05	0.23	0.71
PSM0002	0.03	0.06	0.47	0.44
PSM0003	0.01	0.09	0.36	0.54
PSM0004	0.04	0.07	0.38	0.51
PSM0005	0.08	0.20	0.36	0.36
PSM0006	0.02	0.06	0.29	0.63
PSM0007	0.02	0.05	0.31	0.62
PSM0008	0.02	0.06	0.34	0.58
PSM0009	0.01	0.01	0.22	0.76
PSM0010	0.03	0.19	0.57	0.21
PSM0011	0.03	0.09	0.35	0.53
PSM0012	0.01	0.07	0.34	0.59
PSM0013	0.01	0.11	0.46	0.42
PSM0014	0.07	0.15	0.45	0.33
PSM0015	0.04	0.12	0.44	0.40
PSM0016	0.03	0.08	0.37	0.52
PSM0017	0.03	0.11	0.45	0.41
PSM0018	0.05	0.14	0.25	0.56
PSM0019	0.02	0.05	0.30	0.63
PSM0020	0.02	0.05	0.35	0.58
PSM0021	0.07	0.07	0.39	0.47
PSM0022	0.03	0.05	0.37	0.55
PSM0023	0.00	0.04	0.26	0.70
PSM0024	0.03	0.09	0.40	0.48
PSM0025	0.03	0.10	0.47	0.40
PSM0026	0.06	0.08	0.42	0.44
PSM0027	0.01	0.07	0.35	0.57
PSM0028	0.06	0.09	0.40	0.45
PSM0029	0.03	0.04	0.48	0.45
PSM0030	0.02	0.05	0.32	0.61
PSM0031	0.04	0.10	0.38	0.48
PSM0032	0.14	0.29	0.31	0.26
PSM0033	0.12	0.35	0.33	0.21
PSM0034	0.13	0.15	0.33	0.39

PSM0035	0.21	0.36	0.22	0.21
PSM0036	0.05	0.12	0.47	0.35
PSM0037	0.09	0.12	0.37	0.42
PSM0038	0.03	0.13	0.44	0.40
PSM0039	0.02	0.08	0.39	0.51
PSM0040	0.12	0.22	0.35	0.31
PSM0041	0.08	0.13	0.39	0.40
PSM0042	0.31	0.29	0.30	0.11
PSM0043	0.23	0.40	0.22	0.16
PSM0044	0.32	0.35	0.20	0.12
PSM0045	0.17	0.25	0.35	0.23

Table B-135: Descriptive statistics for all items, pooled model (Self-management)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PSM0001	659	4	4	1
PSM0002	665	3	3	1
PSM0003	664	4	4	1
PSM0004	664	3	4	1
PSM0005	660	3	3	1.25
PSM0006	663	4	4	1
PSM0007	666	4	4	1
PSM0008	663	4	4	1
PSM0009	664	4	4	1
PSM0010	655	3	3	1
PSM0011	661	4	4	1
PSM0012	663	4	4	1
PSM0013	661	3	3	1
PSM0014	659	3	3	2
PSM0015	662	3	4	1
PSM0016	663	3	4	1
PSM0017	663	3	4	1
PSM0018	662	3	4	2
PSM0019	660	4	4	1
PSM0020	662	4	4	1
PSM0021	661	3	4	1
PSM0022	666	4	4	1

PSM0023	668	4	4	1
PSM0024	663	3	3	1
PSM0025	661	3	3	1
PSM0026	665	3	4	1
PSM0027	660	4	4	1
PSM0028	656	3	4	1
PSM0029	661	3	4	1
PSM0030	659	4	4	1
PSM0031	655	3	4	1
PSM0032	655	3	3	2
PSM0033	654	2	2	1
PSM0034	655	3	4	2
PSM0035	656	2	2	1
PSM0036	652	3	3	1
PSM0037	654	3	4	1.75
PSM0038	655	3	3	1
PSM0039	655	4	4	1
PSM0040	655	3	3	2
PSM0041	657	3	3	1
PSM0042	656	2	2	2
PSM0043	657	2	2	1
PSM0044	651	2	2	2
PSM0045	653	3	3	2

Table B-136: Descriptive statistics for all items, Egypt model (Self-management)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PSM0001	240	4	4	1
PSM0002	243	3	3	1
PSM0003	239	4	4	1
PSM0004	240	3	4	1
PSM0005	240	3	3	2
PSM0006	241	4	4	1
PSM0007	241	4	4	1
PSM0008	239	3	4	1
PSM0009	241	4	4	1
PSM0010	240	3	3	1

PSM0011	239	3	4	1
PSM0012	241	3	4	1
PSM0013	241	3	3	1
PSM0014	241	3	3	2
PSM0015	240	3	4	2
PSM0016	248	4	4	1
PSM0017	246	3	4	1
PSM0018	247	3	4	2
PSM0019	244	4	4	1
PSM0020	248	4	4	1
PSM0021	247	3	4	2
PSM0022	249	4	4	1
PSM0023	249	4	4	1
PSM0024	248	3	3	2
PSM0025	247	3	3	2
PSM0026	247	3	4	1
PSM0027	247	3	4	1
PSM0028	243	3	4	1
PSM0029	246	4	4	1
PSM0030	245	4	4	1
PSM0031	240	3	4	1
PSM0032	239	3	3	2
PSM0033	238	2	2	1
PSM0034	237	3	4	2
PSM0035	237	3	2	2
PSM0036	238	3	3	1
PSM0037	238	3	4	2
PSM0038	239	3	3	1
PSM0039	238	4	4	1
PSM0040	236	3	3	1
PSM0041	239	3	3	2
PSM0042	238	2	2	1
PSM0043	240	2	2	1
PSM0044	236	2	2	2
PSM0045	239	3	3	2

Table B-137: Descriptive statistics for all items, Palestine model (Self-management)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PSM0001	198	4	4	1
PSM0002	197	3	3	1
PSM0003	199	4	4	1
PSM0004	198	3	4	1
PSM0005	195	3	3	1
PSM0006	198	4	4	1
PSM0007	200	4	4	1
PSM0008	199	3	4	1
PSM0009	198	4	4	1
PSM0010	196	3	3	1
PSM0011	198	3.5	4	1
PSM0012	199	4	4	1
PSM0013	198	3	3	1
PSM0014	196	3	3	2
PSM0015	198	3	4	1
PSM0016	195	3	4	1
PSM0017	196	3	4	1
PSM0018	196	3	4	1
PSM0019	196	4	4	1
PSM0020	193	4	4	1
PSM0021	193	3	4	1
PSM0022	196	4	4	1
PSM0023	198	4	4	1
PSM0024	194	3	3	1
PSM0025	194	3	3	2
PSM0026	197	4	4	1
PSM0027	194	4	4	1
PSM0028	193	3	4	1
PSM0029	195	4	4	1
PSM0030	194	4	4	1
PSM0031	198	3	4	1
PSM0032	200	3	3	2
PSM0033	199	2	2	1
PSM0034	200	3	4	2

PSM0035	201	3	2	2
PSM0036	197	3	3	1
PSM0037	198	3	4	1
PSM0038	197	3	3	1
PSM0039	199	4	4	1
PSM0040	200	3	3	2
PSM0041	201	3	3	1
PSM0042	199	2	2	2
PSM0043	198	2	2	2
PSM0044	195	2	2	2
PSM0045	194	3	3	2

Table B-138: Descriptive statistics for all items, Tunisia model (Self-management)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PSM0001	221	4	4	1
PSM0002	225	3	3	1
PSM0003	226	4	4	1
PSM0004	226	4	4	1
PSM0005	225	3	3	2
PSM0006	224	4	4	1
PSM0007	225	4	4	1
PSM0008	225	4	4	1
PSM0009	225	4	4	0
PSM0010	219	3	3	0
PSM0011	224	4	4	1
PSM0012	223	4	4	1
PSM0013	222	3	3	1
PSM0014	222	3	3	1
PSM0015	224	3	4	1
PSM0016	220	4	4	1
PSM0017	221	3	4	1
PSM0018	219	4	4	1
PSM0019	220	4	4	1
PSM0020	221	4	4	1
PSM0021	221	3	4	1
PSM0022	221	4	4	1

PSM0023	221	4	4	1
PSM0024	221	3	3	1
PSM0025	220	3	3	1
PSM0026	221	3	4	1
PSM0027	219	4	4	1
PSM0028	220	3	4	1
PSM0029	220	3	4	1
PSM0030	220	4	4	1
PSM0031	217	3	4	1
PSM0032	216	3	3	2
PSM0033	217	3	2	1
PSM0034	218	3	4	2
PSM0035	218	2	2	1
PSM0036	217	3	3	1
PSM0037	218	3	4	1
PSM0038	219	3	3	1
PSM0039	218	4	4	1
PSM0040	219	3	3	2
PSM0041	217	3	3	1
PSM0042	219	2	2	2
PSM0043	219	2	2	1
PSM0044	220	2	2	2
PSM0045	220	3	3	1

Table B-139: IRT statistics – pooled, 45-item model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.87	-3.96	-2.83	-0.83	0.23	-2.80	18.01	19	0.52
PSM0002	1.08	-3.44	-2.19	0.47	0.35	-2.70	29.62	18	0.04
PSM0003	1.13	-3.54	-2.15	-0.09	0.38	-2.60	56.97	17	0.00
PSM0004	0.97	-3.20	-2.09	0.09	0.29	-2.30	32.81	22	0.06
PSM0005	0.45	-5.24	-2.57	1.41	0.06	-2.90	38.97	26	0.05
PSM0006	1.26	-3.08	-2.07	-0.42	0.48	-2.30	15.48	16	0.49
PSM0007	1.25	-3.11	-2.22	-0.38	0.47	-2.50	25.82	15	0.04
PSM0008	0.64	-4.79	-2.99	-0.01	0.12	-3.00	46.43	24	0.00
PSM0009	1.77	-2.65	-2.02	-0.69	0.94	-2.20	28.96	11	0.00

PSM0010	0.80	-4.19	-1.79	1.46	0.19	-2.50	43.78	22	0.00
PSM0011	1.32	-2.83	-1.61	0.04	0.52	-2.00	20.39	18	0.31
PSM0012	1.31	-2.64	-1.78	-0.10	0.52	-2.00	25.68	19	0.14
PSM0013	0.90	-4.10	-2.41	0.49	0.24	-3.00	46.70	18	0.00
PSM0014	0.74	-3.39	-1.47	0.95	0.17	-1.80	30.63	25	0.20
PSM0015	0.95	-2.68	-1.58	0.39	0.28	-1.70	26.12	24	0.35
PSM0016	0.97	-4.04	-2.69	-0.01	0.28	-3.00	13.77	17	0.68
PSM0017	0.85	-4.60	-2.44	0.29	0.21	-3.00	25.04	18	0.12
PSM0018	0.58	-4.45	-1.82	0.60	0.10	-1.70	23.31	25	0.56
PSM0019	1.27	-2.92	-1.93	-0.47	0.49	-2.10	23.45	17	0.14
PSM0020	1.31	-2.87	-2.13	-0.36	0.52	-2.30	17.63	15	0.28
PSM0021	1.14	-2.55	-1.41	0.33	0.40	-1.70	37.45	22	0.02
PSM0022	1.30	-2.89	-2.00	-0.26	0.51	-2.30	21.44	16	0.16
PSM0023	1.51	-3.30	-2.46	-0.77	0.69	-2.80	18.69	11	0.07
PSM0024	1.22	-2.88	-1.54	0.46	0.44	-2.00	39.11	20	0.01
PSM0025	0.84	-3.14	-1.58	0.80	0.21	-1.90	46.08	25	0.01
PSM0026	1.35	-2.53	-1.62	0.11	0.55	-1.90	30.05	19	0.05
PSM0027	1.17	-3.65	-2.12	-0.21	0.40	-2.50	19.76	16	0.23
PSM0028	0.67	-4.47	-2.91	0.31	0.13	-3.00	31.87	23	0.10
PSM0029	1.09	-3.29	-2.20	0.00	0.36	-2.50	46.34	18	0.00
PSM0030	1.52	-2.67	-1.83	-0.35	0.70	-2.10	19.20	16	0.26
PSM0031	0.82	-4.06	-2.41	0.23	0.20	-2.90	18.27	21	0.63
PSM0032	0.75	-3.17	-0.93	1.17	0.17	-0.80	15.04	25	0.94
PSM0033	-0.02	100.72	-8.03	-89.22	0.00	-3.00	51.60	26	0.00
PSM0034	0.78	-2.47	-1.03	0.68	0.19	-1.00	62.18	26	0.00
PSM0035	0.27	-5.60	-0.01	4.34	0.02	0.00	38.02	26	0.06
PSM0036	0.96	-3.22	-1.74	0.57	0.28	-2.20	30.35	22	0.11
PSM0037	1.00	-2.60	-1.37	0.37	0.31	-1.50	40.68	24	0.02
PSM0038	0.84	-4.15	-1.94	0.61	0.21	-2.30	43.06	21	0.00
PSM0039	1.45	-3.11	-1.83	-0.19	0.62	-2.20	25.11	15	0.05
PSM0040	0.36	-5.88	-1.56	2.68	0.04	-1.50	37.82	26	0.06
PSM0041	0.74	-3.06	-1.73	0.85	0.17	-1.90	31.98	25	0.16
PSM0042	0.14	-6.81	3.05	14.44	0.01	2.50	26.15	26	0.45
PSM0043	-0.16	7.12	-3.37	-11.57	0.01	-3.00	37.01	26	0.07
PSM0044	-0.18	4.43	-3.91	-10.71	0.01	-3.00	35.30	26	0.11
PSM0045	0.46	-4.42	-0.90	2.30	0.06	-0.70	35.37	26	0.10

Table B-140: IRT statistics – Egypt, 45-item model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.87	-3.74	-2.54	-0.75	0.23	-2.50	17.49	10	0.06
PSM0002	1.01	-3.33	-1.90	0.81	0.30	-2.50	24.00	13	0.03
PSM0003	1.23	-3.09	-1.74	-0.07	0.46	-2.10	23.78	12	0.02
PSM0004	1.04	-2.50	-1.49	0.13	0.33	-1.50	22.66	16	0.12
PSM0005	0.17	-11.27	-5.48	3.98	0.01	-3.00	24.75	26	0.53
PSM0006	1.36	-2.68	-1.62	-0.19	0.56	-1.80	11.42	11	0.41
PSM0007	0.99	-3.44	-2.29	-0.17	0.30	-2.60	13.63	10	0.19
PSM0008	0.41	-6.75	-3.33	0.41	0.05	-3.00	28.12	17	0.04
PSM0009	2.05	-2.22	-1.53	-0.49	1.27	-1.70	17.69	8	0.02
PSM0010	0.90	-3.26	-1.42	1.07	0.24	-2.00	23.74	17	0.13
PSM0011	1.09	-3.05	-1.65	0.13	0.36	-1.90	17.51	14	0.23
PSM0012	1.07	-2.48	-1.67	0.24	0.35	-1.80	22.27	14	0.07
PSM0013	0.67	-5.10	-2.78	1.04	0.13	-3.00	18.70	13	0.13
PSM0014	0.82	-3.14	-1.15	0.62	0.21	-1.00	21.25	19	0.32
PSM0015	1.09	-1.99	-0.98	0.35	0.37	-1.00	22.22	20	0.33
PSM0016	1.03	-3.58	-2.66	-0.13	0.32	-3.00	11.37	9	0.25
PSM0017	0.71	-4.88	-2.55	0.18	0.15	-3.00	20.01	13	0.09
PSM0018	0.57	-4.12	-0.87	1.56	0.10	-0.40	16.01	21	0.77
PSM0019	1.18	-2.37	-1.49	-0.30	0.44	-1.40	9.71	14	0.78
PSM0020	1.38	-2.42	-1.78	-0.30	0.58	-1.80	12.61	11	0.32
PSM0021	1.18	-2.16	-0.83	0.69	0.43	-1.00	27.20	18	0.08
PSM0022	1.18	-2.65	-1.65	-0.04	0.43	-1.80	18.98	14	0.17
PSM0023	1.87	-2.45	-1.87	-0.69	1.05	-2.00	8.55	6	0.20
PSM0024	1.23	-2.58	-1.06	0.82	0.45	-1.40	15.23	16	0.51
PSM0025	0.92	-2.56	-1.18	1.14	0.26	-1.60	20.66	19	0.36
PSM0026	1.21	-2.45	-1.36	0.26	0.45	-1.60	24.52	15	0.06
PSM0027	1.14	-3.46	-1.80	0.06	0.38	-2.00	13.67	12	0.32
PSM0028	0.83	-3.38	-2.14	0.39	0.21	-2.40	26.21	14	0.02
PSM0029	1.10	-2.92	-1.71	-0.03	0.37	-1.90	14.23	13	0.36
PSM0030	1.66	-2.14	-1.38	-0.27	0.84	-1.50	11.63	11	0.39
PSM0031	0.71	-3.96	-2.41	0.37	0.15	-2.70	11.74	14	0.63
PSM0032	0.88	-2.87	-0.90	0.91	0.24	-0.70	22.40	19	0.26
PSM0033	0.23	-6.90	0.67	7.18	0.02	1.50	54.83	26	0.00
PSM0034	0.55	-2.89	-1.02	0.92	0.10	-1.00	33.80	25	0.11

PSM0035	0.20	-7.74	-0.75	5.21	0.01	-0.70	35.08	26	0.11
PSM0036	0.87	-3.02	-1.59	0.69	0.23	-1.90	31.78	18	0.02
PSM0037	0.95	-2.68	-1.19	0.60	0.27	-1.40	18.83	18	0.40
PSM0038	0.58	-5.11	-2.25	0.80	0.10	-2.40	28.43	16	0.03
PSM0039	1.52	-2.66	-1.51	-0.09	0.69	-1.80	7.19	10	0.71
PSM0040	0.19	-10.36	-2.79	5.88	0.01	-3.00	38.94	26	0.05
PSM0041	0.72	-2.61	-1.25	1.28	0.16	-1.30	18.40	23	0.74
PSM0042	0.11	-11.29	3.03	17.75	0.00	2.80	32.44	26	0.18
PSM0043	-0.41	3.52	-0.57	-4.28	0.05	-0.90	35.17	26	0.11
PSM0044	-0.41	2.28	-2.22	-5.07	0.05	-2.60	16.86	24	0.85
PSM0045	0.87	-3.74	-2.54	-0.75	0.06	-0.30	23.41	22	0.38

Table B-141: IRT statistics – Palestine, 45-item model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.79	-3.82	-2.93	-0.70	0.19	-2.70	7.59	8	0.47
PSM0002	1.30	-3.20	-2.16	0.26	0.50	-2.60	6.29	7	0.51
PSM0003	0.92	-3.93	-2.96	-0.15	0.25	-3.00	31.27	8	0.00
PSM0004	1.24	-3.05	-2.08	0.08	0.46	-2.40	11.13	8	0.19
PSM0005	0.72	-3.94	-2.35	0.82	0.16	-2.80	12.85	12	0.38
PSM0006	1.14	-3.22	-2.48	-0.63	0.39	-2.60	17.06	7	0.02
PSM0007	1.80	-2.36	-1.86	-0.46	0.97	-2.00	11.48	6	0.07
PSM0008	0.65	-4.20	-3.04	0.11	0.13	-3.00	11.98	8	0.15
PSM0009	1.74	-2.56	-2.05	-0.68	0.91	-2.20	13.19	6	0.04
PSM0010	0.71	-5.21	-2.42	1.46	0.14	-3.00	23.93	12	0.02
PSM0011	1.53	-2.58	-1.43	0.04	0.69	-1.70	7.35	9	0.60
PSM0012	1.69	-2.20	-1.49	-0.17	0.87	-1.70	8.06	8	0.43
PSM0013	1.15	-3.09	-2.29	0.12	0.39	-2.60	19.63	8	0.01
PSM0014	0.63	-3.58	-1.61	1.17	0.12	-1.80	23.65	20	0.26
PSM0015	0.90	-2.60	-1.85	0.21	0.25	-1.70	20.18	12	0.06
PSM0016	0.71	-5.80	-3.53	0.34	0.14	-3.00	9.59	8	0.30
PSM0017	0.70	-5.92	-3.18	0.30	0.14	-3.00	9.75	10	0.46
PSM0018	0.71	-3.45	-1.79	0.61	0.16	-1.90	16.30	16	0.43
PSM0019	1.43	-3.20	-1.94	-0.53	0.61	-2.10	5.52	8	0.70
PSM0020	1.37	-2.70	-2.12	-0.39	0.56	-2.20	12.56	7	0.08
PSM0021	1.18	-2.70	-1.57	0.16	0.42	-1.90	20.55	12	0.06
PSM0022	1.52	-2.73	-2.03	-0.46	0.70	-2.20	10.18	6	0.12

PSM0023	1.42	-3.66	-2.93	-0.80	0.59	-3.00	2.56	4	0.63
PSM0024	1.07	-3.04	-1.82	0.56	0.35	-2.30	9.36	11	0.59
PSM0025	0.83	-2.73	-1.17	0.67	0.21	-1.20	28.90	20	0.09
PSM0026	1.60	-2.48	-1.73	-0.12	0.77	-2.00	8.26	7	0.31
PSM0027	1.17	-3.36	-2.14	-0.35	0.41	-2.50	7.56	9	0.58
PSM0028	0.91	-3.85	-2.63	0.15	0.25	-3.00	10.76	9	0.29
PSM0029	1.14	-3.30	-2.21	-0.19	0.39	-2.50	11.23	8	0.19
PSM0030	1.37	-3.06	-2.08	-0.35	0.57	-2.40	10.81	8	0.21
PSM0031	1.02	-3.69	-2.11	0.26	0.31	-2.70	13.88	9	0.13
PSM0032	0.86	-3.18	-1.13	0.92	0.22	-1.10	11.33	15	0.73
PSM0033	-0.25	6.03	-1.64	-6.13	0.02	-2.30	29.86	25	0.23
PSM0034	0.95	-2.19	-0.82	0.60	0.28	-0.80	30.92	18	0.03
PSM0035	0.19	-8.28	-0.53	5.87	0.01	-0.60	35.44	26	0.10
PSM0036	1.49	-2.50	-1.34	0.27	0.66	-1.70	15.48	10	0.12
PSM0037	1.29	-2.07	-1.13	0.19	0.51	-1.20	11.74	15	0.70
PSM0038	1.11	-3.47	-1.56	0.56	0.36	-1.80	13.78	12	0.32
PSM0039	1.69	-3.06	-1.83	-0.35	0.83	-2.00	6.91	5	0.23
PSM0040	0.20	-11.57	-2.14	4.89	0.01	-0.70	21.10	18	0.27
PSM0041	0.79	-2.90	-1.85	0.70	0.19	-1.90	20.16	14	0.13
PSM0042	-0.12	7.07	-4.75	-17.02	0.00	-3.00	43.17	23	0.01
PSM0043	-0.28	2.90	-3.06	-7.40	0.02	-3.00	26.13	23	0.29
PSM0044	-0.39	2.18	-1.49	-5.07	0.05	-1.50	40.67	24	0.02
PSM0045	0.60	-3.87	-0.89	1.73	0.11	-0.60	24.92	19	0.16

Table B-142: IRT statistics – Tunisia, 45-item model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	1.02	-4.56	-2.98	-1.00	0.32	-3.00	11.69	6	0.07
PSM0002	0.86	-4.28	-2.84	0.40	0.22	-3.00	16.51	8	0.04
PSM0003	1.27	-3.87	-2.01	-0.08	0.46	-2.10	15.93	8	0.04
PSM0004	0.55	-5.93	-3.88	-0.02	0.09	-3.00	15.27	9	0.08
PSM0005	0.47	-5.22	-2.03	1.32	0.07	-2.10	17.85	19	0.53
PSM0006	1.28	-3.59	-2.33	-0.48	0.49	-2.80	3.60	7	0.83
PSM0007	0.92	-4.68	-3.12	-0.55	0.25	-3.00	12.00	7	0.10
PSM0008	0.94	-4.40	-2.88	-0.32	0.26	-3.00	13.98	8	0.08
PSM0009	1.20	-4.40	-3.58	-1.13	0.38	-3.00	3.77	4	0.44
PSM0010	0.88	-4.19	-1.57	1.78	0.22	-2.00	20.41	13	0.09

PSM0011	1.52	-2.79	-1.71	-0.06	0.69	-2.10	13.01	8	0.11
PSM0012	1.04	-4.88	-2.73	-0.39	0.31	-2.90	15.15	8	0.06
PSM0013	0.88	-5.14	-2.39	0.53	0.22	-2.50	17.37	12	0.14
PSM0014	0.83	-3.42	-1.68	1.06	0.21	-2.20	21.14	16	0.17
PSM0015	0.81	-4.37	-2.26	0.63	0.20	-2.90	19.08	14	0.16
PSM0016	1.43	-3.00	-1.95	-0.13	0.61	-2.40	12.81	9	0.17
PSM0017	1.47	-3.09	-1.65	0.32	0.62	-2.00	21.55	10	0.02
PSM0018	0.27	-11.11	-5.46	-0.87	0.02	-3.00	7.78	16	0.96
PSM0019	1.20	-3.70	-2.58	-0.57	0.43	-3.00	8.90	6	0.18
PSM0020	1.17	-3.95	-2.65	-0.37	0.41	-3.00	5.41	8	0.71
PSM0021	0.89	-3.28	-2.31	0.17	0.24	-2.50	23.11	12	0.03
PSM0022	1.09	-3.79	-2.64	-0.25	0.36	-3.00	12.96	8	0.11
PSM0023	1.35	-4.62	-2.78	-0.83	0.51	-2.80	3.33	5	0.65
PSM0024	1.28	-3.24	-1.97	0.07	0.49	-2.50	16.70	10	0.08
PSM0025	0.68	-5.58	-3.05	0.67	0.13	-3.00	20.42	11	0.04
PSM0026	1.22	-2.77	-1.85	0.23	0.45	-2.20	9.19	11	0.60
PSM0027	1.13	-4.67	-2.57	-0.34	0.36	-2.70	16.43	9	0.06
PSM0028	0.26	-10.69	-6.73	0.69	0.02	-3.00	13.48	11	0.26
PSM0029	0.94	-4.05	-3.14	0.24	0.25	-3.00	17.10	7	0.02
PSM0030	1.43	-3.23	-2.33	-0.45	0.61	-2.70	8.98	6	0.17
PSM0031	0.77	-4.64	-2.68	0.03	0.18	-3.00	16.28	11	0.13
PSM0032	0.61	-3.26	-0.59	1.78	0.11	-0.40	18.02	23	0.76
PSM0033	-0.02	134.81	10.35	-86.89	0.00	-3.00	17.72	25	0.85
PSM0034	0.90	-2.43	-1.25	0.55	0.25	-1.30	27.91	19	0.09
PSM0035	0.51	-2.78	0.47	2.64	0.08	0.60	31.42	25	0.18
PSM0036	0.52	-5.92	-3.19	1.22	0.08	-3.00	24.57	14	0.04
PSM0037	0.83	-3.17	-1.86	0.39	0.21	-2.00	23.57	15	0.07
PSM0038	1.00	-3.92	-2.00	0.44	0.29	-2.50	18.05	13	0.16
PSM0039	1.14	-4.06	-2.36	-0.08	0.38	-2.90	9.28	7	0.23
PSM0040	0.82	-2.83	-1.03	1.04	0.20	-1.20	33.74	20	0.03
PSM0041	0.59	-4.43	-2.44	0.69	0.11	-2.70	14.85	16	0.54
PSM0042	0.56	-1.59	0.69	3.88	0.10	0.30	24.74	22	0.31
PSM0043	0.34	-3.74	1.53	5.10	0.04	2.00	36.09	26	0.09
PSM0044	0.20	-3.81	3.57	9.87	0.01	3.00	19.46	25	0.77
PSM0045	0.39	-4.24	-0.88	3.17	0.05	-1.10	20.94	25	0.70

Table B-143: IRT statistics – pooled, 30-item Consortium model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.92	-3.78	-2.70	-0.79	0.26	-2.70	24.49	19	0.18
PSM0002	1.03	-3.56	-2.25	0.49	0.32	-2.80	35.20	18	0.01
PSM0003	1.08	-3.66	-2.23	-0.10	0.35	-2.70	50.25	17	0.00
PSM0004	1.00	-3.14	-2.05	0.09	0.30	-2.30	34.90	22	0.04
PSM0006	1.33	-2.99	-2.01	-0.41	0.53	-2.30	25.15	16	0.07
PSM0009	1.70	-2.71	-2.07	-0.70	0.88	-2.30	30.90	11	0.00
PSM0010	0.77	-4.31	-1.84	1.51	0.17	-2.60	40.10	22	0.01
PSM0011	1.32	-2.83	-1.61	0.04	0.52	-2.00	21.96	18	0.23
PSM0012	1.31	-2.64	-1.78	-0.09	0.52	-2.00	40.51	19	0.00
PSM0014	0.74	-3.42	-1.49	0.96	0.17	-1.80	37.55	25	0.05
PSM0015	0.98	-2.60	-1.53	0.38	0.30	-1.70	26.57	24	0.33
PSM0016	0.98	-4.00	-2.67	0.00	0.29	-3.00	16.03	16	0.45
PSM0017	0.86	-4.56	-2.43	0.29	0.22	-3.00	32.15	18	0.02
PSM0019	1.26	-2.93	-1.95	-0.47	0.49	-2.10	32.57	17	0.01
PSM0020	1.32	-2.86	-2.13	-0.36	0.53	-2.30	17.25	16	0.37
PSM0021	1.14	-2.57	-1.42	0.34	0.40	-1.70	53.31	22	0.00
PSM0022	1.30	-2.91	-2.02	-0.26	0.51	-2.30	30.14	16	0.02
PSM0023	1.51	-3.31	-2.47	-0.78	0.69	-2.80	18.25	10	0.05
PSM0024	1.20	-2.92	-1.57	0.47	0.43	-2.00	52.15	20	0.00
PSM0026	1.36	-2.53	-1.62	0.11	0.56	-1.90	23.29	18	0.18
PSM0027	1.16	-3.66	-2.13	-0.22	0.40	-2.50	20.00	15	0.17
PSM0029	1.08	-3.31	-2.21	0.00	0.35	-2.60	58.11	18	0.00
PSM0030	1.41	-2.81	-1.93	-0.36	0.60	-2.20	15.92	15	0.39
PSM0031	0.76	-4.33	-2.56	0.24	0.18	-3.00	20.67	20	0.42
PSM0034	0.76	-2.54	-1.06	0.69	0.18	-1.00	52.96	26	0.00
PSM0036	0.96	-3.21	-1.73	0.57	0.28	-2.20	29.65	22	0.13
PSM0037	1.00	-2.61	-1.37	0.38	0.30	-1.50	37.59	24	0.04
PSM0038	0.81	-4.29	-1.99	0.63	0.19	-2.40	45.97	21	0.00
PSM0039	1.36	-3.27	-1.91	-0.19	0.55	-2.30	21.79	15	0.11
PSM0041	0.71	-3.15	-1.78	0.87	0.16	-1.90	27.51	26	0.38

Table B-144: IRT statistics – Egypt, 30-item Consortium model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.88	-3.70	-2.51	-0.75	0.24	-2.50	7.97	10	0.63
PSM0002	1.02	-3.30	-1.89	0.81	0.31	-2.50	25.20	13	0.02
PSM0003	1.13	-3.28	-1.81	-0.06	0.39	-2.10	18.86	13	0.13
PSM0004	1.03	-2.52	-1.50	0.13	0.33	-1.50	19.54	16	0.24
PSM0006	1.38	-2.65	-1.60	-0.20	0.58	-1.80	11.56	11	0.40
PSM0009	2.04	-2.22	-1.53	-0.50	1.27	-1.70	20.40	8	0.01
PSM0010	0.89	-3.30	-1.41	1.09	0.23	-2.00	19.01	18	0.39
PSM0011	1.08	-3.07	-1.67	0.12	0.35	-2.00	25.18	13	0.02
PSM0012	1.09	-2.45	-1.63	0.25	0.36	-1.70	22.23	16	0.14
PSM0014	0.82	-3.16	-1.13	0.63	0.21	-1.00	15.67	19	0.68
PSM0015	1.10	-1.98	-0.98	0.36	0.38	-1.00	18.05	20	0.58
PSM0016	1.07	-3.51	-2.61	-0.12	0.34	-2.90	7.72	9	0.56
PSM0017	0.69	-5.06	-2.65	0.16	0.14	-3.00	19.18	13	0.12
PSM0019	1.23	-2.28	-1.45	-0.30	0.47	-1.40	16.95	14	0.26
PSM0020	1.35	-2.46	-1.81	-0.32	0.55	-1.90	11.51	11	0.40
PSM0021	1.24	-2.12	-0.81	0.68	0.46	-1.00	17.17	18	0.51
PSM0022	1.19	-2.67	-1.67	-0.05	0.43	-1.80	18.01	14	0.21
PSM0023	1.74	-2.57	-1.96	-0.71	0.92	-2.10	15.57	6	0.02
PSM0024	1.25	-2.58	-1.05	0.81	0.46	-1.40	29.87	15	0.01
PSM0026	1.25	-2.43	-1.35	0.26	0.47	-1.60	24.20	15	0.06
PSM0027	1.12	-3.52	-1.84	0.06	0.37	-2.10	9.19	12	0.69
PSM0029	1.10	-2.93	-1.72	-0.04	0.37	-1.90	17.44	14	0.23
PSM0030	1.56	-2.23	-1.43	-0.27	0.74	-1.60	20.76	12	0.05
PSM0031	0.64	-4.33	-2.63	0.40	0.13	-2.90	16.33	15	0.36
PSM0034	0.54	-2.98	-1.06	0.95	0.09	-1.00	41.92	25	0.02
PSM0036	0.87	-3.03	-1.60	0.69	0.23	-1.90	29.48	17	0.03
PSM0037	0.99	-2.59	-1.15	0.59	0.30	-1.30	18.16	18	0.45
PSM0038	0.53	-5.55	-2.43	0.87	0.09	-2.60	33.82	18	0.01
PSM0039	1.45	-2.75	-1.55	-0.09	0.62	-1.80	11.30	12	0.50
PSM0041	0.67	-2.77	-1.32	1.35	0.14	-1.40	18.30	23	0.74

Table B-145: IRT statistics – Palestine, 30-item Consortium model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.81	-3.72	-2.85	-0.68	0.20	-2.60	10.73	8	0.22
PSM0002	1.29	-3.23	-2.17	0.27	0.50	-2.60	12.14	7	0.10
PSM0003	0.92	-3.95	-2.98	-0.15	0.25	-3.00	14.43	8	0.07
PSM0004	1.27	-3.02	-2.06	0.09	0.48	-2.40	20.97	9	0.01
PSM0006	1.21	-3.09	-2.38	-0.60	0.44	-2.50	11.40	7	0.12
PSM0009	1.64	-2.68	-2.15	-0.71	0.80	-2.30	7.99	6	0.24
PSM0010	0.63	-5.73	-2.66	1.60	0.12	-3.00	29.51	14	0.01
PSM0011	1.47	-2.65	-1.46	0.05	0.64	-1.80	9.62	9	0.38
PSM0012	1.70	-2.20	-1.49	-0.17	0.88	-1.70	10.62	8	0.22
PSM0014	0.63	-3.58	-1.61	1.17	0.12	-1.80	17.83	19	0.53
PSM0015	0.90	-2.60	-1.85	0.22	0.25	-1.70	16.45	11	0.13
PSM0016	0.74	-5.63	-3.43	0.34	0.15	-3.00	18.42	8	0.02
PSM0017	0.70	-5.92	-3.18	0.30	0.14	-3.00	8.05	9	0.53
PSM0019	1.36	-3.32	-2.02	-0.54	0.56	-2.20	3.65	6	0.72
PSM0020	1.39	-2.70	-2.12	-0.39	0.58	-2.20	17.47	7	0.01
PSM0021	1.15	-2.78	-1.62	0.17	0.40	-1.90	15.30	12	0.23
PSM0022	1.53	-2.75	-2.05	-0.46	0.70	-2.30	15.44	7	0.03
PSM0023	1.46	-3.58	-2.88	-0.79	0.63	-3.00	6.77	4	0.15
PSM0024	1.05	-3.11	-1.86	0.59	0.33	-2.30	11.07	12	0.52
PSM0026	1.62	-2.48	-1.72	-0.11	0.79	-2.00	5.17	7	0.64
PSM0027	1.17	-3.38	-2.15	-0.35	0.42	-2.50	11.90	8	0.16
PSM0029	1.14	-3.31	-2.22	-0.18	0.39	-2.60	14.87	9	0.09
PSM0030	1.22	-3.29	-2.24	-0.37	0.45	-2.60	7.01	8	0.54
PSM0031	0.97	-3.87	-2.21	0.27	0.28	-2.80	14.12	10	0.17
PSM0034	0.88	-2.34	-0.87	0.64	0.24	-0.90	30.93	20	0.06
PSM0036	1.46	-2.55	-1.37	0.28	0.63	-1.80	10.17	10	0.43
PSM0037	1.25	-2.13	-1.16	0.19	0.48	-1.20	11.93	16	0.75
PSM0038	1.08	-3.56	-1.61	0.58	0.34	-1.80	15.27	10	0.12
PSM0039	1.49	-3.35	-1.99	-0.38	0.64	-2.20	10.49	8	0.23
PSM0041	0.74	-3.08	-1.95	0.75	0.17	-2.00	14.72	14	0.40

Table B-146: IRT statistics – Tunisia, 30-item Consortium model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	1.08	-4.36	-2.85	-0.95	0.35	-3.00	7.77	6	0.26
PSM0002	0.78	-4.67	-3.10	0.43	0.18	-3.00	12.31	8	0.14
PSM0003	1.17	-4.10	-2.12	-0.08	0.39	-2.20	19.32	9	0.02
PSM0004	0.63	-5.23	-3.42	0.00	0.12	-3.00	12.88	9	0.17
PSM0006	1.38	-3.39	-2.20	-0.45	0.57	-2.60	11.30	7	0.13
PSM0009	1.11	-4.68	-3.81	-1.20	0.32	-1.40	2.10	4	0.72
PSM0010	0.87	-4.21	-1.58	1.79	0.21	-2.00	17.02	13	0.20
PSM0011	1.52	-2.77	-1.69	-0.05	0.69	-2.10	9.86	9	0.36
PSM0012	1.11	-4.64	-2.60	-0.36	0.35	-2.70	12.10	8	0.15
PSM0014	0.82	-3.46	-1.69	1.08	0.20	-2.30	16.61	16	0.41
PSM0015	0.90	-3.99	-2.06	0.59	0.24	-2.70	32.16	13	0.00
PSM0016	1.37	-3.09	-2.00	-0.13	0.57	-2.40	7.45	9	0.59
PSM0017	1.44	-3.14	-1.67	0.33	0.59	-2.00	24.65	10	0.01
PSM0019	1.18	-3.73	-2.60	-0.57	0.42	-3.00	16.37	6	0.01
PSM0020	1.17	-3.98	-2.67	-0.38	0.41	-3.00	7.83	7	0.35
PSM0021	0.90	-3.25	-2.28	0.17	0.25	-2.40	18.14	11	0.08
PSM0022	1.10	-3.77	-2.63	-0.25	0.37	-3.00	13.64	7	0.06
PSM0023	1.38	-4.54	-2.74	-0.82	0.54	-2.80	8.58	5	0.13
PSM0024	1.24	-3.32	-2.02	0.08	0.46	-2.50	19.05	11	0.06
PSM0026	1.25	-2.74	-1.83	0.23	0.47	-2.10	10.55	11	0.48
PSM0027	1.15	-4.64	-2.56	-0.34	0.37	-2.60	12.02	8	0.15
PSM0029	0.97	-3.96	-3.08	0.24	0.27	-3.00	22.69	8	0.00
PSM0030	1.37	-3.33	-2.40	-0.46	0.56	-2.70	8.10	6	0.23
PSM0031	0.74	-4.81	-2.79	0.03	0.16	-3.00	18.64	12	0.10
PSM0034	0.89	-2.46	-1.26	0.56	0.25	-1.30	22.47	18	0.21
PSM0036	0.62	-5.04	-2.74	1.04	0.12	-3.00	14.80	12	0.25
PSM0037	0.80	-3.27	-1.92	0.40	0.19	-2.10	29.56	14	0.01
PSM0038	0.92	-4.20	-2.13	0.48	0.25	-2.70	9.93	12	0.62
PSM0039	1.11	-4.15	-2.41	-0.08	0.36	-2.90	4.31	8	0.83
PSM0041	0.65	-4.11	-2.27	0.63	0.13	-2.60	15.18	14	0.37

Table B-147: IRT statistics – pooled, 30-item UNICEF & The World Bank model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.91	-3.80	-2.72	-0.79	0.26	-2.80	16.33	19	0.64
PSM0002	1.04	-3.54	-2.24	0.49	0.32	-2.80	38.58	18	0.00
PSM0003	1.08	-3.66	-2.23	-0.09	0.35	-2.70	58.87	17	0.00
PSM0004	0.99	-3.17	-2.06	0.09	0.30	-2.30	34.32	22	0.05
PSM0006	1.31	-3.01	-2.03	-0.40	0.52	-2.30	24.24	16	0.08
PSM0009	1.71	-2.71	-2.07	-0.70	0.88	-2.30	30.80	11	0.00
PSM0010	0.75	-4.39	-1.87	1.54	0.17	-2.70	48.84	22	0.00
PSM0011	1.33	-2.82	-1.60	0.05	0.53	-1.90	22.61	18	0.21
PSM0012	1.31	-2.64	-1.77	-0.09	0.52	-2.00	36.01	19	0.01
PSM0014	0.73	-3.44	-1.49	0.97	0.16	-1.80	41.28	25	0.02
PSM0015	0.99	-2.59	-1.52	0.39	0.30	-1.70	29.91	24	0.19
PSM0016	0.98	-4.02	-2.68	0.00	0.29	-3.00	16.37	16	0.43
PSM0017	0.83	-4.67	-2.48	0.30	0.20	-3.00	24.51	18	0.14
PSM0019	0.56	-4.60	-1.88	0.63	0.10	-1.80	28.66	25	0.28
PSM0020	1.23	-2.98	-1.97	-0.47	0.47	-2.10	20.65	17	0.24
PSM0021	1.31	-2.89	-2.14	-0.36	0.51	-2.30	14.51	15	0.49
PSM0022	1.15	-2.55	-1.41	0.34	0.40	-1.70	45.15	22	0.00
PSM0023	1.30	-2.91	-2.01	-0.26	0.51	-2.30	26.94	16	0.04
PSM0024	1.50	-3.33	-2.48	-0.78	0.68	-2.80	19.35	10	0.04
PSM0026	1.21	-2.91	-1.56	0.47	0.44	-2.00	46.27	20	0.00
PSM0027	1.31	-2.60	-1.66	0.12	0.52	-2.00	28.72	19	0.07
PSM0029	1.17	-3.66	-2.13	-0.21	0.40	-2.50	19.40	16	0.25
PSM0030	1.44	-2.78	-1.91	-0.36	0.62	-2.20	12.51	15	0.64
PSM0031	0.77	-4.28	-2.53	0.23	0.18	-3.00	26.30	21	0.20
PSM0034	0.75	-2.55	-1.06	0.69	0.18	-1.00	57.40	26	0.00
PSM0036	0.98	-3.18	-1.72	0.56	0.29	-2.20	29.56	22	0.13
PSM0037	1.00	-2.60	-1.37	0.37	0.31	-1.50	44.60	24	0.01
PSM0038	0.81	-4.27	-1.99	0.62	0.19	-2.40	42.94	21	0.00
PSM0039	1.35	-3.28	-1.92	-0.19	0.54	-2.30	21.37	15	0.13
PSM0041	0.73	-3.09	-1.75	0.85	0.16	-1.90	27.00	26	0.41

Table B-148: IRT statistics – Egypt, 30-item UNICEF & The World Bank model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.86	-3.76	-2.55	-0.76	0.23	-2.50	9.41	10	0.49
PSM0002	1.03	-3.27	-1.87	0.81	0.32	-2.40	27.87	13	0.01
PSM0003	1.14	-3.27	-1.80	-0.05	0.39	-2.10	26.66	13	0.01
PSM0004	1.03	-2.52	-1.50	0.14	0.33	-1.50	27.12	16	0.04
PSM0006	1.39	-2.64	-1.59	-0.19	0.59	-1.80	15.06	11	0.18
PSM0009	2.04	-2.22	-1.53	-0.50	1.26	-1.70	14.89	8	0.06
PSM0010	0.87	-3.34	-1.42	1.11	0.23	-2.00	19.44	17	0.30
PSM0011	1.09	-3.06	-1.66	0.12	0.36	-2.00	21.60	14	0.09
PSM0012	1.11	-2.42	-1.60	0.25	0.37	-1.70	27.23	16	0.04
PSM0014	0.81	-3.18	-1.14	0.64	0.20	-1.00	18.29	20	0.57
PSM0015	1.10	-1.97	-0.97	0.37	0.38	-1.00	19.07	20	0.52
PSM0016	1.07	-3.50	-2.61	-0.12	0.34	-2.90	12.50	9	0.19
PSM0017	0.67	-5.16	-2.70	0.16	0.14	-3.00	10.41	13	0.66
PSM0019	0.55	-4.25	-0.87	1.62	0.09	-0.40	16.21	20	0.70
PSM0020	1.19	-2.33	-1.48	-0.30	0.44	-1.40	31.19	13	0.00
PSM0021	1.37	-2.44	-1.80	-0.31	0.57	-1.90	21.58	11	0.03
PSM0022	1.22	-2.15	-0.82	0.69	0.45	-1.00	12.61	18	0.81
PSM0023	1.17	-2.69	-1.68	-0.05	0.42	-1.90	18.41	13	0.14
PSM0024	1.78	-2.54	-1.94	-0.70	0.95	-2.10	11.21	6	0.08
PSM0026	1.23	-2.61	-1.06	0.83	0.44	-1.40	33.90	15	0.00
PSM0027	1.22	-2.47	-1.37	0.26	0.45	-1.60	17.88	15	0.27
PSM0029	1.11	-3.55	-1.85	0.06	0.36	-2.10	11.17	12	0.51
PSM0030	1.61	-2.19	-1.41	-0.27	0.80	-1.50	16.34	12	0.18
PSM0031	0.64	-4.35	-2.65	0.40	0.13	-2.90	11.99	14	0.61
PSM0034	0.53	-3.02	-1.07	0.96	0.09	-1.00	40.97	26	0.03
PSM0036	0.88	-2.98	-1.58	0.68	0.24	-1.90	21.23	17	0.22
PSM0037	0.98	-2.61	-1.16	0.59	0.29	-1.30	17.30	19	0.57
PSM0038	0.54	-5.47	-2.40	0.86	0.09	-2.60	37.17	18	0.00
PSM0039	1.43	-2.78	-1.57	-0.09	0.61	-1.80	9.16	11	0.61
PSM0041	0.70	-2.70	-1.29	1.31	0.15	-1.40	24.31	23	0.39

Table B-149: IRT statistics – Palestine, 30-item UNICEF & The World Bank model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	0.80	-3.77	-2.88	-0.68	0.20	-2.70	10.23	8	0.25
PSM0002	1.30	-3.22	-2.17	0.28	0.50	-2.60	11.84	7	0.11
PSM0003	0.93	-3.91	-2.95	-0.15	0.26	-3.00	17.98	8	0.02
PSM0004	1.27	-3.04	-2.06	0.10	0.48	-2.40	23.12	8	0.00
PSM0006	1.16	-3.19	-2.46	-0.62	0.41	-2.60	13.64	7	0.06
PSM0009	1.67	-2.66	-2.13	-0.70	0.83	-2.30	7.97	6	0.24
PSM0010	0.61	-5.89	-2.73	1.65	0.11	-3.00	28.33	14	0.01
PSM0011	1.47	-2.65	-1.46	0.05	0.65	-1.80	9.24	9	0.42
PSM0012	1.68	-2.22	-1.50	-0.16	0.86	-1.70	4.98	8	0.76
PSM0014	0.62	-3.62	-1.62	1.19	0.12	-1.90	13.86	19	0.79
PSM0015	0.90	-2.61	-1.86	0.23	0.24	-1.70	18.70	12	0.10
PSM0016	0.71	-5.80	-3.53	0.35	0.14	-3.00	9.30	8	0.32
PSM0017	0.68	-6.10	-3.27	0.32	0.13	-3.00	6.88	10	0.74
PSM0019	0.67	-3.66	-1.90	0.65	0.14	-2.10	23.29	17	0.14
PSM0020	1.35	-3.34	-2.03	-0.55	0.54	-2.20	4.57	6	0.60
PSM0021	1.35	-2.74	-2.15	-0.39	0.54	-2.30	12.87	7	0.08
PSM0022	1.17	-2.75	-1.60	0.17	0.41	-1.90	14.98	12	0.24
PSM0023	1.54	-2.73	-2.04	-0.45	0.72	-2.30	7.07	7	0.42
PSM0024	1.44	-3.64	-2.93	-0.80	0.61	-3.00	6.77	4	0.15
PSM0026	1.07	-3.08	-1.84	0.58	0.34	-2.30	10.01	12	0.62
PSM0027	1.55	-2.55	-1.76	-0.11	0.72	-2.00	7.51	7	0.38
PSM0029	1.19	-3.33	-2.12	-0.35	0.43	-2.50	6.79	8	0.56
PSM0030	1.22	-3.32	-2.26	-0.37	0.45	-2.60	11.79	8	0.16
PSM0031	0.98	-3.83	-2.18	0.26	0.29	-2.70	13.13	10	0.22
PSM0034	0.89	-2.31	-0.87	0.63	0.25	-0.90	33.93	20	0.03
PSM0036	1.50	-2.49	-1.34	0.27	0.67	-1.70	7.78	10	0.65
PSM0037	1.27	-2.10	-1.15	0.18	0.50	-1.20	11.92	15	0.68
PSM0038	1.10	-3.50	-1.58	0.57	0.35	-1.80	16.67	12	0.16
PSM0039	1.49	-3.35	-1.99	-0.38	0.64	-2.20	9.13	7	0.24
PSM0041	0.77	-2.98	-1.90	0.72	0.18	-2.00	14.01	14	0.45

Table B-150: IRT statistics – Tunisia, 30-item UNICEF & The World Bank model (Self-management)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PSM0001	1.09	-4.33	-2.83	-0.94	0.36	-3.00	7.78	6	0.25
PSM0002	0.78	-4.69	-3.10	0.44	0.18	-3.00	14.04	8	0.08
PSM0003	1.17	-4.12	-2.13	-0.08	0.39	-2.20	22.40	10	0.01
PSM0004	0.61	-5.39	-3.52	0.00	0.11	-3.00	8.48	9	0.49
PSM0006	1.38	-3.41	-2.20	-0.44	0.57	-2.60	6.63	7	0.47
PSM0009	1.08	-4.76	-3.88	-1.21	0.31	-1.50	8.03	5	0.15
PSM0010	0.86	-4.23	-1.58	1.80	0.21	-2.00	15.06	13	0.30
PSM0011	1.54	-2.75	-1.68	-0.04	0.71	-2.10	10.49	8	0.23
PSM0012	1.09	-4.72	-2.64	-0.36	0.34	-2.80	9.15	7	0.24
PSM0014	0.83	-3.43	-1.68	1.08	0.21	-2.20	18.55	15	0.23
PSM0015	0.92	-3.89	-2.01	0.58	0.25	-2.60	25.23	13	0.02
PSM0016	1.39	-3.06	-1.99	-0.13	0.58	-2.40	7.56	9	0.58
PSM0017	1.41	-3.18	-1.69	0.33	0.57	-2.10	24.71	10	0.01
PSM0019	0.28	-10.68	-5.25	-0.84	0.02	-3.00	9.76	16	0.88
PSM0020	1.16	-3.78	-2.64	-0.58	0.40	-3.00	14.99	6	0.02
PSM0021	1.15	-4.02	-2.70	-0.38	0.39	-3.00	5.43	7	0.61
PSM0022	0.92	-3.21	-2.26	0.17	0.25	-2.40	17.23	11	0.10
PSM0023	1.11	-3.76	-2.62	-0.25	0.37	-3.00	14.53	7	0.04
PSM0024	1.37	-4.58	-2.76	-0.83	0.52	-2.80	10.16	5	0.07
PSM0026	1.25	-3.30	-2.00	0.08	0.47	-2.50	14.52	11	0.21
PSM0027	1.20	-2.81	-1.88	0.24	0.43	-2.20	12.82	11	0.31
PSM0029	1.13	-4.69	-2.58	-0.35	0.36	-2.70	10.50	8	0.23
PSM0030	1.41	-3.27	-2.36	-0.46	0.59	-2.70	6.24	6	0.40
PSM0031	0.76	-4.66	-2.71	0.03	0.18	-3.00	14.44	12	0.27
PSM0034	0.90	-2.46	-1.26	0.55	0.25	-1.30	23.62	18	0.17
PSM0036	0.62	-5.06	-2.75	1.03	0.12	-3.00	6.68	12	0.88
PSM0037	0.80	-3.24	-1.91	0.40	0.20	-2.10	20.66	14	0.11
PSM0038	0.92	-4.20	-2.13	0.47	0.25	-2.70	11.41	12	0.49
PSM0039	1.11	-4.16	-2.42	-0.09	0.36	-2.90	6.59	8	0.58
PSM0041	0.64	-4.16	-2.30	0.63	0.13	-2.60	10.78	14	0.70

MODEL STATISTICS

Table B-151: Fit indices and reliability, 45-item model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1280.69	855	0.00	0.02	0.04	0.96	0.96	0.86
	(47.75)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	1046.66	855	0.00	0.02	0.05	0.95	0.95	0.86
	(42.12)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Palestine	1007.77	855	0.00	0.02	0.06	0.95	0.95	0.88
	(37.59)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	1015.04	855	0.00	0.02	0.06	0.94	0.94	0.85
	(28.90)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-

Table B-152: Measurement invariance test, 45-item model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3067.70	2565	0.00	0.01	0.05	0.06	0.06	0.97	0.97
	(83.75)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Metric model	3263.18	2655	0.00	0.02	0.06	0.06	0.07	0.96	0.97
	(81.38)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	3632.22	2923	0.00	0.02	0.06	0.06	0.07	0.96	0.96
	(100.39)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Difference: Metric - Configural	195.48	90	0.00	0.00	0.01	0.00	0.01	-0.01	-0.01
Difference: Scalar - Metric	369.03	268	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table B-153: Fit indices and reliability, 30-item Consortium model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	450.33	345	0.00	0.02	0.03	0.98	0.98	0.84
	(24.66)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	403.84	345	0.02	0.02	0.05	0.97	0.98	0.85
	(11.85)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Palestine	385.18	345	0.11	0.02	0.05	0.98	0.98	0.85
	(24.44)	-	-	(0.01)	(0.00)	(0.02)	(0.01)	-
Tunisia	433.33	345	0.01	0.03	0.06	0.94	0.95	0.83
	(26.93)	-	-	(0.00)	(0.00)	(0.02)	(0.02)	-

Table B-154: Measurement invariance test, 30-item Consortium model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1245.86	1035	0.00	0.01	0.05	0.06	0.05	0.98	0.98
	(55.37)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Metric model	1318.10	1095	0.00	0.01	0.05	0.06	0.06	0.98	0.98
	(38.18)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Scalar model	1529.68	1273	0.00	0.01	0.05	0.06	0.06	0.98	0.98
	(34.49)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	72.24	60	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Difference: Scalar - Metric	211.58	178	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table B-155: Fit indices and reliability, 30-item UNICEF & The World Bank model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	451.32	345	0.00	0.02	0.03	0.98	0.98	0.84
	(34.18)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	400.86	345	0.08	0.02	0.05	0.98	0.98	0.84
	(26.25)	-	-	(0.01)	(0.00)	(0.01)	(0.01)	-
Palestine	386.17	345	0.14	0.02	0.06	0.98	0.98	0.85
	(31.51)	-	-	(0.01)	(0.00)	(0.02)	(0.02)	-
Tunisia	413.24	345	0.04	0.02	0.06	0.95	0.95	0.82
	(27.85)	-	-	(0.01)	(0.00)	(0.02)	(0.02)	-

Table B-156: Measurement invariance test, 30-item UNICEF & The World Bank model (Self-management)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1174.03	1035	0.01	0.01	0.05	0.05	0.05	0.99	0.99
	(31.48)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Metric model	1265.81	1095	0.02	0.01	0.06	0.06	0.06	0.99	0.99
	(56.45)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	1494.45	1273	0.00	0.01	0.05	0.06	0.06	0.98	0.98
	(45.01)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	91.78	60	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Difference: Scalar - Metric	228.65	178	-0.02	0.00	0.00	0.00	0.00	0.00	0.00

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Table B-157: Response frequencies for all items, pooled model (Decision Making)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
EDM0001	0.05	0.36	0.30	0.29
EDM0002	0.09	0.23	0.35	0.33
EDM0003	0.08	0.18	0.23	0.50
EDM0004	0.07	0.14	0.18	0.61
EDM0005	0.13	0.17	0.34	0.35
EDM0006	0.18	0.25	0.35	0.22
EDM0007	0.05	0.13	0.19	0.63
EDM0008	0.09	0.19	0.33	0.40
EDM0009	0.11	0.17	0.39	0.33
EDM0010	0.09	0.29	0.27	0.35
EDM0011	0.09	0.16	0.29	0.46
EDM0012	0.14	0.19	0.29	0.38
EDM0013	0.25	0.23	0.31	0.21
EDM0014	0.22	0.27	0.32	0.19
EDM0015	0.30	0.24	0.30	0.15
EDM0016	0.18	0.20	0.39	0.22
EDM0017	0.09	0.30	0.31	0.30
EDM0018	0.23	0.28	0.30	0.19
EDM0019	0.14	0.23	0.24	0.39
EDM0020	0.12	0.23	0.27	0.38
EDM0021	0.22	0.24	0.30	0.24
EDM0022	0.06	0.08	0.12	0.74
EDM0023	0.12	0.25	0.25	0.38
EDM0024	0.09	0.11	0.39	0.41
EDM0025	0.17	0.27	0.30	0.26
EDM0026	0.26	0.25	0.23	0.26
EDM0027	0.20	0.21	0.28	0.31
EDM0028	0.08	0.14	0.30	0.48
EDM0029	0.04	0.07	0.39	0.50
EDM0030	0.07	0.13	0.37	0.43
EDM0031	0.09	0.20	0.23	0.48
EDM0032	0.19	0.30	0.25	0.26

EDM0033	0.56	0.20	0.12	0.12
EDM0034	0.05	0.08	0.17	0.70
EDM0035	0.05	0.17	0.22	0.56
EDM0036	0.21	0.19	0.27	0.32
EDM0037	0.26	0.21	0.28	0.25
EDM0038	0.12	0.14	0.30	0.44
EDM0039	0.40	0.24	0.26	0.11
EDM0040	0.12	0.11	0.27	0.51
EDM0041	0.03	0.04	0.23	0.70
EDM0042	0.32	0.29	0.26	0.12
EDM0043	0.17	0.21	0.39	0.22
EDM0044	0.15	0.19	0.40	0.25
EDM0045	0.25	0.23	0.29	0.23

Table B-158: Response frequencies for all items, Egypt model (Decision Making)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
EDM0001	0.08	0.36	0.32	0.24
EDM0002	0.10	0.27	0.37	0.25
EDM0003	0.12	0.25	0.22	0.41
EDM0004	0.10	0.12	0.19	0.58
EDM0005	0.16	0.26	0.33	0.24
EDM0006	0.17	0.24	0.34	0.26
EDM0007	0.07	0.17	0.17	0.60
EDM0008	0.13	0.21	0.32	0.33
EDM0009	0.15	0.19	0.40	0.26
EDM0010	0.11	0.32	0.30	0.28
EDM0011	0.09	0.23	0.27	0.40
EDM0012	0.16	0.21	0.27	0.36
EDM0013	0.28	0.21	0.34	0.17
EDM0014	0.22	0.31	0.30	0.17
EDM0015	0.28	0.28	0.25	0.18
EDM0016	0.23	0.28	0.31	0.18
EDM0017	0.07	0.31	0.31	0.31
EDM0018	0.25	0.33	0.27	0.16
EDM0019	0.17	0.24	0.19	0.40
EDM0020	0.12	0.28	0.31	0.29
EDM0021	0.26	0.23	0.24	0.26

EDM0022	0.09	0.11	0.13	0.67
EDM0023	0.14	0.22	0.26	0.38
EDM0024	0.08	0.13	0.34	0.45
EDM0025	0.13	0.25	0.33	0.28
EDM0026	0.29	0.29	0.17	0.26
EDM0027	0.22	0.22	0.29	0.27
EDM0028	0.10	0.17	0.30	0.43
EDM0029	0.04	0.07	0.38	0.50
EDM0030	0.08	0.16	0.33	0.43
EDM0031	0.08	0.19	0.20	0.52
EDM0032	0.15	0.28	0.27	0.30
EDM0033	0.51	0.23	0.14	0.12
EDM0034	0.06	0.10	0.18	0.66
EDM0035	0.05	0.19	0.20	0.56
EDM0036	0.22	0.23	0.24	0.30
EDM0037	0.20	0.20	0.30	0.29
EDM0038	0.14	0.17	0.29	0.41
EDM0039	0.36	0.26	0.26	0.13
EDM0040	0.17	0.13	0.23	0.48
EDM0041	0.03	0.05	0.22	0.70
EDM0042	0.27	0.29	0.29	0.15
EDM0043	0.16	0.19	0.40	0.24
EDM0044	0.13	0.20	0.37	0.30
PSM0045	0.10	0.31	0.29	0.29

Table B-159: Response frequencies for all items, Palestine model (Decision Making)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
EDM0001	0.05	0.29	0.29	0.37
EDM0002	0.10	0.26	0.27	0.38
EDM0003	0.06	0.15	0.27	0.52
EDM0004	0.06	0.14	0.12	0.68
EDM0005	0.13	0.15	0.33	0.40
EDM0006	0.12	0.27	0.38	0.23
EDM0007	0.03	0.11	0.16	0.69
EDM0008	0.07	0.23	0.31	0.39
EDM0009	0.09	0.21	0.39	0.31
EDM0010	0.08	0.27	0.28	0.37

EDM0011	0.10	0.16	0.28	0.46
EDM0012	0.12	0.20	0.29	0.38
EDM0013	0.23	0.27	0.26	0.24
EDM0014	0.21	0.27	0.30	0.21
EDM0015	0.30	0.21	0.34	0.15
EDM0016	0.20	0.18	0.35	0.26
EDM0017	0.08	0.29	0.30	0.33
EDM0018	0.17	0.29	0.30	0.24
EDM0019	0.11	0.21	0.29	0.38
EDM0020	0.13	0.19	0.28	0.40
EDM0021	0.23	0.28	0.28	0.22
EDM0022	0.03	0.06	0.12	0.78
EDM0023	0.13	0.24	0.24	0.39
EDM0024	0.07	0.10	0.42	0.40
EDM0025	0.22	0.24	0.28	0.27
EDM0026	0.26	0.24	0.24	0.26
EDM0027	0.21	0.20	0.26	0.34
EDM0028	0.09	0.15	0.29	0.48
EDM0029	0.03	0.04	0.44	0.50
EDM0030	0.07	0.12	0.37	0.45
EDM0031	0.09	0.18	0.23	0.50
EDM0032	0.21	0.31	0.29	0.18
EDM0033	0.58	0.16	0.13	0.13
EDM0034	0.07	0.05	0.12	0.76
EDM0035	0.04	0.16	0.20	0.61
EDM0036	0.20	0.16	0.27	0.37
EDM0037	0.24	0.19	0.29	0.28
EDM0038	0.13	0.11	0.27	0.49
EDM0039	0.38	0.21	0.30	0.11
EDM0040	0.09	0.11	0.25	0.55
EDM0041	0.03	0.03	0.24	0.71
EDM0042	0.34	0.26	0.27	0.14
EDM0043	0.14	0.23	0.39	0.23
EDM0044	0.14	0.17	0.43	0.26
EDM0045	0.30	0.19	0.31	0.19

Table B-160: Response frequencies for all items, Tunisia model (Decision Making)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
EDM0001	0.01	0.42	0.30	0.27
EDM0002	0.07	0.15	0.40	0.38
EDM0003	0.07	0.14	0.22	0.58
EDM0004	0.05	0.16	0.21	0.57
EDM0005	0.09	0.10	0.37	0.44
EDM0006	0.23	0.25	0.35	0.17
EDM0007	0.03	0.12	0.24	0.61
EDM0008	0.06	0.13	0.34	0.47
EDM0009	0.08	0.11	0.39	0.43
EDM0010	0.08	0.27	0.23	0.42
EDM0011	0.07	0.09	0.33	0.52
EDM0012	0.13	0.16	0.31	0.40
EDM0013	0.23	0.23	0.31	0.23
EDM0014	0.23	0.24	0.34	0.19
EDM0015	0.33	0.23	0.32	0.13
EDM0016	0.12	0.14	0.52	0.22
EDM0017	0.12	0.29	0.32	0.26
EDM0018	0.25	0.23	0.33	0.18
EDM0019	0.12	0.24	0.25	0.39
EDM0020	0.10	0.22	0.22	0.46
EDM0021	0.16	0.21	0.38	0.24
EDM0022	0.05	0.07	0.11	0.78
EDM0023	0.09	0.28	0.26	0.36
EDM0024	0.12	0.11	0.41	0.36
EDM0025	0.16	0.32	0.30	0.21
EDM0026	0.24	0.22	0.28	0.27
EDM0027	0.18	0.20	0.28	0.34
EDM0028	0.06	0.09	0.31	0.53
EDM0029	0.04	0.11	0.36	0.49
EDM0030	0.06	0.12	0.41	0.42
EDM0031	0.10	0.24	0.26	0.41
EDM0032	0.22	0.31	0.19	0.29
EDM0033	0.60	0.20	0.10	0.10
EDM0034	0.03	0.10	0.19	0.69
EDM0035	0.06	0.16	0.25	0.53

EDM0036	0.21	0.19	0.29	0.31
EDM0037	0.32	0.23	0.26	0.19
EDM0038	0.10	0.13	0.34	0.44
EDM0039	0.46	0.23	0.23	0.08
EDM0040	0.08	0.07	0.33	0.51
EDM0041	0.03	0.05	0.24	0.69
EDM0042	0.36	0.32	0.24	0.08
EDM0043	0.20	0.22	0.38	0.20
EDM0044	0.18	0.20	0.41	0.20
EDM0045	0.26	0.25	0.29	0.19

Table B-161: Descriptive statistics for all items, pooled model (Decision Making)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
EDM0001	680	3	2	2
EDM0002	684	3	3	2
EDM0003	684	3.5	4	2
EDM0004	680	4	4	1
EDM0005	682	3	4	2
EDM0006	685	3	3	1
EDM0007	684	4	4	1
EDM0008	684	3	4	2
EDM0009	687	3	3	2
EDM0010	687	3	4	2
EDM0011	684	3	4	1
EDM0012	682	3	4	2
EDM0013	686	3	3	1
EDM0014	685	3	3	1
EDM0015	686	2	1	2
EDM0016	670	3	3	1
EDM0017	670	3	3	2
EDM0018	660	2	3	1
EDM0019	673	3	4	2
EDM0020	663	3	4	2
EDM0021	661	3	3	1
EDM0022	670	4	4	1
EDM0023	670	3	4	2

EDM0024	670	3	4	1
EDM0025	671	3	3	2
EDM0026	668	2	1	3
EDM0027	669	3	4	2
EDM0028	669	3	4	1
EDM0029	670	3	4	1
EDM0030	672	3	4	1
EDM0031	665	3	4	2
EDM0032	671	3	2	2
EDM0033	669	1	1	1
EDM0034	670	4	4	1
EDM0035	670	4	4	1
EDM0036	665	3	4	2
EDM0037	669	3	3	3
EDM0038	668	3	4	2
EDM0039	666	2	1	2
EDM0040	669	4	4	1
EDM0041	670	4	4	1
EDM0042	671	2	1	2
EDM0043	663	3	3	1
EDM0044	670	3	3	2
EDM0045	667	3	3	2

Table B-162: Descriptive statistics for all items, Egypt model (Decision Making)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
EDM0001	250	3	2	1
EDM0002	255	3	3	2
EDM0003	254	3	4	2
EDM0004	253	4	4	1
EDM0005	253	3	4	1
EDM0006	255	3	3	2
EDM0007	254	4	4	1
EDM0008	253	3	4	2
EDM0009	255	3	3	2
EDM0010	255	3	4	2
EDM0011	252	3	4	2

EDM0012	253	3	4	2
EDM0013	253	3	3	2
EDM0014	253	2	3	1
EDM0015	253	2	1	2
EDM0016	245	2	3	1
EDM0017	245	3	3	2
EDM0018	245	2	3	1
EDM0019	246	3	4	2
EDM0020	242	3	4	2
EDM0021	244	3	3	3
EDM0022	246	4	4	1
EDM0023	246	3	4	2
EDM0024	244	3	4	1
EDM0025	246	3	3	2
EDM0026	244	2	1	3
EDM0027	245	3	4	2
EDM0028	244	3	4	2
EDM0029	246	4	4	1
EDM0030	247	3	4	1
EDM0031	244	4	4	2
EDM0032	246	3	2	2
EDM0033	247	1	1	2
EDM0034	246	4	4	1
EDM0035	246	4	4	1
EDM0036	245	3	4	2
EDM0037	246	3	3	2
EDM0038	244	3	4	2
EDM0039	245	2	1	2
EDM0040	248	3	4	2
EDM0041	246	4	4	1
EDM0042	246	2	1	2
EDM0043	242	3	3	1
EDM0044	246	3	3	2
EDM0045	247	3	3	2

Table B-163: Descriptive statistics for all items, Palestine model (Decision Making)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
EDM0001	201	3	2	2
EDM0002	200	3	3	2
EDM0003	200	4	4	1
EDM0004	198	4	4	1
EDM0005	200	3	4	2
EDM0006	202	3	3	1
EDM0007	202	4	4	1
EDM0008	202	3	4	2
EDM0009	202	3	3	2
EDM0010	202	3	4	2
EDM0011	202	3	4	2
EDM0012	201	3	4	2
EDM0013	202	2.5	3	1
EDM0014	201	3	3	1
EDM0015	202	2	1	2
EDM0016	201	3	3	2
EDM0017	202	3	3	2
EDM0018	198	3	3	1
EDM0019	202	3	4	2
EDM0020	198	3	4	2
EDM0021	198	2	3	1
EDM0022	201	4	4	0
EDM0023	199	3	4	2
EDM0024	201	3	4	1
EDM0025	200	3	3	2
EDM0026	199	2	1	3
EDM0027	200	3	4	2
EDM0028	200	3	4	1
EDM0029	199	3	4	1
EDM0030	200	3	4	1
EDM0031	194	3.5	4	2
EDM0032	194	2	2	1
EDM0033	193	1	1	2
EDM0034	194	4	4	0

EDM0035	193	4	4	1
EDM0036	194	3	4	2
EDM0037	194	3	3	2
EDM0038	195	3	4	1
EDM0039	193	2	1	2
EDM0040	193	4	4	1
EDM0041	195	4	4	1
EDM0042	196	2	1	2
EDM0043	194	3	3	1
EDM0044	195	3	3	2
EDM0045	192	3	3	2

Table B-164: Descriptive statistics for all items, Tunisia model (Decision Making)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
EDM0001	229	3	2	2
EDM0002	229	3	3	1
EDM0003	230	4	4	1
EDM0004	229	4	4	1
EDM0005	229	3	4	1
EDM0006	228	3	3	1
EDM0007	228	4	4	1
EDM0008	229	3	4	1
EDM0009	230	3	3	1
EDM0010	230	3	4	2
EDM0011	230	4	4	1
EDM0012	228	3	4	2
EDM0013	231	3	3	1
EDM0014	231	3	3	1
EDM0015	231	2	1	2
EDM0016	224	3	3	1
EDM0017	223	3	3	2
EDM0018	217	3	3	2
EDM0019	225	3	4	2
EDM0020	223	3	4	2
EDM0021	219	3	3	1
EDM0022	223	4	4	0

EDM0023	225	3	4	2
EDM0024	225	3	4	1
EDM0025	225	3	3	1
EDM0026	225	3	1	2
EDM0027	224	3	4	2
EDM0028	225	4	4	1
EDM0029	225	3	4	1
EDM0030	225	3	4	1
EDM0031	227	3	4	2
EDM0032	231	2	2	2
EDM0033	229	1	1	1
EDM0034	230	4	4	1
EDM0035	231	4	4	1
EDM0036	226	3	4	2
EDM0037	229	2	3	2
EDM0038	229	3	4	1
EDM0039	228	2	1	2
EDM0040	228	4	4	1
EDM0041	229	4	4	1
EDM0042	229	2	1	2
EDM0043	227	3	3	1
EDM0044	229	3	3	1
EDM0045	228	2	3	2

Table B1-65: IRT statistics – pooled, 45-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.69	-4.60	-0.61	1.41	0.14	0.20	36.35	23	0.04
EDM0002	0.84	-3.12	-1.08	0.91	0.21	-1.00	25.73	25	0.42
EDM0003	0.87	-3.13	-1.39	-0.03	0.23	-1.40	40.69	24	0.02
EDM0004	0.76	-3.69	-1.93	-0.68	0.18	-2.10	20.41	24	0.67
EDM0005	0.71	-2.96	-1.34	0.90	0.16	-1.40	35.10	26	0.11
EDM0006	0.30	-5.38	-1.07	4.35	0.03	-1.30	42.64	26	0.02
EDM0007	0.99	-3.51	-1.84	-0.67	0.30	-1.80	33.63	21	0.04
EDM0008	0.90	-2.97	-1.26	0.53	0.25	-1.30	38.11	24	0.03
EDM0009	0.66	-3.46	-1.56	1.17	0.13	-1.80	32.96	26	0.16
EDM0010	0.42	-5.68	-1.29	1.45	0.05	-0.90	26.67	26	0.43

EDM0011	0.97	-2.80	-1.36	0.20	0.29	-1.40	28.43	24	0.24
EDM0012	0.61	-3.22	-1.29	0.84	0.12	-1.30	24.83	26	0.53
EDM0013	0.20	-5.65	-0.37	6.52	0.01	-0.10	23.12	26	0.63
EDM0014	0.20	-6.30	-0.18	7.13	0.01	-0.30	26.14	26	0.46
EDM0015	-0.10	8.53	-1.82	-17.88	0.00	-2.40	25.51	26	0.49
EDM0016	0.43	-3.64	-1.16	3.04	0.06	-1.40	26.91	26	0.41
EDM0017	0.20	-11.33	-2.19	4.21	0.01	-1.00	18.84	26	0.84
EDM0018	-0.08	14.90	-0.20	-16.90	0.00	-0.10	26.50	26	0.44
EDM0019	0.32	-5.99	-1.77	1.47	0.03	-2.00	32.60	26	0.17
EDM0020	0.42	-5.03	-1.63	1.16	0.05	-1.70	39.95	26	0.04
EDM0021	0.10	-12.95	-1.58	11.73	0.00	-1.20	38.65	26	0.05
EDM0022	1.51	-2.42	-1.64	-0.97	0.71	-1.70	40.37	17	0.00
EDM0023	0.42	-4.85	-1.32	1.23	0.05	-1.40	41.47	26	0.03
EDM0024	0.52	-4.64	-2.75	0.81	0.08	-2.90	28.06	26	0.36
EDM0025	-0.04	40.63	5.97	-27.32	0.00	3.00	20.96	26	0.74
EDM0026	0.00	283.07	-10.62	-281.87	0.00	-2.80	48.83	26	0.00
EDM0027	0.09	-15.87	-4.23	8.97	0.00	-3.00	28.91	26	0.32
EDM0028	0.71	-3.65	-1.97	0.12	0.15	-2.00	30.33	25	0.21
EDM0029	0.36	-9.16	-5.97	0.04	0.04	-3.00	26.98	23	0.26
EDM0030	0.47	-5.85	-3.12	0.64	0.07	-3.00	37.45	26	0.07
EDM0031	0.86	-2.98	-1.14	0.14	0.23	-1.10	38.94	25	0.04
EDM0032	0.07	-20.72	-0.26	15.47	0.00	-0.80	41.58	26	0.03
EDM0033	-1.11	-0.29	-1.30	-2.18	0.39	-1.30	38.88	24	0.03
EDM0034	1.18	-2.91	-1.92	-0.90	0.44	-1.90	36.12	20	0.01
EDM0035	0.89	-3.69	-1.63	-0.31	0.24	-1.40	33.68	22	0.05
EDM0036	0.01	-155.76	-46.21	85.62	0.00	-3.00	39.50	26	0.04
EDM0037	-0.28	3.81	0.51	-3.90	0.02	0.20	39.67	26	0.04
EDM0038	0.88	-2.56	-1.41	0.28	0.24	-1.30	22.35	25	0.62
EDM0039	-0.47	0.91	-1.24	-4.69	0.07	-1.30	31.41	26	0.21
EDM0040	0.98	-2.44	-1.53	-0.03	0.30	-1.40	49.80	25	0.00
EDM0041	1.13	-3.57	-2.64	-0.90	0.39	-2.80	36.59	15	0.00
EDM0042	-0.58	1.36	-0.87	-3.56	0.10	-0.80	40.07	26	0.04
EDM0043	0.02	-79.92	-23.65	62.01	0.00	-3.00	33.56	26	0.15
EDM0044	0.16	-10.63	-4.03	6.69	0.01	-3.00	32.36	26	0.18
EDM0045	-0.41	2.67	0.17	-3.09	0.05	0.00	36.28	26	0.09

Table B-166: IRT statistics – Egypt, 45-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.60	-4.26	-0.45	2.05	0.11	0.40	42.62	20	0.00
EDM0002	0.63	-3.78	-0.98	1.78	0.12	-0.90	21.00	22	0.52
EDM0003	0.89	-2.62	-0.82	0.38	0.25	-0.80	25.02	22	0.30
EDM0004	0.92	-2.79	-1.65	-0.51	0.26	-1.70	12.24	16	0.73
EDM0005	0.66	-2.76	-0.54	1.86	0.13	-0.60	27.38	24	0.29
EDM0006	0.30	-5.43	-1.39	3.47	0.03	-1.40	19.23	26	0.83
EDM0007	1.44	-2.35	-1.17	-0.46	0.63	-1.20	11.43	13	0.58
EDM0008	0.93	-2.39	-0.88	0.82	0.27	-1.00	17.06	21	0.71
EDM0009	0.65	-2.88	-1.12	1.71	0.13	-1.40	15.79	24	0.90
EDM0010	0.67	-3.53	-0.60	1.49	0.14	-0.10	33.60	22	0.05
EDM0011	0.81	-3.21	-1.08	0.52	0.20	-0.90	24.58	20	0.22
EDM0012	0.44	-3.92	-1.36	1.24	0.06	-1.30	33.01	25	0.13
EDM0013	0.06	-15.75	-0.70	26.43	0.00	0.70	22.88	26	0.64
EDM0014	0.01	-95.15	8.95	122.01	0.00	3.00	23.40	26	0.61
EDM0015	-0.31	2.96	-0.97	-5.06	0.03	-1.00	27.66	26	0.38
EDM0016	0.27	-4.61	0.18	5.75	0.02	0.10	31.14	26	0.22
EDM0017	0.39	-6.67	-1.15	2.28	0.05	-0.20	15.73	19	0.67
EDM0018	-0.01	127.53	-35.07	-195.63	0.00	-3.00	39.49	26	0.04
EDM0019	0.28	-5.71	-1.25	1.53	0.02	-1.90	25.09	26	0.51
EDM0020	0.28	-7.09	-1.45	3.31	0.02	-1.20	30.95	26	0.23
EDM0021	0.02	-51.19	-0.69	51.41	0.00	-0.10	41.93	26	0.02
EDM0022	1.57	-1.93	-1.17	-0.60	0.77	-1.20	27.03	13	0.01
EDM0023	0.45	-4.16	-1.30	1.18	0.06	-1.40	34.46	26	0.12
EDM0024	0.50	-5.02	-2.69	0.54	0.08	-2.80	16.70	20	0.67
EDM0025	0.09	-21.06	-5.20	10.50	0.00	-3.00	23.17	26	0.62
EDM0026	0.28	-3.35	1.11	3.95	0.02	0.50	36.91	26	0.08
EDM0027	0.06	-21.17	-3.95	16.47	0.00	-3.00	14.89	26	0.96
EDM0028	0.68	-3.45	-1.59	0.50	0.14	-1.60	12.06	22	0.96
EDM0029	0.49	-6.42	-4.31	0.05	0.07	-3.00	8.96	8	0.35
EDM0030	0.50	-5.10	-2.36	0.68	0.08	-2.50	22.01	20	0.34
EDM0031	1.03	-2.74	-1.12	-0.09	0.33	-1.10	18.25	18	0.44
EDM0032	0.10	-17.78	-2.74	8.81	0.00	-2.90	25.11	26	0.51
EDM0033	-1.16	-0.07	-1.18	-2.09	0.42	-1.10	21.58	18	0.25

EDM0034	1.55	-2.31	-1.47	-0.60	0.75	-1.50	15.95	12	0.19
EDM0035	0.86	-3.64	-1.49	-0.29	0.23	-1.40	16.13	17	0.51
EDM0036	0.05	-23.10	-3.52	15.61	0.00	-3.00	38.43	26	0.06
EDM0037	-0.18	7.55	2.16	-4.91	0.01	1.70	38.21	26	0.06
EDM0038	0.89	-2.37	-1.09	0.47	0.25	-1.10	25.43	22	0.28
EDM0039	-0.45	1.36	-1.16	-4.50	0.06	-1.20	38.44	25	0.04
EDM0040	1.08	-1.82	-0.99	0.11	0.36	-0.90	26.10	20	0.16
EDM0041	1.33	-3.05	-2.25	-0.82	0.54	-2.40	16.65	6	0.01
EDM0042	-0.65	1.69	-0.40	-2.85	0.13	-0.30	29.26	24	0.21
EDM0043	0.25	-6.71	-2.47	4.68	0.02	-2.80	31.49	26	0.21
EDM0044	0.31	-6.20	-2.32	2.77	0.03	-2.50	26.41	26	0.44
EDM0045	-0.35	3.95	0.74	-2.66	0.04	0.70	35.78	26	0.10

Table B-167: IRT statistics – Palestine, 45-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.61	-5.06	-1.16	0.93	0.11	-0.50	10.80	16	0.82
EDM0002	0.79	-3.14	-0.85	0.71	0.19	-0.60	15.93	20	0.72
EDM0003	0.64	-4.54	-2.21	-0.13	0.13	-2.20	20.33	14	0.12
EDM0004	0.83	-3.59	-1.86	-1.00	0.21	-2.10	9.18	11	0.61
EDM0005	0.65	-3.06	-1.53	0.74	0.13	-1.40	34.26	21	0.03
EDM0006	0.27	-7.40	-1.72	4.44	0.02	-2.10	23.35	24	0.50
EDM0007	0.87	-4.17	-2.28	-1.04	0.24	-2.20	17.08	10	0.07
EDM0008	0.70	-3.96	-1.34	0.72	0.15	-1.00	16.39	17	0.50
EDM0009	0.58	-4.18	-1.49	1.50	0.10	-1.80	22.25	19	0.27
EDM0010	0.10	-25.07	-6.49	5.40	0.00	-3.00	15.29	17	0.57
EDM0011	0.95	-2.58	-1.23	0.23	0.28	-1.20	21.38	17	0.21
EDM0012	0.81	-2.66	-1.00	0.70	0.20	-1.00	25.07	20	0.20
EDM0013	0.22	-5.44	0.00	5.19	0.02	-0.10	25.54	26	0.49
EDM0014	0.35	-3.82	-0.20	3.84	0.04	-0.20	27.03	26	0.41
EDM0015	-0.06	13.28	-0.59	-27.59	0.00	-1.60	36.52	26	0.08
EDM0016	0.22	-6.46	-2.24	4.72	0.01	-1.80	29.10	26	0.31
EDM0017	0.30	-8.20	-1.79	2.40	0.03	-0.90	17.88	18	0.46
EDM0018	-0.04	36.08	4.09	-25.56	0.00	3.00	22.38	26	0.67
EDM0019	0.25	-8.18	-2.88	1.93	0.02	-2.90	40.78	23	0.01
EDM0020	0.42	-4.80	-2.01	0.89	0.06	-2.00	26.86	23	0.26
EDM0021	0.21	-6.03	0.04	6.22	0.01	0.00	25.20	26	0.51

EDM0022	1.56	-2.89	-1.97	-1.17	0.75	-2.00	12.32	4	0.02
EDM0023	0.42	-4.65	-1.28	1.09	0.06	-1.50	31.36	24	0.14
EDM0024	0.90	-3.19	-1.99	0.48	0.24	-2.30	8.49	13	0.81
EDM0025	-0.22	5.80	0.75	-4.55	0.02	0.70	27.94	26	0.36
EDM0026	-0.32	3.26	-0.05	-3.30	0.03	0.00	37.49	26	0.07
EDM0027	-0.03	43.83	12.00	-22.75	0.00	3.00	22.09	26	0.68
EDM0028	0.62	-4.03	-2.10	0.11	0.12	-2.10	27.53	17	0.05
EDM0029	0.38	-9.23	-7.10	0.01	0.04	-0.90	15.10	6	0.02
EDM0030	0.59	-4.78	-2.78	0.33	0.11	-3.00	17.87	14	0.21
EDM0031	0.97	-2.63	-1.14	0.04	0.29	-1.20	23.96	18	0.16
EDM0032	0.17	-7.64	0.55	8.74	0.01	0.50	29.00	26	0.31
EDM0033	-1.26	-0.31	-1.05	-1.86	0.50	-1.10	20.03	15	0.17
EDM0034	1.04	-2.89	-2.22	-1.31	0.34	-2.10	10.76	5	0.06
EDM0035	1.16	-3.27	-1.49	-0.42	0.41	-1.20	11.44	11	0.41
EDM0036	-0.12	11.54	4.78	-4.40	0.00	3.00	37.87	26	0.06
EDM0037	-0.19	6.00	1.39	-5.04	0.01	0.80	36.78	26	0.08
EDM0038	1.33	-1.85	-1.16	0.03	0.55	-1.10	16.62	11	0.12
EDM0039	-0.50	1.06	-0.76	-4.24	0.08	-0.80	17.19	20	0.64
EDM0040	1.19	-2.35	-1.43	-0.16	0.44	-1.40	13.65	11	0.25
EDM0041	1.15	-3.62	-2.85	-0.93	0.40	-3.00	7.71	5	0.17
EDM0042	-0.53	1.34	-0.81	-3.62	0.09	-0.80	31.75	23	0.11
EDM0043	0.19	-9.40	-2.63	6.41	0.01	-3.00	30.93	26	0.23
EDM0044	0.26	-7.23	-3.13	4.23	0.02	-3.00	16.90	25	0.89
EDM0045	-0.35	2.45	0.06	-4.15	0.04	-0.40	29.98	26	0.27

Table B-168: IRT statistics – Tunisia, 45-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.95	-4.97	-0.32	1.29	0.27	0.50	16.43	16	0.42
EDM0002	0.93	-3.14	-1.59	0.66	0.26	-2.00	37.19	15	0.00
EDM0003	0.91	-3.28	-1.69	-0.37	0.26	-1.70	12.82	15	0.62
EDM0004	0.54	-5.61	-2.54	-0.55	0.09	-2.50	13.78	17	0.68
EDM0005	0.56	-4.43	-2.80	0.47	0.10	-2.80	24.43	16	0.08
EDM0006	0.53	-2.36	-0.12	3.24	0.09	-0.40	28.82	25	0.27
EDM0007	0.74	-4.99	-2.58	-0.65	0.17	-2.30	4.55	12	0.97
EDM0008	0.89	-3.52	-1.93	0.16	0.24	-2.20	14.80	13	0.32
EDM0009	0.56	-4.59	-2.74	0.61	0.10	-2.90	13.33	16	0.65

EDM0010	0.40	-6.12	-1.54	0.89	0.05	-1.40	17.38	18	0.50
EDM0011	1.10	-2.87	-1.90	-0.06	0.37	-2.10	9.92	12	0.62
EDM0012	0.53	-3.81	-1.79	0.84	0.09	-1.70	25.15	23	0.34
EDM0013	0.31	-4.12	-0.58	4.01	0.03	-0.50	28.19	26	0.35
EDM0014	0.19	-6.74	-0.84	7.69	0.01	-0.90	24.96	26	0.52
EDM0015	0.05	-15.15	4.61	41.26	0.00	3.00	24.40	26	0.55
EDM0016	0.62	-3.41	-1.84	2.15	0.12	-2.30	25.96	21	0.21
EDM0017	-0.04	47.02	8.38	-24.26	0.00	3.00	32.49	26	0.18
EDM0018	-0.38	2.90	0.18	-3.97	0.05	0.20	23.91	26	0.58
EDM0019	0.38	-5.37	-1.60	1.22	0.05	-1.70	15.94	24	0.89
EDM0020	0.53	-4.32	-1.52	0.29	0.09	-1.70	24.67	22	0.31
EDM0021	0.01	-179.39	-54.49	125.94	0.00	-3.00	41.62	26	0.03
EDM0022	1.34	-2.72	-1.95	-1.24	0.56	-2.00	12.34	6	0.05
EDM0023	0.44	-5.34	-1.26	1.30	0.06	-1.00	40.27	22	0.01
EDM0024	0.29	-6.88	-4.26	1.91	0.03	-3.00	13.33	23	0.94
EDM0025	0.11	-15.54	-0.59	12.23	0.00	0.20	23.97	26	0.58
EDM0026	-0.03	36.02	5.68	-31.01	0.00	3.00	20.33	26	0.78
EDM0027	0.23	-6.73	-2.19	2.91	0.02	-2.00	30.40	26	0.25
EDM0028	0.68	-4.28	-2.72	-0.23	0.14	-2.80	16.25	14	0.30
EDM0029	0.17	-19.28	-10.51	0.17	0.01	-3.00	24.04	15	0.06
EDM0030	0.17	-16.29	-9.13	1.94	0.01	-3.00	20.60	15	0.15
EDM0031	0.86	-2.87	-0.91	0.48	0.23	-0.80	29.96	21	0.09
EDM0032	0.09	-14.46	1.20	10.23	0.00	-0.80	35.47	26	0.10
EDM0033	-0.98	-0.52	-1.69	-2.59	0.30	-1.60	23.19	15	0.08
EDM0034	0.90	-4.41	-2.48	-1.02	0.25	-2.30	13.05	10	0.22
EDM0035	0.68	-4.42	-2.03	-0.19	0.14	-1.90	19.95	17	0.28
EDM0036	0.00	322.09	101.40	-197.03	0.00	3.00	31.08	26	0.23
EDM0037	-0.45	1.68	-0.50	-3.32	0.06	-0.70	28.01	26	0.36
EDM0038	0.50	-4.63	-2.62	0.53	0.08	-2.50	22.27	20	0.33
EDM0039	-0.44	0.36	-1.91	-5.68	0.06	-2.00	40.38	21	0.01
EDM0040	0.54	-4.63	-3.24	-0.05	0.09	-3.00	18.69	13	0.13
EDM0041	1.14	-3.61	-2.55	-0.86	0.40	-2.70	13.11	7	0.07
EDM0042	-0.57	1.04	-1.47	-4.41	0.10	-1.20	30.47	20	0.06
EDM0043	-0.50	2.94	0.65	-2.96	0.08	0.90	33.82	26	0.14
EDM0044	-0.09	17.47	5.50	-16.17	0.00	3.00	27.15	26	0.40
EDM0045	-0.46	2.34	-0.14	-3.21	0.07	-0.20	17.20	26	0.90

Table B-169: IRT statistics – pooled, 30-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.70	-4.52	-0.60	1.38	0.15	0.20	34.51	23	0.06
EDM0002	0.80	-3.24	-1.12	0.94	0.19	-1.10	21.99	25	0.64
EDM0003	0.82	-3.27	-1.45	-0.03	0.21	-1.40	41.44	25	0.02
EDM0004	0.81	-3.50	-1.84	-0.65	0.20	-2.00	22.74	24	0.54
EDM0005	0.70	-3.03	-1.37	0.92	0.15	-1.40	28.69	26	0.33
EDM0006	0.27	-5.91	-1.18	4.77	0.02	-1.50	64.26	26	0.00
EDM0007	1.07	-3.31	-1.74	-0.64	0.35	-1.70	38.35	20	0.01
EDM0008	0.86	-3.09	-1.31	0.55	0.23	-1.30	33.59	25	0.12
EDM0009	0.64	-3.57	-1.61	1.20	0.12	-1.90	31.39	26	0.21
EDM0010	0.42	-5.77	-1.31	1.46	0.05	-0.90	20.70	26	0.76
EDM0011	0.92	-2.92	-1.42	0.20	0.26	-1.50	40.41	24	0.02
EDM0012	0.61	-3.23	-1.30	0.84	0.12	-1.30	28.54	26	0.33
EDM0016	0.41	-3.75	-1.20	3.13	0.05	-1.40	34.65	26	0.12
EDM0017	0.26	-8.97	-1.74	3.35	0.02	-0.80	25.32	26	0.50
EDM0019	0.33	-5.76	-1.70	1.42	0.03	-1.90	29.00	26	0.31
EDM0020	0.39	-5.37	-1.73	1.24	0.05	-1.80	33.64	26	0.14
EDM0022	1.52	-2.40	-1.63	-0.96	0.72	-1.70	44.59	17	0.00
EDM0023	0.46	-4.46	-1.22	1.14	0.07	-1.30	33.99	26	0.14
EDM0024	0.54	-4.48	-2.66	0.78	0.09	-2.80	21.07	26	0.74
EDM0028	0.70	-3.68	-1.99	0.13	0.15	-2.00	31.38	25	0.18
EDM0029	0.42	-8.00	-5.22	0.05	0.05	-3.00	33.80	23	0.07
EDM0030	0.49	-5.56	-2.97	0.61	0.07	-3.00	38.68	26	0.05
EDM0031	0.88	-2.92	-1.12	0.14	0.24	-1.10	42.86	25	0.01
EDM0033	-1.07	-0.30	-1.33	-2.24	0.35	-1.30	56.75	25	0.00
EDM0034	1.28	-2.76	-1.82	-0.85	0.51	-1.80	41.14	19	0.00
EDM0035	0.94	-3.54	-1.56	-0.30	0.27	-1.40	32.94	22	0.06
EDM0038	0.87	-2.59	-1.42	0.28	0.23	-1.40	36.99	26	0.07
EDM0040	0.99	-2.42	-1.51	-0.03	0.30	-1.40	51.08	25	0.00
EDM0041	1.10	-3.67	-2.71	-0.91	0.37	-2.90	34.79	15	0.00
EDM0044	0.17	-10.47	-3.97	6.58	0.01	-3.00	29.25	26	0.30

Table B-170: IRT statistics – Egypt, 30-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.60	-4.26	-0.45	2.06	0.11	0.40	47.81	20	0.00
EDM0002	0.62	-3.78	-0.98	1.79	0.12	-0.90	13.26	22	0.93
EDM0003	0.88	-2.65	-0.82	0.39	0.24	-0.80	28.01	21	0.14
EDM0004	0.92	-2.77	-1.64	-0.50	0.27	-1.60	19.77	16	0.23
EDM0005	0.65	-2.78	-0.55	1.89	0.13	-0.60	25.86	25	0.42
EDM0006	0.31	-5.30	-1.36	3.39	0.03	-1.40	24.60	26	0.54
EDM0007	1.42	-2.37	-1.18	-0.46	0.62	-1.20	12.14	13	0.52
EDM0008	0.91	-2.42	-0.88	0.84	0.26	-1.00	24.50	21	0.27
EDM0009	0.65	-2.87	-1.12	1.71	0.13	-1.40	29.60	25	0.24
EDM0010	0.67	-3.53	-0.60	1.49	0.13	-0.10	21.76	22	0.47
EDM0011	0.82	-3.17	-1.07	0.52	0.20	-0.90	29.13	19	0.06
EDM0012	0.46	-3.73	-1.30	1.18	0.07	-1.30	40.08	25	0.03
EDM0016	0.26	-4.77	0.17	5.93	0.02	0.10	39.47	26	0.04
EDM0017	0.38	-6.81	-1.18	2.32	0.04	-0.20	21.98	20	0.34
EDM0019	0.25	-6.30	-1.39	1.67	0.02	-2.10	35.51	26	0.10
EDM0020	0.28	-7.19	-1.47	3.34	0.02	-1.20	18.53	25	0.82
EDM0022	1.67	-1.86	-1.14	-0.59	0.87	-1.20	20.43	12	0.06
EDM0023	0.46	-4.10	-1.28	1.15	0.07	-1.40	29.69	25	0.24
EDM0024	0.50	-5.12	-2.74	0.54	0.08	-2.90	11.46	20	0.93
EDM0028	0.65	-3.60	-1.66	0.51	0.13	-1.70	16.66	22	0.78
EDM0029	0.50	-6.23	-4.18	0.05	0.07	-3.00	7.75	8	0.46
EDM0030	0.53	-4.86	-2.25	0.66	0.09	-2.30	23.43	21	0.32
EDM0031	1.02	-2.76	-1.13	-0.10	0.32	-1.10	23.69	18	0.17
EDM0033	-1.10	-0.07	-1.22	-2.17	0.37	-1.20	27.81	18	0.06
EDM0034	1.60	-2.26	-1.44	-0.59	0.80	-1.40	14.61	9	0.10
EDM0035	0.83	-3.75	-1.53	-0.30	0.21	-1.40	17.40	16	0.36
EDM0038	0.90	-2.33	-1.08	0.46	0.25	-1.00	23.83	22	0.36
EDM0040	1.10	-1.80	-0.98	0.11	0.38	-0.90	38.14	20	0.01
EDM0041	1.33	-3.06	-2.26	-0.82	0.54	-2.40	12.15	6	0.06
EDM0044	0.26	-7.40	-2.78	3.31	0.02	-3.00	30.42	26	0.25

Table B-171: IRT statistics – Palestine, 30-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.65	-4.76	-1.09	0.89	0.13	-0.40	23.03	16	0.11
EDM0002	0.73	-3.36	-0.90	0.76	0.16	-0.70	19.30	20	0.50
EDM0003	0.57	-4.99	-2.43	-0.14	0.10	-2.40	17.64	15	0.28
EDM0004	0.87	-3.44	-1.79	-0.96	0.24	-2.10	6.25	9	0.72
EDM0005	0.66	-3.04	-1.52	0.73	0.13	-1.40	34.00	21	0.04
EDM0006	0.22	-9.38	-2.17	5.62	0.01	-2.60	22.11	24	0.57
EDM0007	0.98	-3.82	-2.09	-0.95	0.29	-2.00	16.70	9	0.05
EDM0008	0.65	-4.23	-1.42	0.77	0.13	-1.00	20.94	17	0.23
EDM0009	0.52	-4.62	-1.65	1.64	0.08	-1.90	22.22	20	0.33
EDM0010	0.05	-53.20	-13.75	11.44	0.00	-3.00	18.54	16	0.29
EDM0011	0.86	-2.79	-1.34	0.24	0.23	-1.30	29.76	18	0.04
EDM0012	0.83	-2.59	-0.98	0.69	0.22	-1.00	23.28	20	0.28
EDM0016	0.23	-6.17	-2.14	4.50	0.02	-1.70	30.38	26	0.25
EDM0017	0.36	-6.91	-1.52	2.01	0.04	-0.70	18.38	18	0.43
EDM0019	0.28	-7.57	-2.67	1.78	0.02	-2.70	24.87	23	0.36
EDM0020	0.39	-5.20	-2.17	0.97	0.05	-2.10	25.81	23	0.31
EDM0022	1.51	-2.94	-2.01	-1.19	0.71	-2.00	19.12	4	0.00
EDM0023	0.49	-4.08	-1.13	0.95	0.07	-1.30	30.50	23	0.14
EDM0024	0.92	-3.12	-1.95	0.46	0.26	-2.20	12.58	12	0.40
EDM0028	0.60	-4.13	-2.15	0.12	0.11	-2.10	17.65	16	0.34
EDM0029	0.46	-7.78	-6.00	0.01	0.06	-0.70	13.95	6	0.03
EDM0030	0.62	-4.58	-2.67	0.32	0.12	-3.00	15.79	14	0.33
EDM0031	0.94	-2.71	-1.17	0.04	0.27	-1.20	26.55	18	0.09
EDM0033	-1.20	-0.31	-1.08	-1.92	0.45	-1.10	24.66	13	0.03
EDM0034	1.19	-2.64	-2.04	-1.20	0.44	-1.90	10.29	4	0.04
EDM0035	1.27	-3.06	-1.39	-0.38	0.49	-1.10	8.84	11	0.64
EDM0038	1.25	-1.94	-1.21	0.04	0.48	-1.10	21.97	13	0.06
EDM0040	1.15	-2.42	-1.46	-0.16	0.41	-1.40	12.64	12	0.40
EDM0041	1.14	-3.66	-2.88	-0.93	0.39	-3.00	13.14	5	0.02
EDM0044	0.26	-7.14	-3.09	4.17	0.02	-3.00	19.53	25	0.77

Table B-172: IRT statistics – Tunisia, 30-item model (Decision Making)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
EDM0001	0.91	-5.19	-0.35	1.31	0.25	0.50	25.71	16	0.06
EDM0002	0.90	-3.23	-1.64	0.65	0.25	-2.10	29.00	15	0.02
EDM0003	0.85	-3.50	-1.81	-0.40	0.22	-1.80	16.75	15	0.33
EDM0004	0.59	-5.16	-2.35	-0.52	0.11	-2.30	18.80	16	0.28
EDM0005	0.56	-4.43	-2.80	0.45	0.10	-2.80	20.63	14	0.11
EDM0006	0.47	-2.67	-0.15	3.62	0.07	-0.40	38.98	26	0.05
EDM0007	0.83	-4.54	-2.36	-0.61	0.21	-2.10	7.15	11	0.79
EDM0008	0.88	-3.56	-1.95	0.15	0.24	-2.20	16.86	13	0.21
EDM0009	0.57	-4.55	-2.72	0.58	0.10	-2.90	11.46	14	0.65
EDM0010	0.42	-5.97	-1.52	0.85	0.05	-1.30	14.44	19	0.76
EDM0011	1.04	-3.01	-1.99	-0.08	0.33	-2.20	13.20	12	0.35
EDM0012	0.58	-3.58	-1.70	0.77	0.10	-1.60	27.38	23	0.24
EDM0016	0.72	-2.99	-1.62	1.91	0.15	-2.00	35.13	19	0.01
EDM0017	0.09	-22.11	-3.94	11.41	0.00	-2.70	22.93	26	0.64
EDM0019	0.44	-4.70	-1.39	1.08	0.06	-1.50	13.55	22	0.92
EDM0020	0.51	-4.46	-1.56	0.31	0.08	-1.70	27.64	22	0.19
EDM0022	1.45	-2.57	-1.83	-1.16	0.66	-1.90	10.39	6	0.11
EDM0023	0.47	-5.00	-1.16	1.24	0.07	-0.90	36.54	22	0.03
EDM0024	0.33	-6.23	-3.86	1.74	0.03	-3.00	20.71	21	0.48
EDM0028	0.80	-3.70	-2.35	-0.19	0.20	-2.40	26.52	14	0.02
EDM0029	0.30	-11.20	-6.12	0.11	0.03	-3.00	20.70	12	0.05
EDM0030	0.27	-10.51	-5.89	1.28	0.02	-3.00	13.47	15	0.57
EDM0031	0.86	-2.88	-0.90	0.49	0.23	-0.80	23.11	20	0.28
EDM0033	-1.02	-0.49	-1.62	-2.49	0.33	-1.50	16.55	14	0.28
EDM0034	1.04	-3.93	-2.21	-0.90	0.33	-2.00	8.91	9	0.45
EDM0035	0.78	-3.97	-1.82	-0.16	0.19	-1.70	15.42	15	0.42
EDM0038	0.46	-4.94	-2.80	0.56	0.07	-2.70	15.35	19	0.70
EDM0040	0.57	-4.41	-3.09	-0.05	0.10	-2.80	18.77	13	0.13
EDM0041	0.88	-4.46	-3.10	-1.01	0.24	-3.00	14.23	7	0.05
EDM0044	-0.02	89.07	28.10	-82.37	0.00	3.00	29.03	26	0.31

MODEL STATISTICS

Table B-173: Fit indices and reliability, 45-item model (Decision Making)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1239.50	855	0.00	0.02	0.04	0.84	0.85	0.74
	(33.32)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	1012.45	855	0.00	0.02	0.05	0.86	0.87	0.77
	(44.12)	-	-	(0.00)	(0.00)	(0.04)	(0.03)	-
Palestine	998.89	855	0.01	0.02	0.06	0.78	0.79	0.75
	(37.27)	-	-	(0.00)	(0.00)	(0.05)	(0.05)	-
Tunisia	972.68	855	0.01	0.02	0.05	0.81	0.82	0.72
	(25.88)	-	-	(0.00)	(0.00)	(0.04)	(0.04)	-

Table B-174: Measurement invariance test, 45-item model (Decision Making)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3026.21	2565	0.00	0.01	0.05	0.06	0.06	0.91	0.91
	(120.74)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
Metric model	3134.42	2655	0.00	0.01	0.06	0.06	0.06	0.90	0.90
	(83.84)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
Scalar model	3474.29	2923	0.00	0.01	0.06	0.06	0.06	0.90	0.89
	(73.26)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	108.21	90	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Difference: Scalar - Metric	339.87	268	0.00	0.00	0.00	0.00	0.00	0.00	-0.01

Table B-175: Fit indices and reliability, 30-item model (Decision Making)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	525.23	345	0.00	0.02	0.04	0.91	0.92	0.73
	(34.38)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-
Egypt	419.08	345	0.02	0.02	0.05	0.92	0.92	0.76
	(28.83)	-	-	(0.00)	(0.00)	(0.03)	(0.03)	-
Palestine	400.18	345	0.04	0.02	0.06	0.88	0.89	0.74
	(18.92)	-	-	(0.00)	(0.00)	(0.04)	(0.04)	-
Tunisia	393.37	345	0.08	0.02	0.05	0.90	0.90	0.70
	(22.97)	-	-	(0.00)	(0.00)	(0.04)	(0.04)	-

Table B-176: Measurement invariance test, 30-item model (Decision Making)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1192.20	1035	0.01	0.01	0.05	0.06	0.05	0.96	0.96
	(44.74)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	1256.81	1095	0.02	0.01	0.05	0.06	0.06	0.96	0.96
	(54.15)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	1524.82	1273	0.00	0.01	0.05	0.06	0.06	0.94	0.94
	(49.30)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	64.61	60	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Difference: Scalar - Metric	268.00	178	-0.02	0.00	0.00	0.00	0.00	-0.01	-0.02

EMPLOYABILITY: NEGOTIATION
ITEM STATISTICS

Table B-177: Response frequencies for all items, pooled model (Negotiation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ENG0001	0.07	0.14	0.22	0.57
ENG0002	0.03	0.19	0.27	0.50
ENG0003	0.49	0.26	0.20	0.05
ENG0004	0.04	0.14	0.24	0.57
ENG0005	0.14	0.24	0.29	0.33
ENG0006	0.11	0.21	0.32	0.37
ENG0007	0.05	0.15	0.26	0.54
ENG0008	0.09	0.17	0.24	0.50
ENG0009	0.12	0.23	0.27	0.38
ENG0010	0.20	0.25	0.35	0.20
ENG0011	0.12	0.33	0.30	0.25
ENG0012	0.08	0.17	0.27	0.47
ENG0013	0.13	0.17	0.25	0.45
ENG0014	0.02	0.17	0.22	0.58
ENG0015	0.31	0.33	0.22	0.14
ENG0016	0.14	0.26	0.26	0.34
ENG0017	0.17	0.28	0.32	0.23
ENG0018	0.36	0.18	0.24	0.23
ENG0019	0.05	0.15	0.19	0.61
ENG0020	0.10	0.16	0.17	0.57
ENG0021	0.05	0.18	0.24	0.52
ENG0022	0.06	0.11	0.22	0.60
ENG0023	0.13	0.16	0.19	0.52
ENG0024	0.22	0.25	0.29	0.25
ENG0025	0.05	0.13	0.20	0.62
ENG0026	0.06	0.16	0.28	0.51
ENG0027	0.08	0.17	0.25	0.51
ENG0028	0.11	0.30	0.30	0.29
ENG0029	0.35	0.23	0.26	0.17
ENG0030	0.21	0.19	0.23	0.37
ENG0031	0.04	0.08	0.19	0.70
ENG0032	0.11	0.19	0.29	0.41

ENG0033	0.21	0.21	0.26	0.32
ENG0034	0.10	0.13	0.16	0.61
ENG0035	0.14	0.24	0.19	0.43
ENG0036	0.11	0.28	0.33	0.28
ENG0037	0.10	0.23	0.31	0.36
ENG0038	0.11	0.13	0.21	0.54
ENG0039	0.12	0.18	0.24	0.47
ENG0040	0.17	0.16	0.22	0.45
ENG0041	0.14	0.27	0.27	0.31
ENG0042	0.06	0.18	0.30	0.46
ENG0043	0.10	0.20	0.25	0.44
ENG0044	0.09	0.19	0.28	0.43
ENG0045	0.07	0.08	0.12	0.73

Table B-178: Response frequencies for all items, Egypt model (Negotiation)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
ENG0001	0.11	0.16	0.22	0.51
ENG0002	0.02	0.20	0.27	0.51
ENG0003	0.35	0.34	0.23	0.08
ENG0004	0.06	0.13	0.21	0.60
ENG0005	0.14	0.25	0.25	0.35
ENG0006	0.13	0.26	0.33	0.28
ENG0007	0.07	0.14	0.22	0.57
ENG0008	0.10	0.19	0.18	0.53
ENG0009	0.13	0.22	0.24	0.40
ENG0010	0.24	0.27	0.30	0.18
ENG0011	0.09	0.33	0.31	0.28
ENG0012	0.11	0.22	0.23	0.45
ENG0013	0.18	0.19	0.26	0.37
ENG0014	0.04	0.20	0.20	0.56
ENG0015	0.29	0.34	0.20	0.17
ENG0016	0.09	0.18	0.27	0.47
ENG0017	0.19	0.27	0.32	0.22
ENG0018	0.33	0.21	0.24	0.22
ENG0019	0.05	0.19	0.15	0.60
ENG0020	0.12	0.14	0.15	0.60
ENG0021	0.09	0.19	0.30	0.42

ENG0022	0.07	0.14	0.19	0.60
ENG0023	0.15	0.17	0.16	0.52
ENG0024	0.24	0.22	0.30	0.24
ENG0025	0.06	0.15	0.17	0.62
ENG0026	0.08	0.12	0.26	0.53
ENG0027	0.11	0.19	0.19	0.52
ENG0028	0.09	0.28	0.31	0.32
ENG0029	0.32	0.24	0.26	0.18
ENG0030	0.22	0.18	0.22	0.37
ENG0031	0.04	0.08	0.16	0.72
ENG0032	0.17	0.16	0.25	0.42
ENG0033	0.22	0.22	0.25	0.31
ENG0034	0.12	0.13	0.13	0.62
ENG0035	0.16	0.28	0.17	0.39
ENG0036	0.11	0.27	0.29	0.33
ENG0037	0.12	0.23	0.29	0.36
ENG0038	0.10	0.13	0.22	0.56
ENG0039	0.12	0.24	0.24	0.41
ENG0040	0.19	0.17	0.20	0.44
ENG0041	0.15	0.30	0.26	0.29
ENG0042	0.07	0.18	0.27	0.48
ENG0043	0.11	0.21	0.24	0.43
ENG0044	0.10	0.16	0.30	0.44
ENG0045	0.09	0.10	0.15	0.67

Table B-179: Response frequencies for all items, Palestine model (Negotiation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ENG0001	0.04	0.17	0.20	0.59
ENG0002	0.04	0.19	0.23	0.54
ENG0003	0.63	0.18	0.16	0.03
ENG0004	0.04	0.13	0.20	0.63
ENG0005	0.13	0.29	0.28	0.31
ENG0006	0.13	0.18	0.26	0.43
ENG0007	0.04	0.14	0.20	0.62
ENG0008	0.11	0.15	0.19	0.54
ENG0009	0.09	0.24	0.28	0.39
ENG0010	0.21	0.26	0.31	0.22

ENG0011	0.14	0.31	0.29	0.26
ENG0012	0.08	0.16	0.25	0.50
ENG0013	0.07	0.18	0.22	0.55
ENG0014	0.03	0.15	0.20	0.63
ENG0015	0.29	0.31	0.26	0.13
ENG0016	0.15	0.28	0.25	0.32
ENG0017	0.18	0.29	0.32	0.22
ENG0018	0.37	0.15	0.21	0.27
ENG0019	0.06	0.14	0.20	0.60
ENG0020	0.11	0.16	0.20	0.54
ENG0021	0.05	0.18	0.17	0.60
ENG0022	0.06	0.10	0.16	0.68
ENG0023	0.15	0.15	0.17	0.54
ENG0024	0.18	0.26	0.30	0.26
ENG0025	0.06	0.14	0.18	0.63
ENG0026	0.04	0.17	0.25	0.54
ENG0027	0.05	0.17	0.25	0.52
ENG0028	0.12	0.31	0.31	0.26
ENG0029	0.40	0.21	0.23	0.17
ENG0030	0.23	0.24	0.21	0.32
ENG0031	0.04	0.05	0.14	0.77
ENG0032	0.09	0.21	0.28	0.43
ENG0033	0.18	0.25	0.23	0.34
ENG0034	0.08	0.13	0.21	0.58
ENG0035	0.14	0.19	0.17	0.50
ENG0036	0.12	0.27	0.35	0.26
ENG0037	0.07	0.25	0.31	0.37
ENG0038	0.16	0.17	0.18	0.48
ENG0039	0.11	0.16	0.24	0.49
ENG0040	0.16	0.19	0.19	0.45
ENG0041	0.16	0.23	0.29	0.32
ENG0042	0.07	0.20	0.29	0.44
ENG0043	0.10	0.21	0.23	0.45
ENG0044	0.07	0.21	0.24	0.48
ENG0045	0.06	0.08	0.13	0.73

Table B-180: Response frequencies for all items, Tunisia model (Negotiation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ENG0001	0.05	0.08	0.25	0.62
ENG0002	0.04	0.19	0.31	0.46
ENG0003	0.52	0.23	0.21	0.03
ENG0004	0.03	0.17	0.30	0.50
ENG0005	0.15	0.20	0.33	0.32
ENG0006	0.07	0.16	0.36	0.41
ENG0007	0.04	0.16	0.36	0.44
ENG0008	0.07	0.15	0.36	0.42
ENG0009	0.13	0.25	0.28	0.34
ENG0010	0.13	0.22	0.45	0.20
ENG0011	0.14	0.37	0.29	0.20
ENG0012	0.06	0.13	0.33	0.48
ENG0013	0.14	0.16	0.26	0.44
ENG0014	0.00	0.17	0.26	0.57
ENG0015	0.34	0.34	0.20	0.12
ENG0016	0.19	0.32	0.28	0.21
ENG0017	0.14	0.29	0.32	0.26
ENG0018	0.38	0.17	0.25	0.20
ENG0019	0.04	0.12	0.22	0.62
ENG0020	0.08	0.18	0.18	0.56
ENG0021	0.02	0.18	0.24	0.56
ENG0022	0.04	0.10	0.31	0.55
ENG0023	0.09	0.16	0.24	0.51
ENG0024	0.23	0.25	0.27	0.25
ENG0025	0.03	0.09	0.25	0.63
ENG0026	0.05	0.18	0.32	0.45
ENG0027	0.06	0.14	0.30	0.49
ENG0028	0.12	0.32	0.28	0.28
ENG0029	0.35	0.23	0.28	0.15
ENG0030	0.19	0.16	0.25	0.41
ENG0031	0.04	0.10	0.26	0.61
ENG0032	0.06	0.20	0.35	0.38
ENG0033	0.21	0.17	0.30	0.33
ENG0034	0.10	0.12	0.15	0.63
ENG0035	0.12	0.24	0.22	0.43

ENG0036	0.10	0.31	0.34	0.25
ENG0037	0.10	0.23	0.34	0.34
ENG0038	0.09	0.10	0.23	0.58
ENG0039	0.12	0.15	0.22	0.51
ENG0040	0.16	0.12	0.28	0.45
ENG0041	0.13	0.28	0.27	0.32
ENG0042	0.03	0.17	0.34	0.45
ENG0043	0.08	0.19	0.28	0.45
ENG0044	0.09	0.21	0.31	0.39
ENG0045	0.06	0.06	0.09	0.79

Table B-181: Descriptive statistics for all items, pooled model (Negotiation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ENG0001	686	4	4	1
ENG0002	689	4	4	1
ENG0003	687	2	1	2
ENG0004	684	4	4	1
ENG0005	684	3	4	2
ENG0006	682	3	4	2
ENG0007	687	4	4	1
ENG0008	684	3	4	2
ENG0009	686	3	4	2
ENG0010	687	3	3	1
ENG0011	687	3	2	1
ENG0012	688	3	4	2
ENG0013	683	3	4	2
ENG0014	685	4	4	1
ENG0015	687	2	2	2
ENG0016	669	3	4	2
ENG0017	665	3	3	1
ENG0018	668	2	1	2
ENG0019	664	4	4	1
ENG0020	666	4	4	2
ENG0021	664	4	4	1
ENG0022	665	4	4	1
ENG0023	668	4	4	2

ENG0024	668	3	3	1.25
ENG0025	668	4	4	1
ENG0026	671	4	4	1
ENG0027	668	4	4	1
ENG0028	658	3	2	2
ENG0029	668	2	1	2
ENG0030	665	3	4	2
ENG0031	664	4	4	1
ENG0032	672	3	4	2
ENG0033	674	3	4	2
ENG0034	670	4	4	1
ENG0035	672	3	4	2
ENG0036	665	3	3	2
ENG0037	672	3	4	2
ENG0038	668	4	4	1
ENG0039	668	3	4	2
ENG0040	673	3	4	2
ENG0041	668	3	4	2
ENG0042	667	3	4	1
ENG0043	666	3	4	2
ENG0044	667	3	4	2
ENG0045	671	4	4	1

Table B-182: Descriptive statistics for all items, Egypt model (Negotiation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ENG0001	255	4	4	2
ENG0002	255	4	4	1
ENG0003	255	2	1	2
ENG0004	255	4	4	1
ENG0005	255	3	4	2
ENG0006	253	3	4	2
ENG0007	254	4	4	1
ENG0008	252	4	4	2
ENG0009	252	3	4	2
ENG0010	255	2	3	1
ENG0011	255	3	2	2

ENG0012	255	3	4	2
ENG0013	251	3	4	2
ENG0014	254	4	4	1
ENG0015	254	2	2	2
ENG0016	245	3	4	2
ENG0017	243	3	3	1
ENG0018	242	2	1	2
ENG0019	240	4	4	1
ENG0020	243	4	4	2
ENG0021	244	3	4	2
ENG0022	243	4	4	1
ENG0023	243	4	4	2
ENG0024	242	3	3	1
ENG0025	243	4	4	1
ENG0026	244	4	4	1
ENG0027	244	4	4	2
ENG0028	239	3	2	2
ENG0029	243	2	1	2
ENG0030	243	3	4	2
ENG0031	243	4	4	1
ENG0032	247	3	4	2
ENG0033	249	3	4	2
ENG0034	247	4	4	2
ENG0035	247	3	4	2
ENG0036	240	3	3	2
ENG0037	246	3	4	2
ENG0038	245	4	4	1
ENG0039	246	3	4	2
ENG0040	247	3	4	2
ENG0041	249	3	4	2
ENG0042	244	3	4	2
ENG0043	247	3	4	2
ENG0044	247	3	4	2
ENG0045	247	4	4	1

Table B-183: Descriptive statistics for all items, Palestine model (Negotiation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ENG0001	202	4	4	1
ENG0002	202	4	4	1
ENG0003	202	1	1	1
ENG0004	199	4	4	1
ENG0005	200	3	4	2
ENG0006	199	3	4	2
ENG0007	201	4	4	1
ENG0008	201	4	4	2
ENG0009	202	3	4	2
ENG0010	200	3	3	1
ENG0011	201	3	2	2
ENG0012	201	4	4	1
ENG0013	200	4	4	1
ENG0014	200	4	4	1
ENG0015	201	2	2	2
ENG0016	201	3	4	2
ENG0017	199	3	3	1
ENG0018	201	2	1	3
ENG0019	199	4	4	1
ENG0020	200	4	4	2
ENG0021	197	4	4	1
ENG0022	198	4	4	1
ENG0023	200	4	4	2
ENG0024	201	3	3	2
ENG0025	200	4	4	1
ENG0026	203	4	4	1
ENG0027	201	4	4	1
ENG0028	197	3	2	2
ENG0029	200	2	1	2
ENG0030	199	3	4	2
ENG0031	194	4	4	0
ENG0032	195	3	4	2
ENG0033	195	3	4	2
ENG0034	194	4	4	1

ENG0035	195	3	4	2
ENG0036	197	3	3	2
ENG0037	195	3	4	2
ENG0038	192	3	4	2
ENG0039	192	3	4	2
ENG0040	195	3	4	2
ENG0041	192	3	4	2
ENG0042	194	3	4	2
ENG0043	192	3	4	2
ENG0044	192	3	4	2
ENG0045	195	4	4	1

Table B-184: Descriptive statistics for all items, Tunisia model (Negotiation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ENG0001	229	4	4	1
ENG0002	232	3	4	1
ENG0003	230	1	1	1
ENG0004	230	3	4	1
ENG0005	229	3	4	2
ENG0006	230	3	4	1
ENG0007	232	3	4	1
ENG0008	231	3	4	1
ENG0009	232	3	4	2
ENG0010	232	3	3	1
ENG0011	231	2	2	1
ENG0012	232	3	4	1
ENG0013	232	3	4	2
ENG0014	231	4	4	1
ENG0015	232	2	2	2
ENG0016	223	2	4	1
ENG0017	223	3	3	2
ENG0018	225	2	1	2
ENG0019	225	4	4	1
ENG0020	223	4	4	2
ENG0021	223	4	4	1
ENG0022	224	4	4	1

ENG0023	225	4	4	1
ENG0024	225	3	3	1
ENG0025	225	4	4	1
ENG0026	224	3	4	1
ENG0027	223	3	4	1
ENG0028	222	3	2	2
ENG0029	225	2	1	2
ENG0030	223	3	4	2
ENG0031	227	4	4	1
ENG0032	230	3	4	2
ENG0033	230	3	4	2
ENG0034	229	4	4	1
ENG0035	230	3	4	2
ENG0036	228	3	3	1.25
ENG0037	231	3	4	2
ENG0038	231	4	4	1
ENG0039	230	4	4	2
ENG0040	231	3	4	2
ENG0041	227	3	4	2
ENG0042	229	3	4	1
ENG0043	227	3	4	2
ENG0044	228	3	4	2
ENG0045	229	4	4	0

Table B-185: IRT statistics – pooled, 45-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0001	0.48	-5.59	-2.92	-0.64	0.07	-3.00	21.72	25	0.65
ENG0002	1.21	-3.25	-1.28	-0.03	0.44	-0.80	29.68	19	0.06
ENG0003	-0.48	-0.01	-2.42	-6.47	0.07	-2.00	25.23	24	0.39
ENG0004	1.76	-2.35	-1.20	-0.28	0.93	-1.00	25.39	17	0.09
ENG0005	0.41	-4.56	-1.20	1.82	0.05	-1.20	26.47	26	0.44
ENG0006	0.14	-15.44	-5.86	3.72	0.01	-3.00	29.18	26	0.30
ENG0007	1.82	-2.20	-1.15	-0.19	0.99	-1.00	20.64	17	0.24
ENG0008	1.54	-1.97	-0.98	-0.03	0.73	-1.00	33.69	22	0.05
ENG0009	0.79	-2.77	-0.88	0.70	0.19	-0.80	49.13	25	0.00
ENG0010	0.21	-6.93	-1.09	6.75	0.01	-1.40	54.29	26	0.00

ENG0011	0.69	-3.10	-0.31	1.77	0.14	0.10	42.27	26	0.02
ENG0012	1.35	-2.20	-1.05	0.06	0.56	-1.00	34.16	22	0.05
ENG0013	0.32	-6.04	-2.66	0.61	0.03	-2.70	25.42	26	0.50
ENG0014	1.57	-2.93	-1.27	-0.35	0.74	-0.90	42.06	15	0.00
ENG0015	-0.06	14.58	-10.07	-32.36	0.00	-3.00	33.65	26	0.14
ENG0016	0.51	-3.68	-0.82	1.45	0.08	-0.80	31.17	26	0.22
ENG0017	0.22	-7.46	-0.91	5.65	0.01	-0.90	38.36	26	0.06
ENG0018	0.07	-8.13	1.89	16.69	0.00	3.00	55.34	26	0.00
ENG0019	1.83	-2.20	-1.14	-0.39	1.02	-1.00	30.36	17	0.02
ENG0020	0.57	-4.01	-1.98	-0.50	0.10	-2.20	34.62	26	0.12
ENG0021	1.03	-3.19	-1.36	-0.15	0.33	-1.10	40.79	22	0.01
ENG0022	1.45	-2.46	-1.45	-0.43	0.65	-1.50	31.81	19	0.03
ENG0023	1.06	-2.14	-1.08	-0.12	0.35	-1.10	28.02	25	0.31
ENG0024	0.33	-4.01	-0.50	3.37	0.03	-0.40	49.86	26	0.00
ENG0025	1.32	-2.78	-1.48	-0.50	0.54	-1.40	32.99	19	0.02
ENG0026	0.97	-3.23	-1.54	-0.03	0.29	-1.40	36.16	22	0.03
ENG0027	1.35	-2.35	-1.14	-0.07	0.56	-1.10	26.52	21	0.19
ENG0028	0.61	-3.67	-0.65	1.60	0.11	-0.30	32.68	26	0.17
ENG0029	-0.24	2.60	-1.37	-6.89	0.02	-1.80	32.84	26	0.17
ENG0030	0.20	-6.65	-1.98	2.71	0.01	-2.00	37.86	26	0.06
ENG0031	1.66	-2.60	-1.70	-0.74	0.84	-1.70	20.19	15	0.16
ENG0032	1.11	-2.25	-0.95	0.40	0.38	-1.00	52.01	24	0.00
ENG0033	0.57	-2.58	-0.71	1.32	0.10	-0.70	46.24	26	0.01
ENG0034	1.09	-2.40	-1.39	-0.54	0.37	-1.40	27.40	23	0.24
ENG0035	0.37	-5.08	-1.50	0.62	0.04	-2.00	30.39	26	0.25
ENG0036	0.89	-2.67	-0.60	1.20	0.24	-0.30	34.14	25	0.10
ENG0037	0.85	-2.95	-0.97	0.77	0.22	-0.80	21.42	25	0.67
ENG0038	0.66	-3.32	-1.87	-0.31	0.14	-1.80	30.84	26	0.23
ENG0039	0.97	-2.42	-1.08	0.12	0.29	-1.10	32.65	25	0.14
ENG0040	0.55	-3.05	-1.42	0.37	0.10	-1.40	30.35	26	0.25
ENG0041	0.23	-7.86	-1.55	3.48	0.02	-1.60	36.37	26	0.09
ENG0042	1.45	-2.45	-1.08	0.12	0.63	-0.90	23.69	20	0.26
ENG0043	0.30	-7.39	-2.82	0.72	0.03	-3.00	31.25	26	0.22
ENG0044	0.88	-3.01	-1.23	0.32	0.24	-1.10	21.29	24	0.62
ENG0045	1.46	-2.31	-1.65	-0.98	0.67	-1.60	38.05	18	0.00

Table B-186: IRT statistics – Egypt, 45-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0001	0.77	-2.93	-1.43	-0.07	0.19	-1.50	18.77	21	0.60
ENG0002	1.18	-3.98	-1.41	-0.09	0.41	-0.80	22.00	13	0.06
ENG0003	-0.45	1.41	-1.92	-5.70	0.06	-1.60	25.59	21	0.22
ENG0004	1.77	-2.09	-1.16	-0.35	0.96	-1.10	14.85	11	0.19
ENG0005	0.57	-3.35	-0.83	1.14	0.10	-0.90	16.67	23	0.83
ENG0006	0.11	-17.78	-4.10	8.64	0.00	-3.00	22.28	26	0.67
ENG0007	1.67	-2.04	-1.16	-0.31	0.86	-1.20	9.84	12	0.63
ENG0008	1.40	-2.10	-0.94	-0.18	0.60	-0.90	16.01	16	0.45
ENG0009	0.68	-2.97	-0.98	0.64	0.14	-1.00	42.72	23	0.01
ENG0010	0.59	-2.08	0.09	2.72	0.11	0.00	23.16	26	0.62
ENG0011	0.73	-3.50	-0.58	1.40	0.16	0.00	20.36	21	0.50
ENG0012	1.30	-2.04	-0.76	0.18	0.52	-0.70	23.95	19	0.20
ENG0013	0.09	-16.36	-5.64	5.96	0.00	-3.00	26.31	26	0.45
ENG0014	1.61	-2.57	-1.07	-0.26	0.78	-0.80	15.72	13	0.26
ENG0015	-0.24	3.76	-2.31	-6.79	0.02	-2.10	32.84	26	0.17
ENG0016	0.56	-4.21	-1.88	0.28	0.10	-1.90	18.90	22	0.65
ENG0017	-0.08	17.03	1.67	-15.19	0.00	1.80	25.87	26	0.47
ENG0018	0.12	-5.72	1.16	10.25	0.00	2.00	18.04	26	0.87
ENG0019	2.07	-2.02	-0.90	-0.33	1.30	-0.70	12.12	12	0.44
ENG0020	1.12	-2.12	-1.15	-0.40	0.39	-1.20	25.70	17	0.08
ENG0021	0.83	-3.06	-1.26	0.48	0.21	-1.20	17.93	21	0.65
ENG0022	1.36	-2.31	-1.27	-0.38	0.58	-1.30	12.93	14	0.53
ENG0023	1.15	-1.85	-0.87	-0.10	0.41	-0.90	29.28	20	0.08
ENG0024	0.07	-17.00	-2.39	16.39	0.00	-1.40	35.97	26	0.09
ENG0025	1.34	-2.54	-1.29	-0.47	0.55	-1.20	7.88	12	0.79
ENG0026	1.09	-2.56	-1.46	-0.11	0.37	-1.50	15.26	15	0.43
ENG0027	0.97	-2.52	-1.09	-0.09	0.30	-1.20	17.01	20	0.65
ENG0028	0.38	-6.17	-1.41	2.12	0.04	-0.90	30.93	22	0.10
ENG0029	-0.19	4.12	-1.25	-7.96	0.01	-1.60	26.42	26	0.44
ENG0030	0.19	-6.82	-2.17	2.78	0.01	-2.00	43.09	26	0.02
ENG0031	2.47	-2.08	-1.38	-0.73	1.86	-1.40	11.16	6	0.08
ENG0032	0.74	-2.33	-1.08	0.47	0.17	-1.00	21.80	23	0.53
ENG0033	0.65	-2.10	-0.49	1.25	0.13	-0.50	36.50	25	0.06

ENG0034	1.17	-2.08	-1.19	-0.56	0.43	-1.30	27.37	17	0.05
ENG0035	0.46	-3.81	-0.70	0.90	0.07	-1.20	21.16	25	0.68
ENG0036	0.92	-2.56	-0.58	0.91	0.26	-0.30	28.56	21	0.12
ENG0037	1.00	-2.32	-0.79	0.65	0.31	-0.80	22.67	21	0.36
ENG0038	1.01	-2.56	-1.48	-0.29	0.32	-1.50	29.30	15	0.01
ENG0039	1.05	-2.25	-0.73	0.39	0.34	-0.70	17.80	21	0.66
ENG0040	0.85	-1.94	-0.84	0.26	0.23	-0.80	20.15	23	0.63
ENG0041	0.22	-7.95	-0.94	4.06	0.02	-0.90	19.73	26	0.80
ENG0042	1.35	-2.36	-1.05	0.03	0.56	-0.90	19.89	15	0.18
ENG0043	0.36	-5.84	-2.04	0.82	0.04	-2.20	25.60	24	0.37
ENG0044	0.73	-3.27	-1.57	0.32	0.17	-1.60	16.83	21	0.72
ENG0045	1.69	-1.95	-1.33	-0.70	0.89	-1.30	15.51	10	0.11

Table B-187: IRT statistics – Palestine, 45-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0001	0.45	-7.30	-3.09	-0.88	0.06	-2.90	11.86	15	0.69
ENG0002	1.13	-3.23	-1.29	-0.18	0.39	-1.00	26.33	13	0.02
ENG0003	-0.70	-0.85	-2.26	-5.28	0.15	-2.00	18.62	12	0.10
ENG0004	1.34	-2.92	-1.56	-0.58	0.55	-1.40	7.52	9	0.58
ENG0005	0.43	-4.52	-0.86	1.96	0.06	-0.70	34.24	23	0.06
ENG0006	0.34	-5.91	-2.53	0.81	0.04	-2.50	27.13	23	0.25
ENG0007	1.88	-2.32	-1.21	-0.43	1.07	-1.00	5.16	9	0.82
ENG0008	1.78	-1.66	-0.90	-0.20	0.99	-0.90	12.20	13	0.51
ENG0009	0.74	-3.33	-1.09	0.68	0.17	-0.90	36.27	19	0.01
ENG0010	0.14	-9.49	-0.93	8.97	0.01	-0.90	25.86	26	0.47
ENG0011	0.62	-3.14	-0.41	1.77	0.12	-0.20	33.77	23	0.07
ENG0012	1.58	-1.99	-0.99	-0.06	0.77	-1.00	9.66	13	0.72
ENG0013	0.66	-4.24	-1.86	-0.29	0.14	-1.90	20.21	16	0.21
ENG0014	1.48	-2.89	-1.43	-0.54	0.67	-1.20	15.30	10	0.12
ENG0015	-0.09	9.34	-4.44	-19.85	0.00	-3.00	29.63	26	0.28
ENG0016	0.39	-4.54	-0.72	1.99	0.05	-0.80	30.29	24	0.18
ENG0017	0.28	-5.58	-0.48	4.65	0.02	-0.50	21.72	26	0.70
ENG0018	0.17	-3.30	0.37	5.87	0.01	1.20	25.05	26	0.52
ENG0019	1.84	-2.12	-1.15	-0.38	1.03	-1.00	15.79	8	0.05
ENG0020	0.48	-4.69	-2.35	-0.39	0.07	-2.50	14.82	19	0.73

ENG0021	1.53	-2.56	-1.12	-0.43	0.71	-1.00	13.90	10	0.18
ENG0022	1.60	-2.28	-1.43	-0.69	0.80	-1.40	14.12	8	0.08
ENG0023	1.21	-1.84	-0.99	-0.21	0.46	-1.00	10.47	16	0.84
ENG0024	0.46	-3.46	-0.54	2.39	0.06	-0.50	21.73	26	0.70
ENG0025	1.33	-2.61	-1.33	-0.50	0.55	-1.30	20.84	11	0.04
ENG0026	0.82	-4.05	-1.77	-0.21	0.20	-1.50	30.31	14	0.01
ENG0027	1.98	-2.11	-1.02	-0.12	1.16	-0.80	3.37	10	0.97
ENG0028	0.78	-2.83	-0.44	1.46	0.19	-0.10	18.98	20	0.52
ENG0029	-0.40	1.09	-1.08	-4.11	0.05	-1.40	20.42	26	0.77
ENG0030	0.25	-4.95	-0.57	2.98	0.02	-0.90	24.04	26	0.57
ENG0031	1.50	-2.78	-2.03	-1.09	0.70	-2.00	6.82	5	0.23
ENG0032	1.33	-2.12	-0.83	0.29	0.54	-0.70	16.82	15	0.33
ENG0033	0.46	-3.47	-0.67	1.51	0.07	-0.80	31.28	25	0.18
ENG0034	1.28	-2.32	-1.35	-0.40	0.51	-1.40	17.83	11	0.09
ENG0035	0.20	-9.21	-3.65	-0.03	0.01	-3.00	25.84	25	0.42
ENG0036	0.96	-2.42	-0.61	1.21	0.28	-0.60	23.91	19	0.20
ENG0037	1.07	-2.81	-0.85	0.58	0.35	-0.50	17.17	15	0.31
ENG0038	0.60	-2.96	-1.28	0.07	0.11	-1.40	18.59	23	0.72
ENG0039	1.01	-2.43	-1.21	0.03	0.32	-1.20	28.13	17	0.04
ENG0040	0.33	-5.07	-1.93	0.56	0.03	-2.20	39.29	25	0.03
ENG0041	0.37	-4.75	-1.30	2.11	0.04	-1.30	27.82	25	0.32
ENG0042	1.84	-2.02	-0.85	0.16	1.01	-0.70	12.16	12	0.43
ENG0043	0.22	-9.81	-3.65	0.82	0.02	-3.00	18.95	21	0.59
ENG0044	0.81	-3.50	-1.28	0.14	0.20	-1.10	23.35	17	0.14
ENG0045	1.40	-2.46	-1.74	-0.99	0.62	-1.70	8.08	6	0.23

Table B-188: IRT statistics – Tunisia, 45-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0001	0.21	-14.59	-9.26	-2.31	0.01	-3.00	14.59	11	0.20
ENG0002	1.35	-2.82	-1.14	0.18	0.54	-0.80	9.88	13	0.70
ENG0003	-0.31	-0.27	-3.65	-10.92	0.03	-2.80	11.11	16	0.80
ENG0004	2.62	-2.24	-0.94	-0.01	1.91	-0.80	10.71	8	0.22
ENG0005	0.19	-9.19	-3.37	3.92	0.01	-3.00	32.88	26	0.17
ENG0006	-0.10	25.41	11.83	-3.42	0.00	3.00	13.21	16	0.66
ENG0007	1.93	-2.33	-1.08	0.15	1.06	-1.10	15.65	11	0.15
ENG0008	1.40	-2.29	-1.17	0.32	0.59	-1.50	12.85	14	0.54
ENG0009	0.98	-2.21	-0.65	0.77	0.30	-0.60	31.05	22	0.10

ENG0010	-0.19	9.81	3.11	-7.40	0.01	3.00	33.87	26	0.14
ENG0011	0.71	-2.72	0.08	2.18	0.15	0.60	17.00	21	0.71
ENG0012	1.09	-2.88	-1.54	0.09	0.36	-1.70	24.20	14	0.04
ENG0013	0.21	-8.67	-4.18	1.07	0.01	-3.00	20.97	26	0.74
ENG0014	1.57	-4.14	-1.34	-0.25	0.73	-0.80	17.88	11	0.08
ENG0015	0.20	-3.55	3.77	10.23	0.01	3.00	34.80	25	0.09
ENG0016	0.65	-2.50	0.00	2.17	0.13	0.20	27.87	24	0.27
ENG0017	0.46	-4.14	-0.74	2.35	0.07	-0.60	26.42	24	0.33
ENG0018	-0.06	7.82	-3.37	-22.06	0.00	-3.00	41.46	26	0.03
ENG0019	1.53	-2.61	-1.48	-0.49	0.71	-1.40	10.92	9	0.28
ENG0020	0.24	-10.38	-4.50	-1.08	0.02	-3.00	19.59	19	0.42
ENG0021	0.93	-4.45	-1.76	-0.37	0.26	-1.30	11.14	12	0.52
ENG0022	1.35	-2.98	-1.72	-0.24	0.55	-2.00	13.30	10	0.21
ENG0023	0.77	-3.25	-1.62	-0.06	0.19	-1.60	8.12	18	0.98
ENG0024	0.41	-3.10	-0.25	2.72	0.05	-0.20	43.53	26	0.02
ENG0025	1.23	-3.45	-1.97	-0.55	0.45	-1.90	9.71	9	0.37
ENG0026	0.98	-3.46	-1.47	0.21	0.29	-1.20	18.45	15	0.24
ENG0027	1.23	-2.67	-1.39	-0.01	0.46	-1.50	15.20	13	0.29
ENG0028	0.66	-3.30	-0.47	1.47	0.13	-0.10	17.39	22	0.74
ENG0029	-0.09	6.87	-3.27	-18.86	0.00	-3.00	27.83	26	0.37
ENG0030	0.26	-5.76	-2.59	1.39	0.02	-2.30	49.89	26	0.00
ENG0031	1.36	-2.96	-1.74	-0.43	0.56	-1.80	24.85	10	0.01
ENG0032	1.40	-2.48	-0.96	0.46	0.57	-0.90	10.74	14	0.71
ENG0033	0.64	-2.31	-0.95	1.17	0.13	-0.70	28.77	25	0.27
ENG0034	0.87	-2.90	-1.69	-0.72	0.24	-1.80	9.24	15	0.86
ENG0035	0.40	-5.19	-1.57	0.74	0.05	-1.80	25.02	24	0.40
ENG0036	0.77	-3.13	-0.61	1.55	0.18	-0.20	19.68	21	0.54
ENG0037	0.51	-4.66	-1.57	1.38	0.08	-1.50	19.90	22	0.59
ENG0038	0.53	-4.61	-3.00	-0.68	0.09	-2.80	17.34	18	0.50
ENG0039	0.84	-2.66	-1.39	-0.07	0.22	-1.40	39.46	20	0.01
ENG0040	0.53	-3.38	-1.96	0.40	0.09	-1.60	27.13	22	0.21
ENG0041	0.11	-18.15	-3.70	6.97	0.00	-3.00	25.53	26	0.49
ENG0042	1.28	-3.12	-1.38	0.17	0.48	-1.20	15.17	14	0.37
ENG0043	0.36	-6.93	-2.86	0.51	0.04	-2.80	12.63	17	0.76
ENG0044	1.15	-2.47	-0.95	0.45	0.40	-0.80	9.78	16	0.88
ENG0045	1.41	-2.49	-1.89	-1.29	0.62	-1.90	7.07	3	0.07

Table B-189: IRT statistics – pooled, 30-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0002	1.27	-3.13	-1.24	-0.03	0.49	-0.80	18.96	19	0.46
ENG0004	1.83	-2.29	-1.18	-0.28	1.01	-1.00	34.57	17	0.01
ENG0005	0.38	-4.94	-1.30	1.97	0.04	-1.30	25.19	26	0.51
ENG0007	1.86	-2.17	-1.14	-0.19	1.04	-1.00	25.57	17	0.08
ENG0008	1.54	-1.96	-0.99	-0.03	0.73	-1.00	33.32	22	0.06
ENG0009	0.79	-2.76	-0.87	0.71	0.19	-0.80	46.30	26	0.01
ENG0011	0.71	-3.00	-0.30	1.71	0.15	0.10	39.37	26	0.04
ENG0012	1.34	-2.20	-1.05	0.06	0.55	-1.00	42.29	22	0.01
ENG0014	1.57	-2.92	-1.26	-0.35	0.74	-0.90	37.59	16	0.00
ENG0016	0.54	-3.46	-0.77	1.37	0.09	-0.80	28.55	26	0.33
ENG0019	1.82	-2.21	-1.14	-0.39	1.00	-1.00	22.39	17	0.17
ENG0020	0.56	-4.10	-2.02	-0.51	0.10	-2.20	33.13	26	0.16
ENG0021	1.01	-3.26	-1.39	-0.15	0.31	-1.20	26.35	22	0.24
ENG0022	1.44	-2.46	-1.45	-0.43	0.64	-1.50	26.19	19	0.12
ENG0023	1.04	-2.18	-1.10	-0.12	0.33	-1.10	29.28	25	0.25
ENG0025	1.32	-2.78	-1.48	-0.50	0.54	-1.40	24.52	18	0.14
ENG0026	0.96	-3.26	-1.55	-0.03	0.28	-1.40	49.34	23	0.00
ENG0027	1.34	-2.36	-1.14	-0.07	0.55	-1.10	22.98	21	0.35
ENG0028	0.61	-3.64	-0.64	1.58	0.11	-0.30	44.20	26	0.01
ENG0031	1.64	-2.61	-1.70	-0.75	0.83	-1.70	16.53	14	0.28
ENG0032	1.14	-2.20	-0.94	0.39	0.40	-1.00	45.51	24	0.01
ENG0033	0.55	-2.64	-0.73	1.35	0.10	-0.70	41.37	26	0.03
ENG0034	1.04	-2.49	-1.44	-0.56	0.34	-1.50	28.92	23	0.18
ENG0036	0.90	-2.65	-0.59	1.19	0.24	-0.30	28.58	25	0.28
ENG0037	0.86	-2.94	-0.97	0.77	0.23	-0.80	31.94	25	0.16
ENG0038	0.65	-3.36	-1.89	-0.31	0.13	-1.80	29.97	26	0.27
ENG0039	0.96	-2.45	-1.09	0.13	0.29	-1.10	30.62	25	0.20
ENG0042	1.44	-2.46	-1.08	0.12	0.63	-0.90	30.34	20	0.06
ENG0044	0.91	-2.93	-1.20	0.31	0.26	-1.10	21.91	24	0.58
ENG0045	1.39	-2.39	-1.70	-1.01	0.60	-1.70	33.12	18	0.02

Table B-190: IRT statistics – Egypt, 30-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0002	1.27	-3.74	-1.34	-0.09	0.48	-0.80	15.29	13	0.29
ENG0004	1.85	-2.04	-1.15	-0.35	1.05	-1.10	14.14	11	0.23
ENG0005	0.48	-3.96	-0.97	1.35	0.07	-1.00	18.60	25	0.82
ENG0007	1.77	-1.97	-1.13	-0.30	0.97	-1.10	20.77	13	0.08
ENG0008	1.42	-2.06	-0.92	-0.17	0.62	-0.90	18.17	16	0.31
ENG0009	0.71	-2.84	-0.94	0.61	0.16	-1.00	23.29	23	0.44
ENG0011	0.75	-3.42	-0.57	1.37	0.17	0.00	16.14	21	0.76
ENG0012	1.37	-1.97	-0.74	0.17	0.57	-0.70	22.52	19	0.26
ENG0014	1.61	-2.55	-1.07	-0.26	0.79	-0.80	23.60	12	0.02
ENG0016	0.61	-3.91	-1.75	0.26	0.11	-1.80	20.22	20	0.44
ENG0019	1.99	-2.06	-0.91	-0.34	1.19	-0.70	11.72	12	0.47
ENG0020	1.01	-2.30	-1.24	-0.43	0.31	-1.30	31.02	17	0.02
ENG0021	0.85	-3.00	-1.24	0.48	0.22	-1.20	20.96	19	0.34
ENG0022	1.39	-2.28	-1.25	-0.37	0.60	-1.30	9.90	14	0.77
ENG0023	1.13	-1.86	-0.87	-0.09	0.40	-0.90	26.39	20	0.15
ENG0025	1.36	-2.51	-1.27	-0.46	0.57	-1.20	10.18	12	0.60
ENG0026	1.13	-2.49	-1.43	-0.11	0.40	-1.40	15.93	16	0.46
ENG0027	1.01	-2.45	-1.06	-0.09	0.32	-1.10	12.91	19	0.84
ENG0028	0.41	-5.66	-1.29	1.96	0.05	-0.80	23.11	20	0.28
ENG0031	2.41	-2.10	-1.39	-0.74	1.77	-1.40	10.40	6	0.11
ENG0032	0.82	-2.13	-0.99	0.43	0.21	-0.90	25.45	23	0.33
ENG0033	0.59	-2.28	-0.53	1.36	0.11	-0.50	34.34	26	0.13
ENG0034	1.07	-2.23	-1.26	-0.59	0.36	-1.40	24.74	17	0.10
ENG0036	0.97	-2.46	-0.57	0.87	0.29	-0.30	22.44	21	0.37
ENG0037	1.03	-2.27	-0.78	0.63	0.33	-0.70	29.68	21	0.10
ENG0038	0.92	-2.75	-1.59	-0.31	0.26	-1.60	30.27	18	0.03
ENG0039	1.09	-2.19	-0.72	0.38	0.37	-0.70	17.80	21	0.66
ENG0042	1.36	-2.36	-1.05	0.02	0.56	-0.90	23.07	15	0.08
ENG0044	0.83	-2.95	-1.43	0.28	0.21	-1.40	17.49	20	0.62
ENG0045	1.49	-2.11	-1.42	-0.74	0.69	-1.40	16.47	11	0.12

Table B-191: IRT statistics – Palestine, 30-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0002	1.18	-3.12	-1.24	-0.18	0.43	-0.90	21.36	13	0.07
ENG0004	1.41	-2.81	-1.51	-0.57	0.61	-1.30	14.34	10	0.16
ENG0005	0.44	-4.46	-0.84	1.94	0.06	-0.70	22.34	23	0.50
ENG0007	1.91	-2.29	-1.19	-0.42	1.10	-1.00	4.57	10	0.92
ENG0008	1.77	-1.67	-0.91	-0.21	0.97	-0.90	19.51	13	0.11
ENG0009	0.74	-3.30	-1.07	0.69	0.17	-0.90	34.90	19	0.01
ENG0011	0.68	-2.89	-0.38	1.65	0.14	-0.10	26.83	22	0.22
ENG0012	1.57	-1.99	-0.99	-0.05	0.76	-1.00	10.81	13	0.63
ENG0014	1.50	-2.85	-1.40	-0.53	0.69	-1.20	13.30	10	0.21
ENG0016	0.42	-4.28	-0.68	1.88	0.05	-0.70	29.50	24	0.20
ENG0019	1.90	-2.08	-1.13	-0.38	1.10	-1.00	15.01	9	0.09
ENG0020	0.47	-4.72	-2.37	-0.40	0.07	-2.50	19.91	20	0.46
ENG0021	1.50	-2.59	-1.13	-0.43	0.68	-1.00	16.46	10	0.09
ENG0022	1.61	-2.26	-1.42	-0.69	0.80	-1.40	15.15	8	0.06
ENG0023	1.19	-1.85	-0.99	-0.21	0.45	-1.00	15.59	17	0.55
ENG0025	1.34	-2.59	-1.32	-0.49	0.55	-1.30	22.99	11	0.02
ENG0026	0.81	-4.09	-1.79	-0.21	0.20	-1.50	31.03	15	0.01
ENG0027	1.97	-2.10	-1.02	-0.12	1.16	-0.80	5.79	10	0.83
ENG0028	0.80	-2.77	-0.44	1.42	0.20	-0.10	13.39	21	0.89
ENG0031	1.51	-2.79	-2.04	-1.10	0.70	-2.00	8.58	5	0.13
ENG0032	1.36	-2.10	-0.83	0.28	0.56	-0.70	14.46	14	0.42
ENG0033	0.47	-3.39	-0.65	1.47	0.07	-0.80	28.42	25	0.29
ENG0034	1.25	-2.37	-1.38	-0.40	0.48	-1.40	13.81	11	0.24
ENG0036	0.95	-2.45	-0.62	1.22	0.27	-0.60	25.30	19	0.15
ENG0037	1.06	-2.83	-0.85	0.58	0.34	-0.50	23.38	16	0.10
ENG0038	0.61	-2.93	-1.27	0.07	0.12	-1.40	20.51	22	0.55
ENG0039	1.00	-2.47	-1.23	0.03	0.31	-1.20	15.79	15	0.40
ENG0042	1.78	-2.07	-0.88	0.15	0.94	-0.70	10.00	13	0.69
ENG0044	0.78	-3.61	-1.32	0.14	0.19	-1.20	20.36	17	0.26
ENG0045	1.42	-2.46	-1.74	-0.99	0.63	-1.70	6.60	6	0.36

Table B-192: IRT statistics – Tunisia, 30-item model (Negotiation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ENG0002	1.38	-2.78	-1.12	0.18	0.57	-0.80	11.24	13	0.59
ENG0004	2.69	-2.23	-0.93	-0.02	2.00	-0.80	14.71	8	0.07
ENG0005	0.17	-10.46	-3.84	4.45	0.01	-3.00	20.94	26	0.74
ENG0007	1.94	-2.32	-1.08	0.15	1.07	-1.10	15.42	11	0.16
ENG0008	1.37	-2.32	-1.19	0.32	0.57	-1.50	16.57	14	0.28
ENG0009	0.98	-2.21	-0.65	0.77	0.30	-0.60	17.34	22	0.74
ENG0011	0.72	-2.69	0.07	2.15	0.16	0.60	18.92	21	0.59
ENG0012	1.09	-2.87	-1.54	0.09	0.37	-1.70	15.73	15	0.40
ENG0014	1.59	-4.11	-1.33	-0.25	0.74	-0.80	15.60	11	0.16
ENG0016	0.69	-2.37	-0.01	2.05	0.15	0.10	28.88	24	0.22
ENG0019	1.53	-2.61	-1.48	-0.49	0.72	-1.40	13.20	10	0.21
ENG0020	0.25	-9.74	-4.22	-1.02	0.02	-3.00	16.64	20	0.68
ENG0021	0.90	-4.61	-1.82	-0.38	0.24	-1.30	20.29	12	0.06
ENG0022	1.36	-2.97	-1.72	-0.24	0.56	-2.00	9.26	10	0.51
ENG0023	0.75	-3.32	-1.65	-0.07	0.18	-1.70	11.84	18	0.86
ENG0025	1.22	-3.46	-1.98	-0.55	0.45	-1.90	15.68	9	0.07
ENG0026	0.94	-3.57	-1.51	0.22	0.27	-1.20	15.70	15	0.40
ENG0027	1.22	-2.69	-1.41	-0.02	0.45	-1.50	14.05	13	0.37
ENG0028	0.64	-3.41	-0.49	1.52	0.12	-0.10	27.80	22	0.18
ENG0031	1.36	-2.97	-1.74	-0.43	0.56	-1.80	23.31	10	0.01
ENG0032	1.41	-2.46	-0.96	0.46	0.59	-0.90	17.60	14	0.23
ENG0033	0.60	-2.42	-0.99	1.23	0.11	-0.80	27.42	25	0.34
ENG0034	0.82	-3.04	-1.77	-0.75	0.21	-1.90	6.18	15	0.98
ENG0036	0.76	-3.16	-0.61	1.56	0.18	-0.20	30.88	20	0.06
ENG0037	0.51	-4.64	-1.57	1.37	0.08	-1.50	22.99	21	0.34
ENG0038	0.53	-4.57	-2.97	-0.67	0.09	-2.70	18.79	16	0.28
ENG0039	0.81	-2.74	-1.43	-0.06	0.21	-1.40	33.38	21	0.04
ENG0042	1.29	-3.10	-1.37	0.18	0.49	-1.20	17.49	14	0.23
ENG0044	1.18	-2.44	-0.94	0.45	0.42	-0.80	15.71	16	0.47
ENG0045	1.33	-2.58	-1.96	-1.33	0.55	-2.00	9.77	4	0.04

MODEL STATISTICS

Table B-193: Fit indices and reliability, 45-item model (Negotiation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1506.26	855	0.00	0.03	0.04	0.92	0.93	0.85
	(49.60)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Egypt	1239.47	855	0.00	0.03	0.06	0.89	0.90	0.86
	(88.59)	-	-	(0.00)	(0.00)	(0.03)	(0.03)	-
Palestine	1030.96	855	0.00	0.03	0.06	0.94	0.94	0.86
	(33.59)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Tunisia	1074.02	855	0.00	0.03	0.06	0.91	0.92	0.85
	(36.56)	-	-	(0.00)	(0.00)	(0.02)	(0.01)	-

Table B-194: Measurement invariance test, 45-item model (Negotiation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3366.99	2565	0.00	0.02	0.06	0.06	0.06	0.95	0.95
	(130.24)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Metric model	3452.68	2655	0.00	0.02	0.06	0.06	0.07	0.95	0.95
	(109.60)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Scalar model	3870.46	2923	0.00	0.02	0.06	0.06	0.07	0.94	0.94
	(83.38)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Difference: Metric - Configural	85.69	90	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Difference: Scalar - Metric	417.77	268	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01

Table B-195: Fit indices and reliability, 30-item model (Negotiation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	489.92	345	0.00	0.02	0.04	0.98	0.98	0.85
	(24.01)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	-
Egypt	428.69	345	0.01	0.03	0.06	0.97	0.97	0.85
	(29.10)	-	-	(0.00)	(0.00)	(0.01)	(0.01)	-
Palestine	400.65	345	0.09	0.02	0.06	0.97	0.97	0.85
	(33.59)	-	-	(0.01)	(0.00)	(0.02)	(0.02)	-
Tunisia	395.93	345	0.12	0.02	0.05	0.97	0.97	0.85
	(33.48)	-	-	(0.01)	(0.00)	(0.02)	(0.02)	-

Table B-196: Measurement invariance test, 30-item model (Negotiation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1243.28	1035	0.00	0.01	0.06	0.06	0.06	0.98	0.98
	(43.63)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Metric model	1292.82	1095	0.00	0.01	0.06	0.06	0.07	0.98	0.99
	(38.35)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Scalar model	1550.00	1273	0.00	0.01	0.06	0.06	0.07	0.98	0.98
	(36.83)	-	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Difference: Metric - Configural	49.54	60	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Difference: Scalar - Metric	257.18	178	0.00	0.00	0.00	0.00	0.01	0.00	-0.01



APPENDIX B2: ITEM AND MODEL STATISTICS IN PHASE 2

APPENDIX B2: ITEM AND MODEL STATISTICS IN PHASE 2

LEARNING: CRITICAL THINKING | ITEM STATISTICS

Table B2-1: Response frequencies for all items, pooled model (Critical thinking)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
LCT0001	0.51	0.43	0.04	0.02
LCT0002	0.49	0.43	0.06	0.02
LCT0003	0.41	0.44	0.12	0.04
LCT0004	0.21	0.51	0.23	0.05
LCT0005	0.15	0.33	0.32	0.19
LCT0006	0.4	0.33	0.18	0.1
LCT0007	0.37	0.45	0.14	0.05
LCT0008	0.58	0.32	0.07	0.03
LCT0009	0.08	0.24	0.48	0.2
LCT0010	0.35	0.51	0.11	0.03
LCT0011	0.26	0.38	0.25	0.11
LCT0012	0.41	0.48	0.08	0.02
LCT0013	0.22	0.35	0.31	0.12
LCT0014	0.53	0.37	0.07	0.03
LCT0015	0.19	0.37	0.26	0.18
LCT0016	0.3	0.41	0.18	0.1
LCT0017	0.34	0.52	0.1	0.04
LCT0018	0.36	0.33	0.2	0.11
LCT0019	0.29	0.45	0.18	0.08
LCT0020	0.36	0.46	0.12	0.06
LCT0021	0.18	0.33	0.31	0.18
LCT0022	0.39	0.42	0.12	0.07
LCT0023	0.29	0.46	0.18	0.06
LCT0024	0.07	0.3	0.38	0.25
LCT0025	0.36	0.46	0.13	0.04

LCT0026	0.52	0.35	0.09	0.04
LCT0027	0.23	0.31	0.25	0.21
LCT0028	0.07	0.12	0.39	0.42
LCT0029	0.42	0.38	0.18	0.03
LCT0030	0.07	0.27	0.38	0.28
LCT0031	0.42	0.3	0.22	0.06
LCT0032	0.42	0.34	0.18	0.06
LCT0033	0.18	0.29	0.33	0.21
LCT0034	0.32	0.22	0.23	0.24
LCT0035	0.26	0.51	0.16	0.06
LCT0036	0.3	0.36	0.21	0.13
LCT0037	0.23	0.32	0.22	0.23
LCT0038	0.24	0.39	0.21	0.16
LCT0039	0.34	0.36	0.17	0.13
LCT0040	0.07	0.22	0.51	0.19
LCT0041	0.3	0.44	0.18	0.07
LCT0042	0.19	0.36	0.28	0.17
LCT0043	0.27	0.46	0.18	0.09
LCT0044	0.07	0.14	0.4	0.39
LCT0045	0.28	0.38	0.21	0.13

Table B2-2: Response frequencies for all items, Egypt model (Critical thinking)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
LCT0001	0.61	0.34	0.04	0.02
LCT0002	0.5	0.41	0.07	0.01
LCT0003	0.49	0.37	0.09	0.05
LCT0004	0.25	0.48	0.2	0.07
LCT0005	0.15	0.3	0.35	0.21
LCT0006	0.33	0.31	0.22	0.13
LCT0007	0.38	0.42	0.15	0.05
LCT0008	0.64	0.25	0.08	0.03
LCT0009	0.07	0.2	0.46	0.27
LCT0010	0.42	0.44	0.11	0.04
LCT0011	0.27	0.35	0.24	0.14
LCT0012	0.51	0.39	0.07	0.03
LCT0013	0.2	0.3	0.32	0.18

LCT0014	0.64	0.27	0.06	0.03
LCT0015	0.22	0.36	0.24	0.17
LCT0016	0.31	0.41	0.19	0.1
LCT0017	0.37	0.49	0.1	0.04
LCT0018	0.27	0.3	0.26	0.17
LCT0019	0.37	0.41	0.13	0.09
LCT0020	0.37	0.44	0.1	0.09
LCT0021	0.18	0.36	0.31	0.15
LCT0022	0.44	0.36	0.12	0.08
LCT0023	0.34	0.42	0.18	0.07
LCT0024	0.08	0.26	0.38	0.28
LCT0025	0.41	0.43	0.12	0.04
LCT0026	0.53	0.33	0.1	0.04
LCT0027	0.26	0.3	0.24	0.2
LCT0028	0.07	0.11	0.38	0.45
LCT0029	0.56	0.31	0.11	0.03
LCT0030	0.05	0.24	0.36	0.35
LCT0031	0.47	0.26	0.22	0.05
LCT0032	0.49	0.29	0.16	0.06
LCT0033	0.25	0.25	0.26	0.24
LCT0034	0.36	0.21	0.2	0.23
LCT0035	0.32	0.52	0.12	0.04
LCT0036	0.28	0.34	0.21	0.18
LCT0037	0.25	0.25	0.22	0.28
LCT0038	0.29	0.39	0.18	0.15
LCT0039	0.37	0.34	0.16	0.14
LCT0040	0.07	0.17	0.49	0.26
LCT0041	0.35	0.41	0.18	0.06
LCT0042	0.23	0.37	0.22	0.17
LCT0043	0.35	0.43	0.15	0.07
LCT0044	0.06	0.12	0.36	0.46
LCT0045	0.37	0.34	0.19	0.09

Table B2-3: Response frequencies for all items, Palestine model (Critical thinking)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
LCT0001	0.39	0.54	0.05	0.01
LCT0002	0.43	0.48	0.07	0.03
LCT0003	0.31	0.51	0.13	0.06
LCT0004	0.18	0.53	0.25	0.04
LCT0005	0.16	0.32	0.33	0.19
LCT0006	0.38	0.35	0.15	0.12
LCT0007	0.26	0.49	0.18	0.07
LCT0008	0.5	0.39	0.07	0.04
LCT0009	0.09	0.25	0.51	0.14
LCT0010	0.31	0.57	0.1	0.02
LCT0011	0.23	0.46	0.24	0.06
LCT0012	0.31	0.58	0.09	0.01
LCT0013	0.21	0.37	0.32	0.1
LCT0014	0.43	0.45	0.08	0.03
LCT0015	0.17	0.39	0.27	0.17
LCT0016	0.25	0.44	0.2	0.11
LCT0017	0.3	0.57	0.1	0.03
LCT0018	0.29	0.38	0.23	0.1
LCT0019	0.29	0.47	0.18	0.07
LCT0020	0.34	0.48	0.13	0.05
LCT0021	0.17	0.34	0.33	0.16
LCT0022	0.29	0.5	0.13	0.08
LCT0023	0.25	0.5	0.19	0.06
LCT0024	0.07	0.3	0.43	0.2
LCT0025	0.3	0.51	0.16	0.03
LCT0026	0.43	0.45	0.09	0.03
LCT0027	0.18	0.33	0.27	0.22
LCT0028	0.07	0.1	0.4	0.42
LCT0029	0.35	0.41	0.21	0.03
LCT0030	0.07	0.25	0.42	0.26
LCT0031	0.35	0.34	0.24	0.07
LCT0032	0.33	0.42	0.19	0.06
LCT0033	0.15	0.36	0.32	0.17
LCT0034	0.4	0.24	0.2	0.16

LCT0035	0.2	0.53	0.19	0.08
LCT0036	0.24	0.4	0.22	0.13
LCT0037	0.14	0.34	0.25	0.26
LCT0038	0.2	0.38	0.25	0.16
LCT0039	0.27	0.37	0.2	0.16
LCT0040	0.09	0.26	0.52	0.12
LCT0041	0.2	0.52	0.22	0.07
LCT0042	0.14	0.37	0.35	0.14
LCT0043	0.29	0.54	0.11	0.06
LCT0044	0.07	0.14	0.42	0.37
LCT0045	0.21	0.43	0.22	0.13

Table B2-4: Response frequencies for all items, Tunisia model (Critical thinking)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
LCT0001	0.49	0.46	0.04	0.02
LCT0002	0.54	0.41	0.04	0.01
LCT0003	0.38	0.47	0.13	0.02
LCT0004	0.17	0.53	0.25	0.05
LCT0005	0.16	0.38	0.29	0.17
LCT0006	0.49	0.33	0.14	0.04
LCT0007	0.44	0.44	0.1	0.02
LCT0008	0.59	0.34	0.05	0.02
LCT0009	0.08	0.28	0.46	0.17
LCT0010	0.29	0.55	0.12	0.04
LCT0011	0.28	0.35	0.27	0.1
LCT0012	0.38	0.5	0.1	0.02
LCT0013	0.24	0.41	0.28	0.07
LCT0014	0.5	0.43	0.06	0.02
LCT0015	0.16	0.36	0.28	0.2
LCT0016	0.33	0.4	0.16	0.1
LCT0017	0.34	0.52	0.1	0.04
LCT0018	0.53	0.32	0.1	0.05
LCT0019	0.21	0.48	0.23	0.08
LCT0020	0.36	0.47	0.14	0.03
LCT0021	0.2	0.27	0.31	0.22
LCT0022	0.42	0.43	0.1	0.05

LCT0023	0.28	0.48	0.19	0.06
LCT0024	0.05	0.35	0.33	0.27
LCT0025	0.37	0.46	0.12	0.05
LCT0026	0.58	0.3	0.07	0.04
LCT0027	0.24	0.3	0.25	0.2
LCT0028	0.08	0.15	0.4	0.38
LCT0029	0.31	0.43	0.23	0.03
LCT0030	0.08	0.34	0.38	0.2
LCT0031	0.42	0.32	0.2	0.06
LCT0032	0.42	0.35	0.19	0.05
LCT0033	0.12	0.27	0.41	0.21
LCT0034	0.19	0.2	0.28	0.33
LCT0035	0.24	0.49	0.2	0.07
LCT0036	0.38	0.35	0.19	0.08
LCT0037	0.28	0.37	0.2	0.15
LCT0038	0.21	0.4	0.22	0.17
LCT0039	0.37	0.38	0.15	0.09
LCT0040	0.06	0.25	0.52	0.16
LCT0041	0.33	0.41	0.17	0.09
LCT0042	0.17	0.34	0.3	0.19
LCT0043	0.16	0.41	0.29	0.14
LCT0044	0.08	0.16	0.42	0.33
LCT0045	0.24	0.38	0.22	0.16

Table B2-5: Descriptive statistics for all items, pooled model (Critical thinking)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCT0001	1422	1	1	1
LCT0002	1424	2	1	1
LCT0003	1422	2	2	1
LCT0004	1416	2	2	1
LCT0005	1414	3	2	1
LCT0006	1421	2	1	2
LCT0007	1411	2	2	1
LCT0008	1421	1	1	1
LCT0009	1422	3	3	1
LCT0010	1423	2	2	1

LCT0011	1419	2	2	2
LCT0012	1421	2	2	1
LCT0013	1412	2	2	1
LCT0014	1406	1	1	1
LCT0015	1403	2	2	1
LCT0016	1408	2	2	2
LCT0017	1418	2	2	1
LCT0018	1421	2	1	2
LCT0019	1414	2	2	2
LCT0020	1411	2	2	1
LCT0021	1422	2	2	1
LCT0022	1423	2	2	1
LCT0023	1415	2	2	1
LCT0024	1417	3	3	2
LCT0025	1407	2	2	1
LCT0026	1420	1	1	1
LCT0027	1421	2	2	1
LCT0028	1426	3	4	1
LCT0029	1409	2	1	1
LCT0030	1400	3	3	2
LCT0031	1402	2	1	2
LCT0032	1408	2	1	1
LCT0033	1405	3	3	1
LCT0034	1409	2	1	2
LCT0035	1403	2	2	1
LCT0036	1402	2	2	2
LCT0037	1407	2	2	1
LCT0038	1400	2	2	1
LCT0039	1406	2	2	2
LCT0040	1422	3	3	1
LCT0041	1421	2	2	2
LCT0042	1418	2	2	1
LCT0043	1418	2	2	2
LCT0044	1419	3	3	1
LCT0045	1422	2	2	2

Table B2-6: Descriptive statistics for all items, Egypt model (Critical thinking)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCT0001	570	1	1	1
LCT0002	570	1	1	1
LCT0003	569	2	1	1
LCT0004	567	2	2	2
LCT0005	567	3	3	1
LCT0006	569	2	1	2
LCT0007	565	2	2	1
LCT0008	569	1	1	1
LCT0009	570	3	3	2
LCT0010	568	2	2	1
LCT0011	565	2	2	2
LCT0012	567	1	1	1
LCT0013	562	2.5	3	1
LCT0014	559	1	1	1
LCT0015	558	2	2	1
LCT0016	560	2	2	2
LCT0017	568	2	2	1
LCT0018	569	2	2	2
LCT0019	566	2	2	1
LCT0020	564	2	2	1
LCT0021	569	2	2	1
LCT0022	569	2	1	1
LCT0023	565	2	2	1
LCT0024	562	3	3	2
LCT0025	562	2	2	1
LCT0026	564	1	1	1
LCT0027	564	2	2	2
LCT0028	568	3	4	1
LCT0029	560	1	1	1
LCT0030	559	3	3	2
LCT0031	559	2	1	2
LCT0032	561	2	1	1
LCT0033	560	3	3	1
LCT0034	560	2	1	2

LCT0035	558	2	2	1
LCT0036	558	2	2	2
LCT0037	559	2	4	3
LCT0038	559	2	2	2
LCT0039	558	2	1	2
LCT0040	564	3	3	1
LCT0041	564	2	2	1
LCT0042	559	2	2	1
LCT0043	562	2	2	1
LCT0044	562	3	4	1
LCT0045	564	2	1	2

Table B2-7: Descriptive statistics for all items, Palestine model (Critical thinking)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCT0001	400	2	2	1
LCT0002	399	2	2	1
LCT0003	398	2	2	1
LCT0004	396	2	2	1
LCT0005	395	3	3	1
LCT0006	399	2	1	2
LCT0007	394	2	2	1
LCT0008	398	2	1	1
LCT0009	398	3	3	1
LCT0010	407	2	2	1
LCT0011	406	2	2	1
LCT0012	406	2	2	1
LCT0013	405	2	2	1
LCT0014	403	2	2	1
LCT0015	402	2	2	1
LCT0016	404	2	2	1.25
LCT0017	399	2	2	1
LCT0018	399	2	2	2
LCT0019	399	2	2	1
LCT0020	395	2	2	1
LCT0021	399	2	2	1
LCT0022	400	2	2	1

LCT0023	404	2	2	1.25
LCT0024	406	3	3	1
LCT0025	400	2	2	1
LCT0026	408	2	2	1
LCT0027	408	2	2	1
LCT0028	408	3	4	1
LCT0029	405	2	2	1
LCT0030	403	3	3	2
LCT0031	403	2	1	2
LCT0032	404	2	2	2
LCT0033	402	2	2	1
LCT0034	405	2	1	2
LCT0035	402	2	2	1
LCT0036	404	2	2	1
LCT0037	405	3	2	2
LCT0038	404	2	2	1
LCT0039	404	2	2	2
LCT0040	409	3	3	1
LCT0041	408	2	2	1
LCT0042	408	2	2	1
LCT0043	408	2	2	1
LCT0044	407	3	3	1
LCT0045	409	2	2	1

Table B2-8: Descriptive statistics for all items, Tunisia model (Critical thinking)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
LCT0001	452	2	1	1
LCT0002	455	1	1	1
LCT0003	455	2	2	1
LCT0004	453	2	2	1
LCT0005	452	2	2	1
LCT0006	453	2	1	1
LCT0007	452	2	1	1
LCT0008	454	1	1	1
LCT0009	454	3	3	1
LCT0010	448	2	2	1

LCT0011	448	2	2	2
LCT0012	448	2	2	1
LCT0013	445	2	2	1
LCT0014	444	2	1	1
LCT0015	443	2	2	1
LCT0016	444	2	2	2
LCT0017	451	2	2	1
LCT0018	453	1	1	1
LCT0019	449	2	2	1
LCT0020	452	2	2	1
LCT0021	454	3	3	1
LCT0022	454	2	2	1
LCT0023	446	2	2	1
LCT0024	449	3	2	2
LCT0025	445	2	2	1
LCT0026	448	1	1	1
LCT0027	449	2	2	1
LCT0028	450	3	3	1
LCT0029	444	2	2	2
LCT0030	438	3	3	1
LCT0031	440	2	1	2
LCT0032	443	2	1	1
LCT0033	443	3	3	1
LCT0034	444	3	4	2
LCT0035	443	2	2	1
LCT0036	440	2	1	2
LCT0037	443	2	2	2
LCT0038	437	2	2	1
LCT0039	444	2	2	1
LCT0040	449	3	3	1
LCT0041	449	2	2	2
LCT0042	451	2	2	1
LCT0043	448	2	2	1
LCT0044	450	3	3	1
LCT0045	449	2	2	1

Table B2-9: IRT statistics – pooled model, 45-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.11	0.01	2.92	4.2	0.36	3.47	41.55	26	0.03
LCT0002	0.91	-0.07	3	4.82	0.25	3.77	36.52	26	0.08
LCT0003	0.89	-0.53	2.11	3.84	0.24	2.68	35.46	26	0.1
LCT0004	0.87	-1.79	1.19	3.61	0.22	1.6	31.4	26	0.21
LCT0005	-0.03	50.22	1.75	-42.63	0	-0.93	55.82	26	0
LCT0006	0.35	-1.25	2.8	6.41	0.04	2.8	34.38	26	0.13
LCT0007	1.23	-0.59	1.47	2.93	0.44	1.96	61.5	26	0
LCT0008	0.97	0.39	2.61	3.92	0.29	2.98	40.69	26	0.03
LCT0009	-0.45	5.59	1.72	-3.22	0.06	2.74	30.62	26	0.24
LCT0010	0.56	-1.19	3.42	6.35	0.09	4.49	44.68	26	0.01
LCT0011	0.18	-5.82	3.49	12.29	0.01	3.89	83.03	26	0
LCT0012	0.89	-0.44	2.71	4.67	0.23	3.47	44.12	26	0.01
LCT0013	0.19	-6.96	1.55	10.69	0.01	0.99	42.58	26	0.02
LCT0014	1.29	0.15	2.18	3.34	0.5	2.62	83.42	26	0
LCT0015	0.56	-2.75	0.43	2.82	0.1	0.81	49.46	26	0
LCT0016	0.82	-1.16	1.26	2.92	0.21	1.66	46.1	26	0.01
LCT0017	0.79	-0.98	2.55	4.48	0.19	3.35	30.27	26	0.26
LCT0018	0.25	-2.39	3.32	8.56	0.02	3.35	39.58	26	0.04
LCT0019	0.54	-1.72	2.07	4.66	0.09	2.74	41.48	26	0.03
LCT0020	0.97	-0.73	1.8	3.18	0.29	2.26	68.53	26	0
LCT0021	-0.22	6.81	-0.22	-7.15	0.01	-0.27	25.46	26	0.49
LCT0022	0.85	-0.61	1.95	3.41	0.22	2.32	39.22	26	0.05
LCT0023	0.7	-1.37	1.79	4.18	0.15	2.44	27.71	26	0.37
LCT0024	-0.17	15.28	3.22	-6.29	0.01	0.87	42.8	26	0.02
LCT0025	1.07	-0.63	1.78	3.48	0.33	2.38	38.19	26	0.06
LCT0026	1.08	0.08	2.13	3.47	0.35	2.56	50.22	26	0
LCT0027	0.16	-7.66	1.04	8.67	0.01	0.93	60.71	26	0
LCT0028	-0.68	4.11	2.36	-0.5	0.14	2.68	45.12	26	0.01
LCT0029	0.87	-0.43	1.76	4.39	0.22	1.3	55.29	26	0
LCT0030	-0.18	14.52	3.72	-5.28	0.01	1.96	41.93	26	0.02
LCT0031	0.95	-0.38	1.18	3.24	0.28	0.81	52.53	26	0
LCT0032	1.15	-0.33	1.28	2.88	0.4	1.3	56.9	26	0
LCT0033	0.46	-3.45	-0.29	3.04	0.06	-0.33	24.34	26	0.56

LCT0034	0.13	-5.98	1.04	9.05	0.01	1.42	21.79	26	0.7
LCT0035	1.03	-1.19	1.42	3.06	0.32	2.08	49.67	26	0
LCT0036	0.09	-9.2	7.12	20.11	0	6	43.41	26	0.02
LCT0037	0.53	-2.39	0.44	2.46	0.09	0.39	72.77	26	0
LCT0038	0.58	-2.1	1	3.05	0.1	1.3	55.68	26	0
LCT0039	0.84	-0.86	1.22	2.58	0.22	1.36	49.11	26	0
LCT0040	-0.47	5.53	1.92	-3.14	0.07	3.11	32.75	26	0.17
LCT0041	0.96	-1.02	1.33	3.07	0.27	1.84	52.86	26	0
LCT0042	0.24	-6.17	0.87	6.79	0.02	1.48	34.79	26	0.12
LCT0043	0.51	-2.01	2.09	4.85	0.08	2.8	38.13	26	0.06
LCT0044	-0.44	6.07	3.17	-1	0.06	3.65	46.23	26	0.01
LCT0045	0.84	-1.24	0.96	2.62	0.22	1.24	42.25	26	0.02

Table B2-10: IRT statistics – Egypt model, 45-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.17	0.48	2.92	4.02	0.41	3.35	32.98	26	0.16
LCT0002	0.93	0	2.87	4.98	0.25	3.47	47.18	26	0.01
LCT0003	0.78	-0.03	2.56	4.15	0.19	2.92	29.9	26	0.27
LCT0004	0.84	-1.47	1.38	3.48	0.21	2.02	30.04	26	0.27
LCT0005	0.04	-47.5	-5.69	36.9	0	-6	28.85	26	0.32
LCT0006	0.46	-1.56	1.35	4.23	0.07	1.36	27.6	26	0.38
LCT0007	1.2	-0.52	1.44	2.87	0.43	1.9	36.3	26	0.09
LCT0008	1.05	0.69	2.4	3.77	0.34	2.62	41.27	26	0.03
LCT0009	-0.45	5.94	2.31	-2.33	0.06	3.23	36.44	26	0.08
LCT0010	0.44	-0.77	4.26	7.63	0.06	5.28	28.19	26	0.35
LCT0011	0.02	-54.05	27.37	101.02	0	6	53.55	26	0
LCT0012	0.94	0.09	2.69	3.99	0.27	3.11	32.41	26	0.18
LCT0013	0.45	-3.3	-0.03	3.49	0.06	-0.15	28.75	26	0.32
LCT0014	1.72	0.48	1.84	2.6	0.89	2.08	54.74	26	0
LCT0015	0.44	-2.96	0.81	3.67	0.06	1.06	33.12	26	0.16
LCT0016	0.77	-1.19	1.31	3.12	0.18	1.72	23.16	26	0.62
LCT0017	0.64	-0.92	3.09	5.39	0.12	3.95	44.27	26	0.01
LCT0018	0.34	-2.91	0.96	4.87	0.04	0.93	35.89	26	0.09
LCT0019	0.53	-1.11	2.5	4.62	0.09	2.86	23.08	26	0.63
LCT0020	1.17	-0.54	1.59	2.4	0.41	1.84	37.43	26	0.07
LCT0021	-0.05	33.03	-3.61	-38.35	0	-5.28	41.55	26	0.03

LCT0022	0.74	-0.35	2.11	3.7	0.17	2.32	42.53	26	0.02
LCT0023	0.66	-1.11	1.9	4.29	0.13	2.44	24.39	26	0.55
LCT0024	-0.11	22.88	6.34	-8.83	0	5.04	47.52	26	0.01
LCT0025	1.02	-0.45	1.89	3.57	0.31	2.44	33.61	26	0.15
LCT0026	1.12	0.13	1.94	3.23	0.38	2.26	29.81	26	0.28
LCT0027	0.36	-2.96	0.69	3.92	0.04	0.63	35.23	26	0.11
LCT0028	-0.73	3.97	2.4	-0.25	0.16	2.68	29.36	26	0.29
LCT0029	0.82	0.32	2.52	4.65	0.2	2.56	33.82	26	0.14
LCT0030	-0.17	16.53	5.16	-3.49	0.01	3.17	37.4	26	0.07
LCT0031	0.8	-0.18	1.39	3.89	0.2	1.06	27.94	26	0.36
LCT0032	1.2	-0.02	1.36	2.76	0.44	1.36	29.29	26	0.3
LCT0033	0.24	-4.75	-0.04	4.89	0.02	0.03	23.79	26	0.59
LCT0034	0.42	-1.37	0.71	3.01	0.06	0.81	28.56	26	0.33
LCT0035	0.98	-0.92	1.95	3.61	0.29	2.62	35.64	26	0.1
LCT0036	0.02	-40.63	19.06	63.61	0	6	38.26	26	0.06
LCT0037	0.28	-3.87	0.19	3.56	0.02	-0.03	63.02	26	0
LCT0038	0.53	-1.81	1.47	3.5	0.09	1.6	38.29	26	0.06
LCT0039	0.76	-0.78	1.34	2.7	0.18	1.36	38.36	26	0.06
LCT0040	-0.28	9.27	4.08	-3.64	0.02	5.64	20.7	26	0.76
LCT0041	0.86	-0.8	1.56	3.49	0.22	1.96	37.29	26	0.07
LCT0042	0.38	-3.23	1.26	4.36	0.04	1.48	29.93	26	0.27
LCT0043	0.76	-0.91	1.82	3.7	0.18	2.32	41.92	26	0.02
LCT0044	-0.44	6.48	3.68	-0.37	0.06	4.01	28.01	26	0.36
LCT0045	0.96	-0.63	1.15	2.73	0.28	1.3	41.66	26	0.03

Table B2-11: IRT statistics – Palestine model, 45-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.07	-0.58	2.82	4.31	0.34	3.53	31.39	26	0.21
LCT0002	0.84	-0.49	2.9	4.68	0.21	3.65	21.43	26	0.72
LCT0003	0.99	-1.06	1.64	3.13	0.29	2.2	22.1	26	0.68
LCT0004	0.96	-1.9	1.01	3.69	0.26	1.12	33.52	26	0.15
LCT0005	-0.22	7.82	0.3	-6.79	0.01	0.03	21.67	26	0.71
LCT0006	0.21	-2.37	4.72	9.49	0.01	4.49	51.92	26	0
LCT0007	1.37	-1.08	0.98	2.37	0.55	1.48	22.54	26	0.66
LCT0008	0.82	-0.08	2.78	4.13	0.2	3.17	23.01	26	0.63
LCT0009	-0.55	4.3	1.17	-3.54	0.09	2.32	38.91	26	0.05

LCT0010	0.87	-1.07	2.56	4.95	0.22	3.35	43.89	26	0.02
LCT0011	0.63	-2.03	1.46	4.56	0.12	1.9	33.05	26	0.16
LCT0012	0.87	-1.06	2.72	5.33	0.21	3.29	20.95	26	0.74
LCT0013	0.06	-22.52	5.83	38.5	0	1.48	45.79	26	0.01
LCT0014	1.11	-0.26	2.23	3.66	0.37	2.8	26.49	26	0.44
LCT0015	0.71	-2.36	0.37	2.39	0.16	0.81	29.13	26	0.31
LCT0016	1.07	-1.18	0.92	2.32	0.34	1.36	24.4	26	0.55
LCT0017	1.1	-1.04	1.92	3.45	0.36	2.62	26.66	26	0.43
LCT0018	0.24	-3.81	3.01	9.22	0.02	3.41	27.71	26	0.37
LCT0019	0.6	-1.67	1.99	4.58	0.11	2.74	22.92	26	0.64
LCT0020	0.78	-1.05	2.08	4.05	0.18	2.8	41.88	26	0.03
LCT0021	-0.29	5.4	-0.24	-5.77	0.03	-0.33	20.83	26	0.75
LCT0022	1.05	-1.08	1.44	2.66	0.33	1.9	49.33	26	0
LCT0023	0.77	-1.58	1.57	3.78	0.18	2.32	20.5	26	0.77
LCT0024	-0.37	7.15	1.52	-3.78	0.04	1.12	22.32	26	0.67
LCT0025	1.28	-0.83	1.48	3.29	0.46	1.72	35.36	26	0.1
LCT0026	1.11	-0.34	2.1	3.62	0.37	2.68	38.89	26	0.05
LCT0027	-0.31	5.02	-0.07	-4.2	0.03	-0.27	27.01	26	0.41
LCT0028	-0.81	3.49	2.14	-0.45	0.2	2.44	22.77	26	0.65
LCT0029	0.95	-0.76	1.41	4.22	0.26	0.87	30.9	26	0.23
LCT0030	-0.33	7.99	2.39	-3.22	0.03	2.38	40.58	26	0.03
LCT0031	1.23	-0.59	0.82	2.51	0.45	0.51	29.95	26	0.27
LCT0032	1.07	-0.77	1.22	2.91	0.34	1.54	28.3	26	0.34
LCT0033	0.71	-2.59	0.09	2.49	0.15	0.39	28.98	26	0.31
LCT0034	-0.17	2.59	-3.28	-9.76	0.01	-3.47	23.53	26	0.6
LCT0035	0.94	-1.61	1.24	2.96	0.26	1.9	23.88	26	0.58
LCT0036	0.11	-10.63	5.7	17.57	0	6	24.59	26	0.54
LCT0037	0.56	-3.28	-0.02	2.02	0.1	0.27	31.76	26	0.2
LCT0038	0.65	-2.2	0.62	2.72	0.13	0.99	16.01	26	0.94
LCT0039	0.81	-1.3	0.89	2.38	0.2	1.06	32	26	0.19
LCT0040	-0.6	4.06	1.08	-3.44	0.11	2.2	27.95	26	0.36
LCT0041	1.01	-1.63	1.13	2.99	0.3	1.84	29.93	26	0.27
LCT0042	-0.03	56.49	-1.51	-57.1	0	-4.55	23.48	26	0.61
LCT0043	0.53	-1.76	3.27	5.51	0.08	4.07	23.84	26	0.59
LCT0044	-0.69	4.12	2.11	-0.82	0.14	2.62	30.59	26	0.24
LCT0045	0.69	-2.08	0.96	2.96	0.14	1.48	24.35	26	0.56

Table B2-12: IRT statistics – Tunisia model, 45-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	0.94	-0.1	3.3	4.81	0.26	3.95	28.1	26	0.35
LCT0002	0.9	0.17	3.53	5.15	0.24	4.25	25.08	26	0.51
LCT0003	0.8	-0.71	2.37	5.06	0.18	2.68	18.78	26	0.85
LCT0004	0.78	-2.28	1.15	3.96	0.17	1.6	22.38	26	0.67
LCT0005	0.1	-17.18	1.45	16.15	0	3.83	32.83	26	0.17
LCT0006	0.48	-0.12	3.24	6.73	0.07	3.11	31.35	26	0.22
LCT0007	1.16	-0.27	2.09	3.83	0.39	2.56	42.47	26	0.02
LCT0008	0.97	0.38	2.93	4.2	0.28	3.35	24.38	26	0.55
LCT0009	-0.22	10.77	2.49	-7.12	0.01	4.01	33.75	26	0.14
LCT0010	0.37	-2.43	4.6	8.92	0.04	6	24.61	26	0.54
LCT0011	0.05	-17.33	9.63	40.24	0	6	45.1	26	0.01
LCT0012	0.78	-0.68	2.91	5.69	0.17	3.41	39.72	26	0.04
LCT0013	0.16	-7.11	3.92	16.53	0.01	2.08	22.24	26	0.68
LCT0014	1	-0.02	2.83	4.62	0.29	3.53	30.33	26	0.25
LCT0015	0.54	-3.28	0.14	2.68	0.09	0.57	30.01	26	0.27
LCT0016	0.64	-1.18	1.73	3.62	0.13	2.02	28.56	26	0.33
LCT0017	0.73	-1.04	2.73	4.82	0.16	3.59	27.8	26	0.37
LCT0018	0.31	0.32	5.67	9.48	0.03	5.94	21.5	26	0.72
LCT0019	0.47	-2.92	1.76	5.23	0.07	2.74	39.06	26	0.05
LCT0020	0.95	-0.73	1.86	3.98	0.26	2.32	35.96	26	0.09
LCT0021	-0.42	3.4	0.26	-3.15	0.05	0.27	26.92	26	0.41
LCT0022	0.71	-0.54	2.6	4.43	0.15	3.17	28.7	26	0.32
LCT0023	0.61	-1.66	2.03	4.91	0.11	2.8	34.99	26	0.11
LCT0024	-0.01	227.69	31.11	-78.97	0	-6	39.13	26	0.05
LCT0025	0.98	-0.64	1.91	3.53	0.29	2.5	23.57	26	0.6
LCT0026	1.06	0.4	2.3	3.49	0.34	2.56	36.43	26	0.08
LCT0027	0.34	-3.35	0.61	4.16	0.04	0.57	38.5	26	0.05
LCT0028	-0.45	5.72	2.86	-1.11	0.06	3.29	36.78	26	0.08
LCT0029	0.77	-1.19	1.47	4.67	0.17	0.99	27.41	26	0.39
LCT0030	0.07	-33.49	-4.55	19.39	0	0.69	34.95	26	0.11
LCT0031	0.92	-0.39	1.34	3.39	0.26	1.06	33.64	26	0.14
LCT0032	1.17	-0.38	1.22	3.02	0.41	0.99	30.27	26	0.26
LCT0033	0.57	-3.74	-0.87	2.49	0.1	-1.36	28.05	26	0.36
LCT0034	0.14	-10.82	-3.28	5.38	0.01	-2.92	35.64	26	0.1

LCT0035	1.03	-1.32	1.16	2.95	0.31	1.78	30.5	26	0.25
LCT0036	0.28	-1.81	3.58	8.95	0.02	3.59	30.52	26	0.25
LCT0037	0.83	-1.32	0.84	2.37	0.21	1.06	25.4	26	0.5
LCT0038	0.52	-2.63	0.91	3.14	0.08	1.24	26.84	26	0.42
LCT0039	0.96	-0.63	1.39	2.71	0.28	1.66	44	26	0.02
LCT0040	-0.4	6.92	2.07	-4.2	0.05	3.41	28.29	26	0.34
LCT0041	1.02	-0.8	1.3	2.74	0.31	1.72	24.06	26	0.57
LCT0042	0.33	-4.94	0.14	4.6	0.03	0.51	25.55	26	0.49
LCT0043	0.22	-7.52	1.39	8.53	0.01	2.86	23.76	26	0.59
LCT0044	-0.09	25.47	11.95	-7.48	0	6	31.49	26	0.21
LCT0045	0.72	-1.77	0.78	2.58	0.16	1.06	21.64	26	0.71

Table B2-13: IRT statistics – pooled model, 30-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.11	0.01	2.91	4.18	0.37	3.47	40.51	26	0.03
LCT0002	0.9	-0.07	3.04	4.89	0.24	3.77	37.86	26	0.06
LCT0003	0.87	-0.54	2.15	3.91	0.23	2.74	37.35	26	0.07
LCT0004	0.87	-1.79	1.18	3.59	0.22	1.6	36.54	26	0.08
LCT0006	0.37	-1.18	2.62	5.98	0.04	2.62	37.01	26	0.07
LCT0007	1.21	-0.6	1.48	2.94	0.44	1.96	65.22	26	0
LCT0008	1	0.38	2.55	3.83	0.3	2.92	40.27	26	0.04
LCT0010	0.53	-1.26	3.6	6.69	0.08	4.73	38.5	26	0.05
LCT0012	0.89	-0.44	2.72	4.68	0.23	3.53	37.84	26	0.06
LCT0013	0.2	-6.55	1.47	10.08	0.01	0.93	32.72	26	0.17
LCT0014	1.31	0.15	2.16	3.29	0.52	2.62	71.96	26	0
LCT0015	0.55	-2.82	0.45	2.9	0.09	0.81	43.71	26	0.02
LCT0016	0.82	-1.16	1.28	2.94	0.2	1.66	40.12	26	0.04
LCT0017	0.77	-1	2.59	4.57	0.18	3.41	27.02	26	0.41
LCT0019	0.54	-1.73	2.06	4.66	0.09	2.74	43.75	26	0.02
LCT0020	0.97	-0.73	1.8	3.2	0.28	2.26	65.91	26	0
LCT0022	0.83	-0.63	1.97	3.45	0.21	2.38	34.66	26	0.12
LCT0023	0.7	-1.37	1.79	4.19	0.15	2.5	24.08	26	0.57
LCT0025	1.07	-0.63	1.77	3.45	0.34	2.32	39.88	26	0.04
LCT0026	1.05	0.08	2.16	3.52	0.33	2.56	43.88	26	0.02
LCT0029	0.85	-0.43	1.79	4.44	0.21	1.36	60.2	26	0
LCT0031	0.95	-0.38	1.19	3.25	0.28	0.81	56.13	26	0

LCT0032	1.19	-0.32	1.26	2.81	0.42	1.3	48.66	26	0
LCT0035	1.03	-1.18	1.43	3.06	0.32	2.08	53.71	26	0
LCT0037	0.56	-2.27	0.43	2.36	0.1	0.39	86.93	26	0
LCT0038	0.58	-2.11	1.01	3.07	0.1	1.3	52.73	26	0
LCT0039	0.87	-0.83	1.2	2.52	0.23	1.36	61.81	26	0
LCT0041	0.96	-1.02	1.34	3.06	0.27	1.84	50.11	26	0
LCT0043	0.47	-2.15	2.23	5.18	0.07	2.98	43.45	26	0.02
LCT0045	0.84	-1.24	0.96	2.61	0.22	1.24	30.53	26	0.25

Table B2-14: IRT statistics – Egypt model, 30-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.18	0.48	2.91	4	0.41	3.35	28.86	26	0.32
LCT0002	0.9	0	2.93	5.1	0.24	3.59	42.98	26	0.02
LCT0003	0.77	-0.03	2.58	4.19	0.18	2.92	30.45	26	0.25
LCT0004	0.85	-1.46	1.35	3.44	0.22	2.02	29.24	26	0.3
LCT0006	0.46	-1.56	1.34	4.23	0.07	1.36	25.43	26	0.49
LCT0007	1.18	-0.52	1.45	2.89	0.42	1.9	32.44	26	0.18
LCT0008	1.05	0.69	2.39	3.76	0.34	2.62	30.14	26	0.26
LCT0010	0.44	-0.78	4.28	7.68	0.06	5.34	26.4	26	0.44
LCT0012	0.92	0.09	2.73	4.05	0.26	3.17	31.67	26	0.2
LCT0013	0.4	-3.67	-0.02	3.9	0.05	-0.15	38.15	26	0.06
LCT0014	1.73	0.49	1.84	2.6	0.9	2.08	54.56	26	0
LCT0015	0.46	-2.89	0.79	3.59	0.06	1.06	33.63	26	0.14
LCT0016	0.77	-1.19	1.33	3.14	0.18	1.72	32.93	26	0.16
LCT0017	0.63	-0.94	3.13	5.46	0.12	4.01	37.21	26	0.07
LCT0019	0.53	-1.11	2.48	4.59	0.09	2.8	24.04	26	0.57
LCT0020	1.15	-0.55	1.59	2.4	0.4	1.84	31.7	26	0.2
LCT0022	0.73	-0.36	2.13	3.74	0.16	2.32	29.73	26	0.28
LCT0023	0.68	-1.09	1.84	4.17	0.14	2.38	27.15	26	0.4
LCT0025	1.01	-0.46	1.89	3.58	0.3	2.44	40.69	26	0.03
LCT0026	1.1	0.13	1.96	3.27	0.37	2.26	37.15	26	0.07
LCT0029	0.83	0.33	2.49	4.59	0.21	2.56	34.24	26	0.13
LCT0031	0.8	-0.17	1.41	3.93	0.19	1.06	29.36	26	0.29
LCT0032	1.19	-0.01	1.37	2.78	0.43	1.36	32.75	26	0.17
LCT0035	1.03	-0.88	1.89	3.48	0.31	2.56	35.87	26	0.09
LCT0037	0.33	-3.26	0.18	3.02	0.03	-0.03	58.97	26	0

LCT0038	0.55	-1.75	1.43	3.39	0.09	1.6	42.04	26	0.02
LCT0039	0.8	-0.74	1.3	2.6	0.2	1.3	37.61	26	0.07
LCT0041	0.85	-0.81	1.56	3.5	0.22	1.96	39.47	26	0.04
LCT0043	0.73	-0.95	1.88	3.83	0.16	2.38	31.09	26	0.22
LCT0045	1	-0.61	1.12	2.66	0.3	1.3	29.45	26	0.29

Table B2-15: IRT statistics – Palestine model, 30-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	1.09	-0.58	2.79	4.25	0.35	3.47	17.93	26	0.88
LCT0002	0.87	-0.48	2.81	4.52	0.23	3.53	20.07	26	0.79
LCT0003	0.94	-1.1	1.7	3.25	0.27	2.32	23.17	26	0.62
LCT0004	0.98	-1.89	1	3.64	0.26	1.12	29.27	26	0.3
LCT0006	0.26	-1.97	3.86	7.77	0.02	3.65	40.13	26	0.04
LCT0007	1.34	-1.1	0.99	2.39	0.53	1.54	32.74	26	0.17
LCT0008	0.86	-0.08	2.68	3.98	0.22	3.05	35.37	26	0.1
LCT0010	0.83	-1.12	2.67	5.16	0.2	3.53	35.47	26	0.1
LCT0012	0.85	-1.08	2.77	5.4	0.2	3.35	20.88	26	0.75
LCT0013	0.13	-10.21	2.67	17.51	0	0.69	50.29	26	0
LCT0014	1.18	-0.24	2.14	3.49	0.42	2.68	27.44	26	0.39
LCT0015	0.72	-2.35	0.37	2.39	0.16	0.81	35.84	26	0.09
LCT0016	1.12	-1.13	0.9	2.25	0.38	1.36	25.25	26	0.51
LCT0017	1.1	-1.04	1.92	3.45	0.36	2.62	22.19	26	0.68
LCT0019	0.58	-1.74	2.06	4.75	0.1	2.86	29.49	26	0.29
LCT0020	0.77	-1.06	2.11	4.1	0.18	2.8	30.36	26	0.25
LCT0022	1.06	-1.08	1.43	2.65	0.34	1.9	37.58	26	0.07
LCT0023	0.78	-1.57	1.56	3.75	0.18	2.32	28.63	26	0.33
LCT0025	1.33	-0.82	1.44	3.19	0.49	1.72	28.17	26	0.35
LCT0026	1.08	-0.34	2.15	3.68	0.35	2.74	31.28	26	0.22
LCT0029	0.87	-0.8	1.52	4.52	0.22	0.93	43.65	26	0.02
LCT0031	1.23	-0.57	0.83	2.51	0.46	0.51	41.55	26	0.03
LCT0032	1.19	-0.7	1.15	2.7	0.42	1.48	32.13	26	0.19
LCT0035	0.91	-1.65	1.29	3.04	0.25	1.96	35.52	26	0.1
LCT0037	0.57	-3.27	-0.01	2.03	0.1	0.27	36.74	26	0.08
LCT0038	0.64	-2.23	0.64	2.77	0.13	0.99	25.97	26	0.47
LCT0039	0.84	-1.25	0.87	2.31	0.22	1.06	37.76	26	0.06

LCT0041	0.99	-1.66	1.14	3.02	0.29	1.84	34.02	26	0.13
LCT0043	0.5	-1.87	3.45	5.83	0.07	4.31	25.55	26	0.49
LCT0045	0.68	-2.11	0.97	2.98	0.14	1.54	25.11	26	0.51

Table B2-16: IRT statistics – Tunisia model, 30-item (Critical thinking)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
LCT0001	0.94	-0.1	3.29	4.79	0.27	3.95	33.46	26	0.15
LCT0002	0.89	0.18	3.58	5.23	0.24	4.31	24.23	26	0.56
LCT0003	0.8	-0.72	2.37	5.07	0.18	2.68	18.46	26	0.86
LCT0004	0.76	-2.32	1.18	4.04	0.17	1.6	19.62	26	0.81
LCT0006	0.47	-0.12	3.3	6.84	0.07	3.17	28.46	26	0.34
LCT0007	1.11	-0.28	2.17	3.97	0.36	2.68	63.47	26	0
LCT0008	0.99	0.37	2.89	4.14	0.29	3.35	23.17	26	0.62
LCT0010	0.36	-2.52	4.78	9.26	0.04	6	27.45	26	0.39
LCT0012	0.8	-0.67	2.86	5.58	0.18	3.35	33.21	26	0.16
LCT0013	0.14	-8.23	4.55	19.15	0.01	2.44	17.27	26	0.9
LCT0014	1	-0.02	2.82	4.6	0.3	3.53	34.88	26	0.11
LCT0015	0.54	-3.25	0.14	2.66	0.09	0.57	30.75	26	0.24
LCT0016	0.67	-1.13	1.67	3.5	0.14	1.96	36.95	26	0.08
LCT0017	0.73	-1.05	2.73	4.82	0.16	3.59	22.88	26	0.64
LCT0019	0.52	-2.68	1.61	4.78	0.08	2.56	25.59	26	0.49
LCT0020	0.96	-0.73	1.86	3.98	0.27	2.32	40.71	26	0.03
LCT0022	0.7	-0.54	2.64	4.5	0.15	3.23	23.91	26	0.58
LCT0023	0.61	-1.67	2.04	4.94	0.11	2.86	25.6	26	0.49
LCT0025	0.96	-0.65	1.94	3.58	0.28	2.56	23.7	26	0.59
LCT0026	1.02	0.41	2.38	3.6	0.32	2.68	27.74	26	0.37
LCT0029	0.78	-1.17	1.44	4.6	0.18	0.99	19.9	26	0.8
LCT0031	0.91	-0.4	1.35	3.41	0.25	1.06	31.23	26	0.22
LCT0032	1.14	-0.39	1.24	3.07	0.39	0.99	34.75	26	0.12
LCT0035	1.05	-1.3	1.14	2.9	0.33	1.72	31.96	26	0.19
LCT0037	0.89	-1.25	0.8	2.25	0.24	1.06	28.77	26	0.32
LCT0038	0.5	-2.73	0.95	3.26	0.08	1.3	31.68	26	0.2
LCT0039	0.97	-0.63	1.38	2.7	0.29	1.66	31.51	26	0.21
LCT0041	0.98	-0.83	1.34	2.81	0.29	1.78	35.17	26	0.11
LCT0043	0.23	-7.12	1.32	8.08	0.02	2.74	25.67	26	0.48
LCT0045	0.7	-1.82	0.8	2.65	0.15	1.12	29.36	26	0.3

SCALE STATISTICS

Table B2-17: Fit indices and reliability, 45-item model (Critical thinking)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	1911.12	855	0	0.02	0.03	0.93	0.94	0.8
Egypt	1361.05	855	0	0.03	0.04	0.92	0.92	0.8
Palestine	1190.6	855	0	0.03	0.04	0.95	0.95	0.83
Tunisia	1112.47	855	0	0.02	0.04	0.93	0.93	0.78

Table B2-18: Fit indices and reliability, 30-item model (Critical thinking)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	541.33	345	0	0.02	0.03	0.98	0.98	0.79
Egypt	434.17	345	0	0.02	0.04	0.98	0.98	0.79
Palestine	452.53	345	0	0.02	0.04	0.98	0.98	0.81
Tunisia	429.9	345	0	0.02	0.04	0.97	0.97	0.77

Table B2-19: Measurement invariance test, 45-item model (Critical thinking)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3651.88	2565	0	0.01	0.04	0.05	0.04	0.94	0.95
Metric model	3929.37	2655	0	0.01	0.04	0.05	0.05	0.93	0.93
Scalar model	4868.26	2921	0	0.02	0.04	0.05	0.05	0.91	0.9
Difference: Metric - Configural	277.49	90	0	0	0	0	0.01	-0.01	-0.01
Difference: Scalar - Metric	938.89	266	0	0	0	0	0	-0.02	-0.03

Table B2-20: Measurement invariance test, 30-item model (Critical thinking)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1323.01	1035	0	0.01	0.04	0.04	0.04	0.98	0.98
Metric model	1335.22	1095	0	0.01	0.04	0.04	0.04	0.98	0.98
Scalar model	1892.79	1271	0	0.02	0.04	0.04	0.04	0.96	0.95
Difference: Metric - Configural	12.21	60	0	0	0	0	0.01	0	0
Difference: Scalar - Metric	557.57	176	0	0	0	0	0	-0.02	-0.03

PERSONAL EMPOWERMENT: COMMUNICATION
ITEM STATISTICS

Table B2-21: Response frequencies for all items, pooled model (Communication)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PCO0001	0.29	0.5	0.15	0.05
PCO0002	0.15	0.39	0.38	0.08
PCO0003	0.57	0.32	0.07	0.03
PCO0004	0.32	0.45	0.17	0.06
PCO0005	0.15	0.23	0.24	0.39
PCO0006	0.23	0.44	0.25	0.08
PCO0007	0.19	0.27	0.3	0.24
PCO0008	0.19	0.5	0.23	0.07
PCO0009	0.4	0.39	0.15	0.06
PCO0010	0.5	0.37	0.09	0.04
PCO0011	0.17	0.24	0.36	0.23
PCO0012	0.1	0.28	0.4	0.21
PCO0013	0.31	0.42	0.19	0.09
PCO0014	0.46	0.36	0.12	0.05
PCO0015	0.47	0.35	0.12	0.06
PCO0016	0.35	0.31	0.22	0.11
PCO0017	0.38	0.39	0.16	0.07
PCO0018	0.39	0.41	0.15	0.04
PCO0019	0.13	0.3	0.37	0.2
PCO0020	0.51	0.35	0.09	0.05
PCO0021	0.16	0.31	0.36	0.17
PCO0022	0.21	0.34	0.32	0.13
PCO0023	0.16	0.47	0.3	0.06
PCO0024	0.45	0.43	0.09	0.03
PCO0025	0.4	0.43	0.12	0.05
PCO0026	0.59	0.27	0.09	0.05
PCO0027	0.44	0.42	0.11	0.04
PCO0028	0.27	0.49	0.19	0.04
PCO0029	0.56	0.38	0.05	0.02
PCO0030	0.18	0.41	0.29	0.11
PCO0031	0.51	0.34	0.11	0.03
PCO0032	0.6	0.29	0.05	0.05

PCO0033	0.15	0.25	0.31	0.3
PCO0034	0.38	0.47	0.11	0.04
PCO0035	0.27	0.35	0.26	0.12
PCO0036	0.18	0.37	0.32	0.13
PCO0037	0.36	0.33	0.2	0.11
PCO0038	0.42	0.45	0.1	0.03
PCO0039	0.34	0.44	0.13	0.09
PCO0040	0.24	0.4	0.25	0.11
PCO0041	0.3	0.44	0.18	0.09
PCO0042	0.31	0.44	0.17	0.08
PCO0043	0.4	0.36	0.17	0.07
PCO0044	0.32	0.43	0.18	0.07
PCO0045	0.36	0.29	0.19	0.16

Table B2-22: Response frequencies for all items, Egypt model (Communication)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
PCO0001	0.39	0.46	0.11	0.04
PCO0002	0.16	0.35	0.4	0.08
PCO0003	0.61	0.28	0.07	0.04
PCO0004	0.39	0.4	0.15	0.07
PCO0005	0.17	0.22	0.24	0.37
PCO0006	0.26	0.38	0.26	0.09
PCO0007	0.2	0.26	0.31	0.23
PCO0008	0.22	0.48	0.22	0.08
PCO0009	0.38	0.41	0.15	0.06
PCO0010	0.53	0.34	0.09	0.04
PCO0011	0.21	0.22	0.33	0.24
PCO0012	0.1	0.23	0.42	0.25
PCO0013	0.39	0.38	0.15	0.09
PCO0014	0.52	0.33	0.1	0.06
PCO0015	0.52	0.3	0.1	0.07
PCO0016	0.37	0.29	0.2	0.13
PCO0017	0.34	0.43	0.13	0.1
PCO0018	0.33	0.48	0.14	0.05
PCO0019	0.12	0.24	0.43	0.21
PCO0020	0.42	0.42	0.08	0.07

PCO0021	0.19	0.39	0.26	0.17
PCO0022	0.16	0.26	0.45	0.13
PCO0023	0.19	0.39	0.36	0.06
PCO0024	0.54	0.35	0.09	0.03
PCO0025	0.49	0.38	0.09	0.03
PCO0026	0.62	0.21	0.1	0.06
PCO0027	0.45	0.39	0.11	0.05
PCO0028	0.33	0.44	0.18	0.05
PCO0029	0.62	0.33	0.03	0.02
PCO0030	0.21	0.4	0.26	0.13
PCO0031	0.56	0.3	0.1	0.03
PCO0032	0.64	0.24	0.06	0.07
PCO0033	0.15	0.22	0.32	0.31
PCO0034	0.44	0.44	0.07	0.04
PCO0035	0.28	0.33	0.27	0.12
PCO0036	0.17	0.34	0.35	0.14
PCO0037	0.37	0.28	0.21	0.14
PCO0038	0.53	0.33	0.11	0.03
PCO0039	0.45	0.38	0.1	0.07
PCO0040	0.26	0.33	0.25	0.16
PCO0041	0.3	0.44	0.17	0.09
PCO0042	0.34	0.4	0.16	0.1
PCO0043	0.48	0.31	0.13	0.08
PCO0044	0.37	0.41	0.15	0.07
PCO0045	0.37	0.26	0.2	0.16

Table B2-23: Response frequencies for all items, Palestine model (Communication)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
PCO0001	0.2	0.54	0.2	0.05
PCO0002	0.13	0.43	0.36	0.08
PCO0003	0.54	0.35	0.08	0.02
PCO0004	0.25	0.48	0.21	0.05
PCO0005	0.07	0.21	0.27	0.45
PCO0006	0.2	0.45	0.26	0.09
PCO0007	0.2	0.27	0.29	0.23
PCO0008	0.15	0.52	0.26	0.07

PCO0009	0.38	0.35	0.19	0.08
PCO0010	0.42	0.4	0.1	0.08
PCO0011	0.12	0.23	0.43	0.22
PCO0012	0.09	0.31	0.42	0.18
PCO0013	0.25	0.42	0.24	0.08
PCO0014	0.37	0.42	0.15	0.07
PCO0015	0.38	0.38	0.18	0.05
PCO0016	0.29	0.36	0.27	0.09
PCO0017	0.41	0.33	0.18	0.07
PCO0018	0.41	0.4	0.15	0.04
PCO0019	0.1	0.32	0.34	0.23
PCO0020	0.59	0.29	0.09	0.03
PCO0021	0.16	0.26	0.42	0.16
PCO0022	0.21	0.4	0.25	0.13
PCO0023	0.14	0.53	0.26	0.06
PCO0024	0.38	0.48	0.11	0.03
PCO0025	0.33	0.51	0.1	0.06
PCO0026	0.53	0.34	0.09	0.04
PCO0027	0.37	0.47	0.13	0.03
PCO0028	0.26	0.52	0.18	0.04
PCO0029	0.48	0.46	0.05	0.01
PCO0030	0.2	0.44	0.28	0.07
PCO0031	0.43	0.41	0.14	0.03
PCO0032	0.58	0.3	0.05	0.06
PCO0033	0.14	0.29	0.28	0.29
PCO0034	0.31	0.5	0.14	0.05
PCO0035	0.23	0.35	0.29	0.13
PCO0036	0.15	0.41	0.34	0.1
PCO0037	0.29	0.38	0.2	0.13
PCO0038	0.32	0.55	0.1	0.03
PCO0039	0.27	0.48	0.15	0.1
PCO0040	0.16	0.43	0.31	0.1
PCO0041	0.29	0.45	0.19	0.06
PCO0042	0.26	0.46	0.2	0.07
PCO0043	0.27	0.43	0.23	0.08
PCO0044	0.24	0.49	0.21	0.06
PCO0045	0.3	0.32	0.19	0.18

Table B2-24: Response frequencies for all items, Tunisia model (Communication)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PCO0001	0.25	0.52	0.16	0.07
PCO0002	0.14	0.41	0.37	0.08
PCO0003	0.56	0.33	0.07	0.04
PCO0004	0.29	0.49	0.16	0.05
PCO0005	0.18	0.25	0.22	0.34
PCO0006	0.21	0.5	0.23	0.05
PCO0007	0.16	0.27	0.3	0.27
PCO0008	0.21	0.52	0.22	0.05
PCO0009	0.44	0.38	0.13	0.05
PCO0010	0.53	0.38	0.07	0.02
PCO0011	0.18	0.29	0.32	0.22
PCO0012	0.12	0.32	0.38	0.18
PCO0013	0.27	0.46	0.18	0.09
PCO0014	0.49	0.36	0.12	0.04
PCO0015	0.48	0.38	0.09	0.05
PCO0016	0.39	0.3	0.21	0.1
PCO0017	0.41	0.39	0.16	0.03
PCO0018	0.47	0.33	0.17	0.03
PCO0019	0.17	0.35	0.31	0.17
PCO0020	0.53	0.31	0.1	0.05
PCO0021	0.13	0.26	0.42	0.19
PCO0022	0.27	0.38	0.22	0.13
PCO0023	0.14	0.53	0.27	0.06
PCO0024	0.4	0.49	0.08	0.03
PCO0025	0.36	0.42	0.17	0.05
PCO0026	0.59	0.29	0.07	0.05
PCO0027	0.49	0.4	0.08	0.03
PCO0028	0.22	0.53	0.21	0.04
PCO0029	0.56	0.36	0.06	0.02
PCO0030	0.14	0.4	0.34	0.12
PCO0031	0.53	0.34	0.1	0.03
PCO0032	0.58	0.34	0.05	0.03
PCO0033	0.16	0.24	0.32	0.28
PCO0034	0.36	0.48	0.12	0.04
PCO0035	0.3	0.37	0.22	0.12

PCO0036	0.22	0.37	0.27	0.14
PCO0037	0.42	0.33	0.18	0.07
PCO0038	0.38	0.51	0.07	0.04
PCO0039	0.27	0.47	0.17	0.09
PCO0040	0.27	0.48	0.18	0.07
PCO0041	0.3	0.42	0.17	0.1
PCO0042	0.32	0.45	0.17	0.06
PCO0043	0.4	0.37	0.16	0.06
PCO0044	0.32	0.41	0.18	0.09
PCO0045	0.41	0.29	0.16	0.14

Table B2-25: Descriptive statistics for all items, pooled model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	1413	2	2	1
PCO0002	1407	2	2	1
PCO0003	1408	1	1	1
PCO0004	1413	2	2	1
PCO0005	1413	3	4	2
PCO0006	1408	2	2	1
PCO0007	1407	3	3	1
PCO0008	1406	2	2	1
PCO0009	1412	2	1	1
PCO0010	1411	2	1	1
PCO0011	1409	3	3	1
PCO0012	1410	3	3	1
PCO0013	1407	2	2	2
PCO0014	1405	2	1	1
PCO0015	1406	2	1	1
PCO0016	1406	2	1	2
PCO0017	1406	2	2	1
PCO0018	1407	2	2	1
PCO0019	1404	3	3	1
PCO0020	1408	1	1	1
PCO0021	1401	3	3	1
PCO0022	1406	2	2	1
PCO0023	1398	2	2	1

PCO0024	1408	2	1	1
PCO0025	1406	2	2	1
PCO0026	1410	1	1	1
PCO0027	1413	2	1	1
PCO0028	1409	2	2	1
PCO0029	1397	1	1	1
PCO0030	1388	2	2	1
PCO0031	1413	1	1	1
PCO0032	1413	1	1	1
PCO0033	1392	3	3	2
PCO0034	1392	2	2	1
PCO0035	1394	2	2	2
PCO0036	1385	2	2	1
PCO0037	1392	2	1	2
PCO0038	1394	2	2	1
PCO0039	1393	2	2	1
PCO0040	1392	2	2	1
PCO0041	1388	2	2	2
PCO0042	1385	2	2	2
PCO0043	1384	2	1	1
PCO0044	1388	2	2	1
PCO0045	1389	2	1	2

Table B2-26: Descriptive statistics for all items, Egypt model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	563	2	2	1
PCO0002	561	2	3	1
PCO0003	560	1	1	1
PCO0004	563	2	2	1
PCO0005	564	3	4	2
PCO0006	560	2	2	2
PCO0007	561	3	3	1
PCO0008	561	2	2	1
PCO0009	563	2	2	1
PCO0010	562	1	1	1
PCO0011	561	3	3	1

PCO0012	563	3	3	2
PCO0013	562	2	1	1
PCO0014	560	1	1	1
PCO0015	563	1	1	1
PCO0016	563	2	1	2
PCO0017	558	2	2	1
PCO0018	559	2	2	1
PCO0019	559	3	3	1
PCO0020	557	2	1	1
PCO0021	556	2	2	1
PCO0022	557	3	3	1
PCO0023	560	2	2	1
PCO0024	561	1	1	1
PCO0025	563	2	1	1
PCO0026	562	1	1	1
PCO0027	563	2	1	1
PCO0028	562	2	2	1
PCO0029	563	1	1	1
PCO0030	561	2	2	1
PCO0031	564	1	1	1
PCO0032	564	1	1	1
PCO0033	562	3	3	2
PCO0034	562	2	1	1
PCO0035	562	2	2	2
PCO0036	557	2	3	1
PCO0037	563	2	1	2
PCO0038	563	1	1	1
PCO0039	563	2	1	1
PCO0040	560	2	2	2
PCO0041	560	2	2	2
PCO0042	558	2	2	2
PCO0043	558	2	1	1
PCO0044	558	2	2	1
PCO0045	558	2	1	2

Table B2-27: Descriptive statistics for all items, Palestine model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	405	2	2	1
PCO0002	404	2	2	1
PCO0003	404	1	1	1
PCO0004	409	2	2	2
PCO0005	410	3	4	2
PCO0006	405	2	2	1
PCO0007	402	3	3	1
PCO0008	406	2	2	1
PCO0009	409	2	1	2
PCO0010	410	2	1	1
PCO0011	407	3	3	1
PCO0012	407	3	3	1
PCO0013	407	2	2	2
PCO0014	407	2	2	1
PCO0015	403	2	1	1
PCO0016	403	2	2	2
PCO0017	405	2	1	2
PCO0018	404	2	1	1
PCO0019	403	3	3	1
PCO0020	406	1	1	1
PCO0021	402	3	3	1
PCO0022	404	2	2	1
PCO0023	402	2	2	1
PCO0024	405	2	2	1
PCO0025	402	2	2	1
PCO0026	404	1	1	1
PCO0027	410	2	2	1
PCO0028	409	2	2	1
PCO0029	400	2	1	1
PCO0030	399	2	2	1
PCO0031	410	2	1	1
PCO0032	410	1	1	1
PCO0033	398	3	2	2
PCO0034	397	2	2	1

PCO0035	398	2	2	1
PCO0036	396	2	2	1
PCO0037	395	2	2	2
PCO0038	397	2	2	1
PCO0039	397	2	2	1
PCO0040	399	2	2	1
PCO0041	395	2	2	2
PCO0042	396	2	2	2
PCO0043	395	2	2	2
PCO0044	398	2	2	1
PCO0045	397	2	2	2

Table B2-28: Descriptive statistics for all items, Tunisia model (Communication)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PCO0001	445	2	2	1
PCO0002	442	2	2	1
PCO0003	444	1	1	1
PCO0004	441	2	2	1
PCO0005	439	3	4	2
PCO0006	443	2	2	1
PCO0007	444	3	3	2
PCO0008	439	2	2	1
PCO0009	440	2	1	1
PCO0010	439	1	1	1
PCO0011	441	3	3	1
PCO0012	440	3	3	1
PCO0013	438	2	2	2
PCO0014	438	2	1	1
PCO0015	440	2	1	1
PCO0016	440	2	1	2
PCO0017	443	2	1	1
PCO0018	444	2	1	1
PCO0019	442	2	2	1
PCO0020	445	1	1	1
PCO0021	443	3	3	1
PCO0022	445	2	2	2

PCO0023	436	2	2	1
PCO0024	442	2	2	1
PCO0025	441	2	2	1
PCO0026	444	1	1	1
PCO0027	440	2	1	1
PCO0028	438	2	2	0.75
PCO0029	434	1	1	1
PCO0030	428	2	2	1
PCO0031	439	1	1	1
PCO0032	439	1	1	1
PCO0033	432	3	3	2
PCO0034	433	2	2	1
PCO0035	434	2	2	2
PCO0036	432	2	2	1
PCO0037	434	2	1	1.75
PCO0038	434	2	2	1
PCO0039	433	2	2	2
PCO0040	433	2	2	2
PCO0041	433	2	2	2
PCO0042	431	2	2	1
PCO0043	431	2	1	1
PCO0044	432	2	2	2
PCO0045	434	2	1	2

Table B2-29: IRT statistics – pooled model, 45-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.57	-1.64	2.54	5.27	0.1	3.47	59.89	26	0
PCO0002	0.18	-9.83	0.93	13.71	0.01	-1.18	47.04	26	0.01
PCO0003	0.61	0.53	3.67	5.7	0.11	4.07	55.48	26	0
PCO0004	0.62	-1.31	2.13	4.76	0.11	2.86	43.94	26	0.02
PCO0005	0	1373.23	407	-357.95	0	6	81.03	26	0
PCO0006	0.28	-4.33	2.54	8.84	0.02	3.23	69.61	26	0
PCO0007	0.15	-9.62	-1.17	7.54	0.01	-1.18	69.62	26	0
PCO0008	0.67	-2.31	1.38	4.23	0.13	2.14	29.57	26	0.29
PCO0009	0.83	-0.56	1.75	3.59	0.21	2.14	37.72	26	0.06

PCO0010	1.17	0.01	1.98	3.12	0.42	2.32	45.38	26	0.01
PCO0011	0.04	-38.31	-8.23	29.97	0	-6	44.65	26	0.01
PCO0012	-0.45	4.99	1.13	-3.06	0.06	1.54	54.13	26	0
PCO0013	0.87	-1.05	1.31	3.05	0.23	1.78	39.52	26	0.04
PCO0014	1.28	-0.14	1.56	2.73	0.49	1.9	53.23	26	0
PCO0015	1.26	-0.11	1.52	2.68	0.48	1.84	36.71	26	0.08
PCO0016	0.62	-1.01	1.23	3.56	0.12	1.24	37.29	26	0.07
PCO0017	0.87	-0.64	1.6	3.26	0.23	1.96	38.61	26	0.05
PCO0018	0.67	-0.71	2.3	5.02	0.14	2.62	40.45	26	0.04
PCO0019	-0.3	6.34	0.97	-4.55	0.03	1.12	42.37	26	0.02
PCO0020	0.69	0.03	2.77	4.48	0.15	3.05	33.19	26	0.16
PCO0021	0.32	-5.15	-0.29	5.02	0.03	-0.69	48.52	26	0
PCO0022	0.15	-8.57	1.27	12.15	0.01	0.51	26.34	26	0.44
PCO0023	0.33	-5.09	1.78	8.5	0.03	1.9	36.39	26	0.08
PCO0024	1.07	-0.25	2.22	3.82	0.34	2.8	55.69	26	0
PCO0025	0.75	-0.59	2.36	4.35	0.17	2.98	61.79	26	0
PCO0026	1.11	0.4	1.96	3	0.38	2.08	61.9	26	0
PCO0027	1	-0.27	2.11	3.7	0.3	2.62	61.89	26	0
PCO0028	0.71	-1.51	1.82	4.65	0.15	2.32	46.18	26	0.01
PCO0029	1.17	0.29	2.78	4.05	0.41	3.29	63	26	0
PCO0030	0.19	-7.85	2.18	10.98	0.01	3.53	51.72	26	0
PCO0031	1.29	0.06	1.76	3.19	0.49	2.08	46.72	26	0.01
PCO0032	1.02	0.52	2.45	3.26	0.31	2.44	43.61	26	0.02
PCO0033	0.05	-32.2	-7.71	16.1	0	-6	47.78	26	0.01
PCO0034	0.82	-0.69	2.39	4.17	0.2	3.05	75.44	26	0
PCO0035	0.29	-3.46	1.7	6.87	0.03	1.72	33.08	26	0.16
PCO0036	0.34	-4.44	0.68	5.75	0.04	0.69	51.93	26	0
PCO0037	0.55	-1.07	1.55	3.93	0.09	1.6	74.2	26	0
PCO0038	1.24	-0.31	1.93	3.24	0.46	2.44	67.47	26	0
PCO0039	0.57	-1.24	2.38	4.42	0.1	2.86	56.4	26	0
PCO0040	0.46	-2.66	1.32	4.63	0.06	1.9	43.5	26	0.02
PCO0041	0.61	-1.53	1.84	4.18	0.11	2.44	41.91	26	0.03
PCO0042	0.47	-1.77	2.39	5.29	0.07	3.05	35.05	26	0.11
PCO0043	0.8	-0.58	1.63	3.49	0.2	1.9	65.14	26	0
PCO0044	0.77	-1.1	1.62	3.62	0.18	2.14	40.88	26	0.03
PCO0045	0.63	-0.95	1.13	2.84	0.12	1.06	53.26	26	0

Table B2-30: IRT statistics – Egypt model, 45-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.28	-1.63	6.41	11.4	0.02	6	43.48	26	0.02
PCO0002	-0.17	9.66	-0.36	-14.31	0.01	2.92	22.2	26	0.68
PCO0003	0.78	0.62	2.92	4.4	0.19	3.11	38.19	26	0.06
PCO0004	0.23	-2.04	5.86	11.66	0.02	6	23.83	26	0.59
PCO0005	0.07	-22.76	-6.43	7.64	0	-6	46.92	26	0.01
PCO0006	0.04	-27.15	16.2	60.98	0	6	44.05	26	0.01
PCO0007	-0.19	7.23	0.91	-6.37	0.01	0.87	52.04	26	0
PCO0008	0.57	-2.39	1.55	4.53	0.1	2.44	48.11	26	0.01
PCO0009	0.73	-0.69	2.03	4.09	0.16	2.5	26.41	26	0.44
PCO0010	1.23	0.15	1.89	3.12	0.46	2.26	29.16	26	0.3
PCO0011	0.38	-3.55	-0.73	3.16	0.05	-0.63	23.94	26	0.58
PCO0012	-0.24	9.22	3.06	-4.48	0.02	4.07	48.66	26	0
PCO0013	0.66	-0.73	1.95	3.88	0.13	2.2	40.2	26	0.04
PCO0014	1.14	0.12	1.82	2.88	0.4	2.02	36.29	26	0.09
PCO0015	1.39	0.14	1.45	2.31	0.59	1.6	39.18	26	0.05
PCO0016	0.95	-0.56	0.88	2.27	0.28	0.87	23.63	26	0.6
PCO0017	1.76	-0.58	1	1.77	0.93	1.3	31.41	26	0.21
PCO0018	1.56	-0.66	1.29	2.46	0.72	1.78	47.27	26	0.01
PCO0019	-0.89	2.53	0.76	-1.68	0.24	1.3	51.49	26	0
PCO0020	1.27	-0.32	1.69	2.51	0.49	1.96	54.06	26	0
PCO0021	0.68	-2.35	0.53	2.61	0.14	0.99	45.72	26	0.01
PCO0022	-0.19	8.72	1.66	-9.86	0.01	3.77	33.92	26	0.14
PCO0023	0.23	-6.24	1.51	12.1	0.02	-0.99	39.66	26	0.04
PCO0024	0.86	0.19	2.68	4.56	0.22	3.17	28.47	26	0.34
PCO0025	0.67	-0.08	3.06	5.28	0.14	3.65	23.66	26	0.6
PCO0026	1.25	0.57	1.69	2.64	0.49	1.66	38.67	26	0.05
PCO0027	0.64	-0.28	2.86	4.9	0.12	3.35	37.13	26	0.07
PCO0028	0.5	-1.46	2.58	6.23	0.07	3.05	38.43	26	0.06
PCO0029	0.85	0.65	3.77	5.11	0.22	4.25	32.88	26	0.17
PCO0030	0.01	-90.75	30.11	126.13	0	6	35.46	26	0.1
PCO0031	1.5	0.27	1.64	2.85	0.67	1.84	32.78	26	0.17
PCO0032	1.4	0.58	1.81	2.41	0.6	1.78	42.48	26	0.02
PCO0033	-0.09	19.25	5.78	-8.85	0	5.7	43.18	26	0.02

PCO0034	0.35	-0.73	5.96	9.23	0.04	6	27.86	26	0.37
PCO0035	0.38	-2.63	1.18	5.36	0.04	0.99	18.37	26	0.86
PCO0036	0.47	-3.52	0.15	4.09	0.07	-0.15	33.13	26	0.16
PCO0037	0.62	-0.98	1.08	3.12	0.12	1.06	44.4	26	0.01
PCO0038	0.99	0.12	2.16	4.09	0.29	2.32	31.46	26	0.21
PCO0039	0.5	-0.49	3.29	5.39	0.08	3.53	31.8	26	0.2
PCO0040	0.85	-1.44	0.51	2.26	0.22	0.63	28.87	26	0.32
PCO0041	0.32	-2.85	3.28	7.45	0.03	4.19	26.86	26	0.42
PCO0042	0.36	-1.99	3.01	6.18	0.04	3.35	28.69	26	0.33
PCO0043	0.79	-0.16	1.87	3.37	0.2	1.96	34.16	26	0.13
PCO0044	0.52	-1.11	2.65	5.32	0.08	3.23	35.09	26	0.11
PCO0045	0.72	-0.85	0.86	2.49	0.16	0.87	48.24	26	0.01

Table B2-31: IRT statistics – Palestine model, 45-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.65	-2.28	1.75	4.67	0.12	2.68	60.76	26	0
PCO0002	0.5	-3.97	0.54	5.15	0.07	0.45	31.93	26	0.2
PCO0003	0.52	0.36	4.35	7.77	0.08	5.04	45.99	26	0.01
PCO0004	0.8	-1.5	1.45	3.92	0.19	1.9	46.26	26	0.01
PCO0005	-0.47	5.89	2.13	-0.44	0.07	1.84	40.26	26	0.04
PCO0006	0.28	-5.04	2.26	8.5	0.02	3.47	21.74	26	0.7
PCO0007	0.45	-3.24	-0.23	2.77	0.06	-0.21	39.06	26	0.05
PCO0008	0.59	-3.15	1.28	4.64	0.1	2.2	30.32	26	0.25
PCO0009	0.86	-0.67	1.31	3.09	0.23	1.48	38.13	26	0.06
PCO0010	1.16	-0.32	1.64	2.59	0.4	1.9	23.21	26	0.62
PCO0011	-0.54	4.02	1.32	-2.43	0.09	2.02	34.95	26	0.11
PCO0012	-0.8	3.16	0.57	-2.13	0.19	0.69	20.81	26	0.75
PCO0013	1.05	-1.23	0.85	2.64	0.33	1.18	28.38	26	0.34
PCO0014	1.47	-0.52	1.19	2.33	0.64	1.6	32.54	26	0.18
PCO0015	1.04	-0.56	1.36	3.17	0.32	1.48	22.68	26	0.65
PCO0016	0.29	-3.19	2.12	8.1	0.03	1.6	37.01	26	0.07
PCO0017	0.53	-0.69	2.17	4.97	0.09	2.2	27.99	26	0.36
PCO0018	0.43	-0.91	3.47	7.71	0.06	3.65	28.74	26	0.32
PCO0019	0.02	-131.88	-18.83	71.17	0	-1.42	28.48	26	0.34
PCO0020	0.42	0.91	4.85	8.58	0.05	5.04	18.5	26	0.86

PCO0021	0.02	-82.87	-15.84	85.66	0	-6	29.22	26	0.3
PCO0022	0.4	-3.35	1.19	4.79	0.05	1.78	25.08	26	0.51
PCO0023	0.53	-3.63	1.45	5.28	0.08	2.5	34.79	26	0.12
PCO0024	1.13	-0.57	1.96	3.7	0.37	2.56	46.19	26	0.01
PCO0025	0.79	-1.01	2.31	3.85	0.19	2.86	36.88	26	0.08
PCO0026	0.82	0.17	2.56	4.07	0.21	2.86	37.09	26	0.07
PCO0027	1.36	-0.51	1.57	3.1	0.53	1.96	50.86	26	0
PCO0028	0.89	-1.39	1.58	3.86	0.23	2.14	36	26	0.09
PCO0029	1.15	-0.09	2.76	4.19	0.39	3.41	43.13	26	0.02
PCO0030	0.51	-2.76	1.28	5.17	0.08	1.42	18.02	26	0.87
PCO0031	1.08	-0.32	1.8	3.69	0.34	2.02	26.42	26	0.44
PCO0032	0.8	0.47	2.82	3.73	0.2	2.68	12.44	26	0.99
PCO0033	0.15	-12.14	-1.87	5.97	0.01	-1.6	25.91	26	0.47
PCO0034	0.86	-1.05	1.98	3.87	0.22	2.68	38.16	26	0.06
PCO0035	0.12	-10.27	2.54	15.64	0	2.38	32.62	26	0.17
PCO0036	-0.07	23.76	-3.35	-30.44	0	-3.41	27.42	26	0.39
PCO0037	0.32	-2.91	2.33	6.21	0.03	2.62	36	26	0.09
PCO0038	1.03	-0.86	2.15	3.81	0.31	2.86	37.84	26	0.06
PCO0039	0.52	-2.02	2.3	4.47	0.08	2.86	60.56	26	0
PCO0040	0.06	-27.23	5.99	36.51	0	6	35.77	26	0.1
PCO0041	0.88	-1.15	1.4	3.47	0.23	1.9	27.47	26	0.39
PCO0042	0.6	-1.85	1.77	4.49	0.11	2.5	24.25	26	0.56
PCO0043	0.61	-1.7	1.5	4.34	0.11	1.9	17.36	26	0.9
PCO0044	0.55	-2.23	1.92	5.24	0.09	2.8	35.06	26	0.11
PCO0045	0.43	-1.98	1.27	3.6	0.06	1.12	39.99	26	0.04

Table B2-32: IRT statistics – Tunisia model, 45-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.86	-1.46	1.67	3.44	0.22	2.38	52.76	26	0
PCO0002	0.31	-5.79	0.64	7.78	0.03	-0.09	29.98	26	0.27
PCO0003	0.46	0.57	4.84	7.12	0.06	5.16	41.35	26	0.03
PCO0004	0.79	-1.23	1.86	4.08	0.19	2.62	53.15	26	0
PCO0005	0.19	-7.77	-1.32	3.43	0.01	-1.84	34.48	26	0.12
PCO0006	0.55	-2.56	1.78	5.59	0.09	2.26	55.55	26	0
PCO0007	0.32	-5.29	-0.89	3.2	0.03	-0.87	38.16	26	0.06
PCO0008	0.78	-1.91	1.44	4.26	0.17	1.84	22.69	26	0.65

PCO0009	0.76	-0.35	2.23	4.26	0.18	2.68	19.09	26	0.83
PCO0010	0.93	0.18	2.88	4.53	0.26	3.47	24.52	26	0.55
PCO0011	0.1	-15.81	-1.41	13.49	0	-1.54	41.72	26	0.03
PCO0012	-0.3	6.73	0.88	-5.03	0.03	0.93	32.66	26	0.17
PCO0013	0.85	-1.36	1.37	3.06	0.22	1.96	20.71	26	0.76
PCO0014	1.23	-0.06	1.72	3.12	0.45	2.08	30.69	26	0.24
PCO0015	1.28	-0.09	1.82	2.9	0.5	2.2	22.6	26	0.66
PCO0016	0.65	-0.71	1.37	3.59	0.13	1.36	20.49	26	0.77
PCO0017	0.54	-0.72	2.78	6.44	0.09	2.56	25.19	26	0.51
PCO0018	0.26	-0.51	5.45	13.72	0.02	3.77	41.15	26	0.03
PCO0019	0.02	-71.59	4.11	73.01	0	6	33.57	26	0.15
PCO0020	0.54	0.24	3.29	5.57	0.09	3.47	31.22	26	0.22
PCO0021	0.21	-9.17	-2.03	7.25	0.01	-3.53	36.64	26	0.08
PCO0022	0.42	-2.44	1.54	4.6	0.05	1.78	23.24	26	0.62
PCO0023	0.29	-6.28	2.56	9.79	0.02	3.83	29.38	26	0.29
PCO0024	0.98	-0.51	2.5	4.08	0.28	3.17	50.66	26	0
PCO0025	0.62	-1.01	2.15	4.9	0.12	2.62	47.51	26	0.01
PCO0026	1.01	0.41	2.26	3.25	0.31	2.32	32.41	26	0.18
PCO0027	1.35	-0.05	2.02	3.36	0.54	2.56	27.73	26	0.37
PCO0028	0.8	-1.83	1.54	4.43	0.18	1.84	37.36	26	0.07
PCO0029	1.42	0.28	2.3	3.56	0.59	2.8	53.36	26	0
PCO0030	0.24	-7.56	0.74	8.28	0.02	1.66	26.31	26	0.45
PCO0031	1.26	0.09	1.89	3.23	0.48	2.26	26.6	26	0.43
PCO0032	0.88	0.46	3.21	4.41	0.23	3.59	26.62	26	0.43
PCO0033	0.36	-4.72	-1.08	2.8	0.04	-1.06	29.63	26	0.28
PCO0034	1.27	-0.56	1.68	3.05	0.47	2.2	36.53	26	0.08
PCO0035	0.37	-2.32	1.99	5.68	0.04	2.2	19.74	26	0.8
PCO0036	0.71	-1.88	0.64	2.83	0.15	0.93	32.82	26	0.17
PCO0037	0.66	-0.47	1.82	4.25	0.14	1.72	25.54	26	0.49
PCO0038	1.39	-0.45	1.92	2.77	0.58	2.26	39.29	26	0.05
PCO0039	0.58	-1.85	1.96	4.23	0.1	2.62	26.49	26	0.44
PCO0040	0.25	-4.13	4.45	10.43	0.02	6	24.96	26	0.52
PCO0041	0.88	-1.03	1.34	2.83	0.23	1.72	35.85	26	0.09
PCO0042	0.46	-1.68	2.73	6.04	0.07	3.59	28.04	26	0.36
PCO0043	0.69	-0.6	1.99	4.28	0.14	2.26	27.14	26	0.4
PCO0044	1.1	-0.8	1.13	2.52	0.36	1.54	31.13	26	0.22
PCO0045	0.69	-0.55	1.41	2.88	0.15	1.3	31.13	26	0.22

Table B2-33: IRT statistics – pooled model, 30-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.75	-1.31	2.02	4.17	0.17	2.8	66.76	26	0
PCO0002	0.32	-5.62	0.54	7.82	0.03	-0.63	38.25	26	0.06
PCO0003	0.66	0.5	3.42	5.3	0.13	3.83	57.57	26	0
PCO0004	0.67	-1.24	2	4.45	0.13	2.68	60.67	26	0
PCO0006	0.36	-3.44	2.03	7.03	0.04	2.62	48.39	26	0
PCO0008	0.68	-2.28	1.35	4.15	0.14	2.14	25.13	26	0.51
PCO0009	0.85	-0.56	1.72	3.53	0.22	2.08	43.35	26	0.02
PCO0010	1.16	-0.01	2	3.16	0.4	2.38	49.32	26	0
PCO0013	0.89	-1.04	1.28	2.99	0.24	1.72	35.2	26	0.11
PCO0014	1.22	-0.16	1.6	2.81	0.45	1.96	48.73	26	0
PCO0015	1.24	-0.13	1.54	2.72	0.46	1.84	49.91	26	0
PCO0016	0.56	-1.13	1.34	3.93	0.1	1.3	47.05	26	0.01
PCO0024	1.06	-0.25	2.23	3.84	0.34	2.86	69.53	26	0
PCO0025	0.8	-0.55	2.22	4.09	0.2	2.8	42.12	26	0.02
PCO0026	0.94	0.45	2.22	3.42	0.27	2.26	56.59	26	0
PCO0027	1	-0.29	2.11	3.72	0.3	2.68	56.05	26	0
PCO0028	0.76	-1.44	1.71	4.37	0.17	2.14	41.4	26	0.03
PCO0029	1.25	0.29	2.68	3.87	0.46	3.17	70.87	26	0
PCO0031	1.3	0.05	1.76	3.18	0.5	2.08	57.88	26	0
PCO0032	0.92	0.55	2.65	3.54	0.25	2.62	39.23	26	0.05
PCO0034	1.01	-0.57	2.05	3.54	0.3	2.62	78.63	26	0
PCO0035	0.21	-4.64	2.29	9.26	0.01	2.26	31.33	26	0.22
PCO0037	0.41	-1.39	2.02	5.16	0.05	2.02	60.9	26	0
PCO0038	1.22	-0.3	1.96	3.29	0.44	2.5	70.49	26	0
PCO0039	0.62	-1.13	2.21	4.08	0.12	2.62	44.81	26	0.01
PCO0041	0.72	-1.3	1.59	3.58	0.16	2.14	43.54	26	0.02
PCO0042	0.56	-1.51	2.08	4.56	0.09	2.68	40.37	26	0.04
PCO0043	0.83	-0.55	1.59	3.39	0.21	1.84	54.4	26	0
PCO0044	0.84	-1.01	1.52	3.37	0.21	2.02	48.07	26	0.01
PCO0045	0.45	-1.26	1.5	3.79	0.06	1.36	59.95	26	0

Table B2-34: IRT statistics – Egypt model, 30-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.54	-0.86	3.37	5.94	0.09	4.19	25.57	26	0.49
PCO0002	0.15	-11.25	0.45	16.73	0.01	-3.35	29.85	26	0.27
PCO0003	0.89	0.57	2.63	3.93	0.24	2.8	43.17	26	0.02
PCO0004	0.41	-1.17	3.26	6.46	0.05	3.83	28.12	26	0.35
PCO0006	0.27	-3.88	2.35	8.75	0.02	2.2	34.17	26	0.13
PCO0008	0.62	-2.29	1.42	4.19	0.11	2.26	31.97	26	0.19
PCO0009	0.87	-0.64	1.76	3.52	0.23	2.26	30.64	26	0.24
PCO0010	1.28	0.1	1.85	3.06	0.49	2.2	26.44	26	0.44
PCO0013	0.79	-0.67	1.65	3.29	0.19	1.9	32.99	26	0.16
PCO0014	1.07	0.08	1.89	3.02	0.35	2.14	37.67	26	0.06
PCO0015	1.38	0.1	1.47	2.35	0.58	1.6	31.17	26	0.22
PCO0016	0.69	-0.81	1.08	2.95	0.15	1.06	31.2	26	0.22
PCO0024	1.1	0.17	2.23	3.73	0.36	2.68	41.21	26	0.03
PCO0025	0.93	-0.05	2.37	4.02	0.26	2.86	57.54	26	0
PCO0026	1.03	0.64	1.93	3.06	0.33	1.9	31.99	26	0.19
PCO0027	0.65	-0.32	2.8	4.81	0.13	3.29	24.85	26	0.53
PCO0028	0.6	-1.29	2.15	5.22	0.11	2.56	44.84	26	0.01
PCO0029	1.1	0.59	3.13	4.19	0.36	3.53	45.62	26	0.01
PCO0031	1.51	0.23	1.64	2.86	0.68	1.84	33.46	26	0.15
PCO0032	1.13	0.63	2.1	2.81	0.39	1.96	42.04	26	0.02
PCO0034	0.77	-0.33	2.94	4.46	0.18	3.47	33.53	26	0.15
PCO0035	0.21	-4.62	2.19	9.71	0.01	1.9	28.72	26	0.32
PCO0037	0.4	-1.39	1.66	4.74	0.05	1.66	37.92	26	0.06
PCO0038	1.15	0.16	1.97	3.66	0.39	2.08	38.59	26	0.05
PCO0039	0.56	-0.39	3	4.87	0.1	3.23	34.16	26	0.13
PCO0041	0.58	-1.6	1.89	4.22	0.1	2.5	37.33	26	0.07
PCO0042	0.55	-1.3	2.05	4.13	0.09	2.32	35.92	26	0.09
PCO0043	0.99	-0.09	1.61	2.84	0.3	1.72	34.07	26	0.13
PCO0044	0.76	-0.76	1.93	3.79	0.18	2.38	29.22	26	0.3
PCO0045	0.41	-1.3	1.45	4.15	0.05	1.42	34.97	26	0.11

Table B2-35: IRT statistics – Palestine model, 30-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.7	-2.14	1.65	4.37	0.14	2.56	72.47	26	0
PCO0002	0.52	-3.81	0.52	4.94	0.08	0.45	39.93	26	0.04
PCO0003	0.59	0.31	3.85	6.84	0.1	4.43	42.73	26	0.02
PCO0004	0.78	-1.54	1.48	4.01	0.18	1.96	41.78	26	0.03
PCO0006	0.29	-4.86	2.18	8.2	0.02	3.35	28.33	26	0.34
PCO0008	0.65	-2.9	1.18	4.26	0.12	2.02	23.37	26	0.61
PCO0009	0.9	-0.65	1.26	2.99	0.25	1.42	35.97	26	0.09
PCO0010	1.19	-0.32	1.61	2.55	0.43	1.9	23.11	26	0.63
PCO0013	1	-1.27	0.88	2.75	0.3	1.18	34.5	26	0.12
PCO0014	1.44	-0.53	1.2	2.37	0.62	1.6	40.91	26	0.03
PCO0015	1.02	-0.56	1.38	3.22	0.31	1.54	25.29	26	0.5
PCO0016	0.31	-2.98	1.98	7.53	0.03	1.48	42.61	26	0.02
PCO0024	1.07	-0.6	2.04	3.86	0.33	2.68	45.42	26	0.01
PCO0025	0.77	-1.04	2.37	3.96	0.18	2.92	38.45	26	0.05
PCO0026	0.77	0.17	2.69	4.3	0.18	2.98	24.02	26	0.57
PCO0027	1.3	-0.53	1.61	3.2	0.49	2.02	59.18	26	0
PCO0028	0.96	-1.31	1.48	3.63	0.27	1.96	42.31	26	0.02
PCO0029	1.16	-0.08	2.78	4.19	0.4	3.41	41.98	26	0.02
PCO0031	1.09	-0.32	1.79	3.67	0.35	2.02	29.49	26	0.29
PCO0032	0.8	0.47	2.83	3.75	0.19	2.74	22.62	26	0.65
PCO0034	0.92	-0.99	1.89	3.65	0.25	2.56	32.97	26	0.16
PCO0035	0.1	-12.84	3.19	19.57	0	2.92	36.57	26	0.08
PCO0037	0.23	-4.02	3.21	8.57	0.02	3.59	38.33	26	0.06
PCO0038	0.97	-0.9	2.27	4.02	0.28	3.05	33.93	26	0.14
PCO0039	0.57	-1.85	2.12	4.11	0.1	2.68	43.77	26	0.02
PCO0041	0.86	-1.18	1.44	3.55	0.22	1.96	42.67	26	0.02
PCO0042	0.59	-1.86	1.8	4.55	0.1	2.56	33.56	26	0.15
PCO0043	0.59	-1.76	1.55	4.51	0.1	1.96	24.82	26	0.53
PCO0044	0.57	-2.16	1.87	5.06	0.1	2.68	39.62	26	0.04
PCO0045	0.36	-2.36	1.51	4.28	0.04	1.3	34.28	26	0.13

Table B2-36: IRT statistics – Tunisia model, 30-item (Communication)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PCO0001	0.9	-1.41	1.6	3.31	0.24	2.26	48.3	26	0
PCO0002	0.38	-4.85	0.53	6.5	0.04	-0.03	34.66	26	0.12
PCO0003	0.49	0.53	4.52	6.64	0.07	4.85	19.89	26	0.8
PCO0004	0.82	-1.19	1.81	3.96	0.2	2.5	45.01	26	0.01
PCO0006	0.57	-2.48	1.73	5.43	0.09	2.2	35.18	26	0.11
PCO0008	0.77	-1.92	1.45	4.29	0.17	1.84	24.85	26	0.53
PCO0009	0.79	-0.34	2.18	4.16	0.19	2.62	23.17	26	0.62
PCO0010	0.93	0.18	2.89	4.54	0.26	3.47	22.94	26	0.64
PCO0013	0.87	-1.34	1.35	3.01	0.23	1.9	27.72	26	0.37
PCO0014	1.21	-0.06	1.75	3.16	0.43	2.14	29.68	26	0.28
PCO0015	1.26	-0.09	1.84	2.95	0.48	2.2	25.6	26	0.48
PCO0016	0.63	-0.73	1.42	3.71	0.12	1.42	23.82	26	0.59
PCO0024	0.97	-0.52	2.53	4.12	0.28	3.23	56.41	26	0
PCO0025	0.64	-1	2.1	4.78	0.12	2.56	37.47	26	0.07
PCO0026	0.92	0.43	2.42	3.5	0.26	2.5	25.52	26	0.49
PCO0027	1.38	-0.05	2	3.33	0.56	2.5	24.9	26	0.52
PCO0028	0.83	-1.77	1.49	4.28	0.19	1.78	22.21	26	0.68
PCO0029	1.47	0.27	2.27	3.49	0.64	2.74	33.67	26	0.14
PCO0031	1.26	0.1	1.89	3.23	0.48	2.32	24.94	26	0.52
PCO0032	0.83	0.48	3.36	4.62	0.21	3.71	33.09	26	0.16
PCO0034	1.27	-0.56	1.68	3.05	0.48	2.26	56.99	26	0
PCO0035	0.34	-2.55	2.18	6.23	0.03	2.44	20.15	26	0.78
PCO0037	0.57	-0.55	2.07	4.87	0.1	1.96	31.97	26	0.19
PCO0038	1.4	-0.46	1.92	2.77	0.58	2.26	34.14	26	0.13
PCO0039	0.6	-1.8	1.91	4.1	0.11	2.56	18.95	26	0.84
PCO0041	0.91	-0.99	1.3	2.74	0.25	1.66	38.1	26	0.06
PCO0042	0.51	-1.53	2.49	5.48	0.08	3.29	26.68	26	0.43
PCO0043	0.71	-0.59	1.94	4.19	0.15	2.2	29.11	26	0.31
PCO0044	1.06	-0.81	1.16	2.58	0.34	1.54	32.74	26	0.17
PCO0045	0.61	-0.62	1.56	3.2	0.11	1.42	32.01	26	0.19

SCALE STATISTICS

Table B2-37: Fit indices and reliability, 45-item model (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	3450.71	855	0	0.04	0.04	0.81	0.82	0.8
Egypt	1577.98	855	0	0.03	0.05	0.9	0.91	0.82
Palestine	1539.12	855	0	0.04	0.05	0.82	0.83	0.79
Tunisia	1492.35	855	0	0.03	0.05	0.84	0.85	0.81

Table B2-38: Fit indices and reliability, 30-item model (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	691.52	345	0	0.02	0.03	0.96	0.97	0.78
Egypt	509.71	345	0	0.02	0.04	0.96	0.96	0.76
Palestine	555.96	345	0	0.03	0.05	0.91	0.92	0.77
Tunisia	482.35	345	0	0.02	0.04	0.96	0.97	0.8

Table B2-39: Measurement invariance test, 45-item model (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	4674.18	2565	0	0.02	0.05	0.05	0.05	0.9	0.91
Metric model	5399.33	2655	0	0.02	0.06	0.06	0.05	0.86	0.86
Scalar model	5999.48	2921	0	0.02	0.06	0.06	0.05	0.86	0.85
Difference: Metric - Configural	725.15	90	0	0	0.01	0.01	0	-0.04	-0.04
Difference: Scalar - Metric	600.15	266	0	0	0	0	0	0	-0.01

Table B2-40: Measurement invariance test, 30-item model (Communication)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1584.14	1035	0	0.02	0.04	0.05	0.04	0.96	0.96
Metric model	1636.1	1095	0	0.02	0.05	0.05	0.04	0.96	0.96
Scalar model	2015.92	1271	0	0.02	0.05	0.05	0.04	0.95	0.94
Difference: Metric - Configural	51.96	60	0	0	0	0.01	0	0	0
Difference: Scalar - Metric	379.82	176	0	0	0	0	0	-0.01	-0.02

PERSONAL EMPOWERMENT: RESILIENCE
ITEM STATISTICS

Table B2-41: Response frequencies for all items, pooled model (Resilience)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PRS0001	0.59	0.35	0.05	0.02
PRS0002	0.48	0.43	0.07	0.02
PRS0003	0.22	0.61	0.15	0.02
PRS0004	0.25	0.33	0.26	0.17
PRS0005	0.37	0.5	0.09	0.03
PRS0006	0.55	0.34	0.09	0.02
PRS0007	0.17	0.39	0.27	0.17
PRS0008	0.35	0.37	0.18	0.1
PRS0009	0.38	0.42	0.14	0.06
PRS0010	0.21	0.27	0.29	0.23
PRS0011	0.35	0.42	0.16	0.07
PRS0012	0.34	0.48	0.13	0.05
PRS0013	0.46	0.32	0.13	0.09
PRS0014	0.64	0.28	0.06	0.02
PRS0015	0.27	0.35	0.26	0.12
PRS0016	0.58	0.31	0.07	0.04
PRS0017	0.29	0.3	0.28	0.13
PRS0018	0.51	0.38	0.08	0.03
PRS0019	0.28	0.45	0.21	0.07
PRS0020	0.41	0.4	0.12	0.07
PRS0021	0.42	0.41	0.12	0.05
PRS0022	0.55	0.34	0.08	0.04
PRS0023	0.44	0.41	0.12	0.03
PRS0024	0.34	0.52	0.1	0.03
PRS0025	0.47	0.36	0.12	0.05
PRS0026	0.26	0.47	0.2	0.07
PRS0027	0.43	0.41	0.11	0.05
PRS0028	0.36	0.35	0.21	0.08
PRS0029	0.38	0.4	0.14	0.09
PRS0030	0.63	0.3	0.05	0.02
PRS0031	0.31	0.47	0.14	0.08

PRS0032	0.3	0.48	0.16	0.06
PRS0033	0.36	0.47	0.14	0.04
PRS0034	0.24	0.29	0.29	0.18
PRS0035	0.36	0.44	0.14	0.06
PRS0036	0.18	0.31	0.27	0.24
PRS0037	0.27	0.41	0.19	0.13
PRS0038	0.34	0.45	0.14	0.07
PRS0039	0.45	0.35	0.13	0.07
PRS0040	0.38	0.45	0.13	0.04
PRS0041	0.49	0.4	0.07	0.04
PRS0042	0.19	0.38	0.3	0.13
PRS0043	0.44	0.31	0.17	0.08
PRS0044	0.48	0.29	0.15	0.09
PRS0045	0.45	0.34	0.13	0.08

Table B2-42: Response frequencies for all items, Egypt model (Resilience)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
PRS0001	0.63	0.29	0.05	0.02
PRS0002	0.55	0.35	0.07	0.02
PRS0003	0.27	0.56	0.14	0.03
PRS0004	0.26	0.32	0.23	0.19
PRS0005	0.45	0.42	0.08	0.04
PRS0006	0.55	0.33	0.09	0.03
PRS0007	0.2	0.35	0.28	0.17
PRS0008	0.35	0.34	0.18	0.13
PRS0009	0.49	0.37	0.1	0.03
PRS0010	0.23	0.26	0.29	0.23
PRS0011	0.4	0.42	0.12	0.06
PRS0012	0.41	0.43	0.12	0.05
PRS0013	0.41	0.32	0.16	0.11
PRS0014	0.65	0.25	0.07	0.03
PRS0015	0.27	0.33	0.27	0.13
PRS0016	0.64	0.26	0.07	0.04
PRS0017	0.29	0.28	0.26	0.18
PRS0018	0.52	0.36	0.09	0.03
PRS0019	0.31	0.41	0.2	0.09

PRS0020	0.46	0.39	0.09	0.06
PRS0021	0.44	0.38	0.12	0.06
PRS0022	0.54	0.34	0.08	0.04
PRS0023	0.49	0.37	0.11	0.03
PRS0024	0.37	0.48	0.11	0.03
PRS0025	0.49	0.32	0.13	0.06
PRS0026	0.32	0.44	0.16	0.08
PRS0027	0.42	0.35	0.14	0.08
PRS0028	0.41	0.29	0.21	0.1
PRS0029	0.47	0.35	0.11	0.07
PRS0030	0.66	0.26	0.05	0.02
PRS0031	0.36	0.43	0.13	0.08
PRS0032	0.34	0.45	0.15	0.06
PRS0033	0.41	0.42	0.12	0.04
PRS0034	0.21	0.24	0.3	0.25
PRS0035	0.37	0.43	0.16	0.04
PRS0036	0.24	0.35	0.24	0.18
PRS0037	0.33	0.45	0.13	0.1
PRS0038	0.39	0.4	0.14	0.07
PRS0039	0.48	0.34	0.11	0.07
PRS0040	0.42	0.39	0.12	0.06
PRS0041	0.46	0.43	0.08	0.03
PRS0042	0.2	0.32	0.31	0.17
PRS0043	0.45	0.29	0.16	0.1
PRS0044	0.44	0.27	0.17	0.12
PRS0045	0.41	0.35	0.14	0.1

Table B2-43: Response frequencies for all items, Palestine model (Resilience)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
PRS0001	0.51	0.43	0.05	0.01
PRS0002	0.39	0.5	0.08	0.03
PRS0003	0.19	0.64	0.15	0.02
PRS0004	0.28	0.38	0.24	0.11
PRS0005	0.29	0.56	0.11	0.04
PRS0006	0.55	0.36	0.07	0.01
PRS0007	0.12	0.37	0.3	0.2
PRS0008	0.32	0.4	0.19	0.09

PRS0009	0.28	0.43	0.2	0.09
PRS0010	0.22	0.32	0.29	0.17
PRS0011	0.3	0.44	0.19	0.07
PRS0012	0.28	0.52	0.14	0.06
PRS0013	0.43	0.33	0.16	0.08
PRS0014	0.59	0.33	0.06	0.02
PRS0015	0.2	0.34	0.33	0.13
PRS0016	0.56	0.32	0.07	0.05
PRS0017	0.24	0.32	0.33	0.1
PRS0018	0.53	0.36	0.07	0.03
PRS0019	0.27	0.45	0.23	0.05
PRS0020	0.34	0.44	0.15	0.07
PRS0021	0.37	0.46	0.13	0.04
PRS0022	0.53	0.37	0.07	0.03
PRS0023	0.4	0.45	0.13	0.03
PRS0024	0.31	0.54	0.12	0.04
PRS0025	0.42	0.39	0.14	0.04
PRS0026	0.22	0.49	0.23	0.05
PRS0027	0.44	0.45	0.09	0.03
PRS0028	0.32	0.41	0.2	0.07
PRS0029	0.33	0.44	0.14	0.1
PRS0030	0.58	0.35	0.05	0.02
PRS0031	0.29	0.54	0.11	0.07
PRS0032	0.29	0.48	0.17	0.06
PRS0033	0.32	0.48	0.15	0.06
PRS0034	0.23	0.33	0.31	0.13
PRS0035	0.31	0.47	0.14	0.08
PRS0036	0.13	0.29	0.3	0.29
PRS0037	0.25	0.4	0.22	0.13
PRS0038	0.29	0.51	0.15	0.05
PRS0039	0.39	0.37	0.17	0.07
PRS0040	0.36	0.49	0.12	0.03
PRS0041	0.53	0.36	0.07	0.05
PRS0042	0.18	0.44	0.31	0.07
PRS0043	0.42	0.31	0.19	0.08
PRS0044	0.5	0.28	0.15	0.08
PRS0045	0.41	0.39	0.15	0.05

Table B2-44: Response frequencies for all items, Tunisia model (Resilience)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
PRS0001	0.62	0.33	0.04	0.01
PRS0002	0.47	0.46	0.06	0.01
PRS0003	0.19	0.64	0.16	0.02
PRS0004	0.2	0.29	0.32	0.19
PRS0005	0.35	0.56	0.08	0.01
PRS0006	0.54	0.32	0.12	0.03
PRS0007	0.19	0.44	0.24	0.14
PRS0008	0.37	0.36	0.18	0.09
PRS0009	0.33	0.48	0.14	0.05
PRS0010	0.2	0.23	0.3	0.27
PRS0011	0.33	0.4	0.2	0.06
PRS0012	0.29	0.51	0.15	0.05
PRS0013	0.56	0.31	0.07	0.06
PRS0014	0.67	0.27	0.06	0
PRS0015	0.33	0.39	0.2	0.08
PRS0016	0.54	0.36	0.06	0.05
PRS0017	0.33	0.31	0.27	0.08
PRS0018	0.47	0.42	0.07	0.04
PRS0019	0.24	0.5	0.2	0.06
PRS0020	0.42	0.38	0.14	0.06
PRS0021	0.43	0.4	0.12	0.04
PRS0022	0.56	0.3	0.1	0.04
PRS0023	0.42	0.43	0.13	0.03
PRS0024	0.35	0.57	0.08	0.01
PRS0025	0.49	0.38	0.1	0.03
PRS0026	0.23	0.5	0.21	0.06
PRS0027	0.43	0.45	0.08	0.03
PRS0028	0.33	0.39	0.21	0.07
PRS0029	0.33	0.41	0.17	0.1
PRS0030	0.64	0.31	0.04	0.01
PRS0031	0.26	0.47	0.17	0.1
PRS0032	0.27	0.51	0.18	0.04
PRS0033	0.32	0.51	0.14	0.03
PRS0034	0.27	0.33	0.26	0.14

PRS0035	0.39	0.43	0.13	0.05
PRS0036	0.15	0.28	0.28	0.28
PRS0037	0.21	0.38	0.23	0.19
PRS0038	0.35	0.45	0.13	0.07
PRS0039	0.48	0.34	0.11	0.07
PRS0040	0.35	0.48	0.14	0.03
PRS0041	0.48	0.42	0.07	0.04
PRS0042	0.19	0.4	0.29	0.12
PRS0043	0.45	0.33	0.15	0.07
PRS0044	0.51	0.31	0.12	0.05
PRS0045	0.53	0.3	0.11	0.07

Table B2-45: Descriptive statistics for all items, pooled model (Resilience)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PRS0001	1411	1	1	1
PRS0002	1415	2	1	1
PRS0003	1405	2	2	0
PRS0004	1409	2	2	1
PRS0005	1417	2	2	1
PRS0006	1410	1	1	1
PRS0007	1407	2	2	1
PRS0008	1411	2	2	2
PRS0009	1412	2	2	1
PRS0010	1411	3	3	1
PRS0011	1411	2	2	1
PRS0012	1404	2	2	1
PRS0013	1406	2	1	1
PRS0014	1404	1	1	1
PRS0015	1404	2	2	2
PRS0016	1409	1	1	1
PRS0017	1415	2	2	2
PRS0018	1413	1	1	1
PRS0019	1411	2	2	2
PRS0020	1409	2	1	1
PRS0021	1411	2	1	1
PRS0022	1409	1	1	1

PRS0023	1400	2	1	1
PRS0024	1403	2	2	1
PRS0025	1405	2	1	1
PRS0026	1409	2	2	2
PRS0027	1413	2	1	1
PRS0028	1408	2	1	2
PRS0029	1411	2	2	1
PRS0030	1409	1	1	1
PRS0031	1410	2	2	1
PRS0032	1407	2	2	1
PRS0033	1411	2	2	1
PRS0034	1411	2	2	1
PRS0035	1407	2	2	1
PRS0036	1400	3	2	1
PRS0037	1409	2	2	2
PRS0038	1410	2	2	1
PRS0039	1411	2	1	1
PRS0040	1405	2	2	1
PRS0041	1411	2	1	1
PRS0042	1406	2	2	1
PRS0043	1404	2	1	1.25
PRS0044	1406	2	1	1
PRS0045	1411	2	1	1

Table B2-46: Descriptive statistics for all items, Egypt model (Resilience)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PRS0001	556	1	1	1
PRS0002	558	1	1	1
PRS0003	554	2	2	1
PRS0004	555	2	2	2
PRS0005	559	2	1	1
PRS0006	556	1	1	1
PRS0007	557	2	2	1
PRS0008	558	2	1	2
PRS0009	558	2	1	1
PRS0010	560	3	3	1

PRS0011	558	2	2	1
PRS0012	553	2	2	1
PRS0013	553	2	1	2
PRS0014	554	1	1	1
PRS0015	552	2	2	2
PRS0016	554	1	1	1
PRS0017	559	2	1	2
PRS0018	558	1	1	1
PRS0019	559	2	2	2
PRS0020	556	2	1	1
PRS0021	557	2	1	1
PRS0022	556	1	1	1
PRS0023	554	2	1	1
PRS0024	551	2	2	1
PRS0025	555	2	1	1
PRS0026	553	2	2	1
PRS0027	558	2	1	1
PRS0028	555	2	1	2
PRS0029	556	2	1	1
PRS0030	555	1	1	1
PRS0031	558	2	2	1
PRS0032	555	2	2	1
PRS0033	554	2	2	1
PRS0034	559	3	3	1.5
PRS0035	555	2	2	1
PRS0036	549	2	2	1
PRS0037	556	2	2	1
PRS0038	557	2	2	1
PRS0039	559	2	1	1
PRS0040	560	2	1	1
PRS0041	558	2	1	1
PRS0042	558	2	2	1
PRS0043	554	2	1	2
PRS0044	554	2	1	2
PRS0045	559	2	1	1

Table B2-47: Descriptive statistics for all items, Palestine model (Resilience)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PRS0001	415	1	1	1
PRS0002	420	2	2	1
PRS0003	413	2	2	0
PRS0004	415	2	2	2
PRS0005	421	2	2	1
PRS0006	415	1	1	1
PRS0007	418	3	2	1
PRS0008	419	2	2	2
PRS0009	421	2	2	2
PRS0010	420	2	2	1
PRS0011	421	2	2	2
PRS0012	416	2	2	1
PRS0013	416	2	1	1
PRS0014	414	1	1	1
PRS0015	414	2	2	1
PRS0016	416	1	1	1
PRS0017	421	2	3	1
PRS0018	421	1	1	1
PRS0019	418	2	2	2
PRS0020	419	2	2	1
PRS0021	418	2	2	1
PRS0022	417	1	1	1
PRS0023	412	2	2	1
PRS0024	414	2	2	1
PRS0025	410	2	1	1
PRS0026	419	2	2	1
PRS0027	418	2	2	1
PRS0028	415	2	2	2
PRS0029	418	2	2	1
PRS0030	417	1	1	1
PRS0031	416	2	2	1
PRS0032	413	2	2	1
PRS0033	418	2	2	1
PRS0034	421	2	2	1

PRS0035	419	2	2	1
PRS0036	420	3	3	2
PRS0037	420	2	2	1
PRS0038	422	2	2	1
PRS0039	420	2	1	1
PRS0040	417	2	2	1
PRS0041	421	1	1	1
PRS0042	418	2	2	1
PRS0043	419	2	1	2
PRS0044	420	2	1	1
PRS0045	419	2	1	1

Table B2-48: Descriptive statistics for all items, Tunisia model (Resilience)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
PRS0001	440	1	1	1
PRS0002	437	2	1	1
PRS0003	438	2	2	0
PRS0004	439	3	3	1
PRS0005	437	2	2	1
PRS0006	439	1	1	1
PRS0007	432	2	2	1
PRS0008	434	2	1	2
PRS0009	433	2	2	1
PRS0010	431	3	3	2
PRS0011	432	2	2	2
PRS0012	435	2	2	1
PRS0013	437	1	1	1
PRS0014	436	1	1	1
PRS0015	438	2	2	2
PRS0016	439	1	1	1
PRS0017	435	2	1	2
PRS0018	434	2	1	1
PRS0019	434	2	2	1
PRS0020	434	2	1	1
PRS0021	436	2	1	1
PRS0022	436	1	1	1

PRS0023	434	2	2	1
PRS0024	438	2	2	1
PRS0025	440	2	1	1
PRS0026	437	2	2	1
PRS0027	437	2	2	1
PRS0028	438	2	2	2
PRS0029	437	2	2	2
PRS0030	437	1	1	1
PRS0031	436	2	2	2
PRS0032	439	2	2	1
PRS0033	439	2	2	1
PRS0034	431	2	2	2
PRS0035	433	2	2	1
PRS0036	431	3	4	2
PRS0037	433	2	2	1
PRS0038	431	2	2	1
PRS0039	432	2	1	1
PRS0040	428	2	2	1
PRS0041	432	2	1	1
PRS0042	430	2	2	1
PRS0043	431	2	1	1
PRS0044	432	1	1	1
PRS0045	433	1	1	1

Table B2-49: IRT statistics – pooled model, 45-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.11	0.39	2.82	4.12	0.37	3.35	45.64	26	0.01
PRS0002	0.93	-0.06	2.8	4.47	0.26	3.47	70.94	26	0
PRS0003	0.75	-1.91	2.27	5.27	0.16	2.86	37.18	26	0.07
PRS0004	0.18	-6.2	1.76	9.07	0.01	1.84	114.22	26	0
PRS0005	1.01	-0.6	2.25	3.8	0.31	2.92	55.62	26	0
PRS0006	0.89	0.22	2.53	4.53	0.23	2.86	32.29	26	0.18
PRS0007	0.26	-5.96	0.98	6.2	0.02	1.9	61.65	26	0
PRS0008	0.74	-0.91	1.44	3.23	0.17	1.66	31.2	26	0.22
PRS0009	0.63	-0.87	2.38	4.75	0.12	2.98	71.69	26	0

PRS0010	0.37	-3.53	-0.12	3.4	0.04	-0.09	79.11	26	0
PRS0011	0.77	-0.89	1.76	3.74	0.18	2.26	50.63	26	0
PRS0012	0.62	-1.21	2.54	4.96	0.12	3.35	60.96	26	0
PRS0013	0.72	-0.22	1.99	3.55	0.16	2.02	94.56	26	0
PRS0014	1.33	0.55	2.27	3.58	0.52	2.62	57.29	26	0
PRS0015	0.35	-2.9	1.45	5.9	0.04	1.36	64.57	26	0
PRS0016	1.25	0.32	2.02	2.92	0.48	2.26	42.75	26	0.02
PRS0017	0.73	-1.31	0.65	2.98	0.16	0.45	60.07	26	0
PRS0018	0.85	0.09	2.78	4.39	0.22	3.29	44.21	26	0.01
PRS0019	0.17	-5.8	5.8	15.74	0.01	6	38.44	26	0.06
PRS0020	1.03	-0.4	1.7	2.98	0.32	2.08	39.52	26	0.04
PRS0021	0.99	-0.38	1.88	3.46	0.3	2.38	33.54	26	0.15
PRS0022	0.99	0.25	2.38	3.79	0.3	2.74	35.34	26	0.1
PRS0023	0.95	-0.33	2.05	3.98	0.27	2.5	43.21	26	0.02
PRS0024	0.73	-1.03	2.79	5.18	0.16	3.71	32.96	26	0.16
PRS0025	1.07	-0.15	1.74	3.2	0.34	2.08	59.81	26	0
PRS0026	0.81	-1.42	1.44	3.59	0.2	2.08	46.04	26	0.01
PRS0027	0.86	-0.33	2.24	3.77	0.23	2.68	43.34	26	0.02
PRS0028	0.69	-0.95	1.44	3.83	0.14	1.42	41.43	26	0.03
PRS0029	0.76	-0.67	1.89	3.44	0.17	2.2	44.25	26	0.01
PRS0030	1.4	0.54	2.41	3.52	0.59	2.86	37.96	26	0.06
PRS0031	0.78	-1.14	1.83	3.38	0.18	2.32	52.35	26	0
PRS0032	0.72	-1.32	1.92	4.19	0.15	2.62	48.53	26	0
PRS0033	1.21	-0.65	1.55	3.12	0.43	2.08	43.91	26	0.02
PRS0034	0.38	-3.15	0.38	4.08	0.05	0.33	88.19	26	0
PRS0035	0.83	-0.83	1.88	3.74	0.21	2.44	45.16	26	0.01
PRS0036	0.58	-2.81	-0.07	2.11	0.1	0.03	46.3	26	0.01
PRS0037	0.81	-1.41	1.06	2.56	0.2	1.42	61.29	26	0
PRS0038	1.03	-0.75	1.57	2.97	0.32	2.08	45.19	26	0.01
PRS0039	1.17	-0.19	1.52	2.68	0.42	1.78	68.36	26	0
PRS0040	0.54	-0.93	3.11	5.95	0.09	3.95	52.85	26	0
PRS0041	0.81	-0.08	2.89	4.45	0.2	3.41	47.51	26	0.01
PRS0042	0.06	-22.23	4.43	30.02	0	5.58	83.15	26	0
PRS0043	0.75	-0.34	1.66	3.48	0.17	1.72	53.59	26	0
PRS0044	0.68	-0.11	1.94	3.71	0.14	1.9	106.53	26	0
PRS0045	0.62	-0.37	2.32	4.24	0.12	2.44	67.11	26	0

Table B2-50: IRT statistics – Egypt model, 45-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1	0.65	2.87	4.16	0.31	3.23	25.91	26	0.47
PRS0002	0.91	0.29	2.84	4.54	0.25	3.41	49.43	26	0
PRS0003	0.79	-1.43	2.24	4.82	0.18	3.05	18.91	26	0.84
PRS0004	0.15	-7.04	2.35	9.99	0.01	2.14	46.35	26	0.01
PRS0005	1.08	-0.22	2.12	3.32	0.35	2.56	32.51	26	0.18
PRS0006	1.05	0.22	2.21	3.83	0.33	2.56	37.83	26	0.06
PRS0007	0.33	-4.21	0.77	5.02	0.03	1.12	27.33	26	0.39
PRS0008	0.73	-0.95	1.28	2.93	0.16	1.36	24.58	26	0.54
PRS0009	0.63	-0.07	3.13	5.54	0.12	3.71	47.59	26	0.01
PRS0010	0.37	-3.41	-0.14	3.39	0.04	-0.09	34.01	26	0.13
PRS0011	0.91	-0.51	1.91	3.33	0.25	2.32	39.27	26	0.05
PRS0012	0.55	-0.73	3.15	5.79	0.09	3.89	34.13	26	0.13
PRS0013	0.69	-0.55	1.65	3.27	0.15	1.66	52.99	26	0
PRS0014	1.26	0.64	2.2	3.44	0.48	2.44	40.59	26	0.03
PRS0015	0.2	-4.94	2.15	9.7	0.01	1.96	47.59	26	0.01
PRS0016	1.76	0.47	1.71	2.48	0.94	1.96	17.72	26	0.89
PRS0017	0.84	-1.18	0.44	2.12	0.22	0.45	38.34	26	0.06
PRS0018	1.12	0.11	2.19	3.62	0.38	2.68	27.67	26	0.37
PRS0019	0.16	-4.98	5.77	14.59	0.01	6	18.94	26	0.84
PRS0020	1.09	-0.2	1.87	2.9	0.36	2.14	28.57	26	0.33
PRS0021	0.88	-0.3	2.04	3.58	0.24	2.44	29.68	26	0.28
PRS0022	1.06	0.22	2.26	3.47	0.34	2.62	26.04	26	0.46
PRS0023	1.03	-0.07	2	3.65	0.32	2.44	25.85	26	0.47
PRS0024	0.59	-1	3.09	5.87	0.1	4.07	36.86	26	0.08
PRS0025	1.04	-0.03	1.67	2.98	0.33	1.84	32.73	26	0.17
PRS0026	0.83	-1.05	1.57	3.3	0.21	2.08	17.87	26	0.88
PRS0027	0.78	-0.41	1.86	3.45	0.19	2.08	26.74	26	0.42
PRS0028	0.71	-0.59	1.3	3.45	0.16	1.24	36.13	26	0.09
PRS0029	0.96	-0.13	1.88	3.09	0.28	2.08	43.4	26	0.02
PRS0030	1.66	0.61	2.1	2.96	0.83	2.44	18.08	26	0.87
PRS0031	0.96	-0.71	1.63	2.92	0.28	2.02	29.26	26	0.3
PRS0032	0.86	-0.89	1.77	3.48	0.22	2.32	28.26	26	0.35
PRS0033	1.24	-0.4	1.63	3.09	0.45	2.14	30.47	26	0.25

PRS0034	0.35	-3.76	-0.47	3.22	0.04	-0.39	49.49	26	0
PRS0035	0.88	-0.72	1.82	3.94	0.23	2.26	46.17	26	0.01
PRS0036	0.52	-2.35	0.74	3.11	0.08	0.87	34.74	26	0.12
PRS0037	1	-0.86	1.48	2.6	0.3	1.84	26.94	26	0.41
PRS0038	0.98	-0.58	1.55	2.94	0.29	1.9	39.5	26	0.04
PRS0039	1.15	-0.09	1.64	2.65	0.4	1.84	46.7	26	0.01
PRS0040	0.49	-0.64	3.2	5.7	0.07	3.59	45.25	26	0.01
PRS0041	1.07	-0.17	2.32	3.79	0.34	2.86	25.02	26	0.52
PRS0042	0.22	-6.55	0.41	7.53	0.01	0.33	51.09	26	0
PRS0043	0.69	-0.34	1.66	3.35	0.15	1.66	50.09	26	0
PRS0044	0.7	-0.35	1.49	3.07	0.15	1.42	83.64	26	0
PRS0045	0.65	-0.6	1.88	3.54	0.13	1.9	40.51	26	0.03

Table B2-51: IRT statistics – Palestine model, 45-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.26	0.02	2.6	3.86	0.47	3.17	33.68	26	0.14
PRS0002	0.86	-0.55	2.7	4.35	0.22	3.35	29.43	26	0.29
PRS0003	0.75	-2.22	2.25	5.55	0.16	2.68	31.13	26	0.22
PRS0004	0.66	-1.58	1.1	3.43	0.13	1.36	59.14	26	0
PRS0005	1.1	-0.98	1.86	3.28	0.36	2.5	30.12	26	0.26
PRS0006	0.97	0.23	2.75	4.79	0.27	3.23	31.17	26	0.22
PRS0007	0.14	-13.91	-0.14	9.59	0.01	2.14	34.07	26	0.13
PRS0008	0.65	-1.22	1.61	3.74	0.13	2.02	36.88	26	0.08
PRS0009	0.53	-1.92	1.73	4.48	0.09	2.32	49.96	26	0
PRS0010	0.37	-3.57	0.54	4.42	0.04	0.63	40.21	26	0.04
PRS0011	0.8	-1.18	1.51	3.5	0.19	2.08	36.15	26	0.09
PRS0012	0.72	-1.45	2.06	4.07	0.16	2.8	53.19	26	0
PRS0013	0.66	-0.44	1.95	3.95	0.13	2.08	42.81	26	0.02
PRS0014	1.59	0.31	2.06	3.08	0.75	2.44	20.73	26	0.76
PRS0015	0.15	-9.16	1.1	12.42	0.01	0.21	37.89	26	0.06
PRS0016	0.89	0.26	2.43	3.63	0.24	2.62	35.82	26	0.1
PRS0017	0.53	-2.2	0.59	4.34	0.09	-0.09	35.26	26	0.11
PRS0018	0.86	0.19	2.78	4.28	0.22	3.23	22.02	26	0.69
PRS0019	0.25	-4.04	3.88	12.18	0.02	3.47	28.86	26	0.32
PRS0020	0.89	-0.84	1.65	3.21	0.24	2.14	25.7	26	0.48

PRS0021	1.12	-0.57	1.69	3.31	0.37	2.26	21.25	26	0.73
PRS0022	1.4	0.12	1.96	3.04	0.59	2.38	31.54	26	0.21
PRS0023	0.78	-0.64	2.32	4.77	0.18	2.86	29.22	26	0.3
PRS0024	0.85	-1.13	2.2	4.11	0.21	2.98	27.7	26	0.37
PRS0025	0.95	-0.42	1.76	3.64	0.27	2.14	43.35	26	0.02
PRS0026	0.86	-1.64	1.22	3.7	0.22	1.54	29.62	26	0.28
PRS0027	1.18	-0.25	2.07	3.45	0.42	2.62	39.32	26	0.05
PRS0028	0.76	-1.13	1.41	3.67	0.18	1.72	21.11	26	0.74
PRS0029	0.59	-1.32	2.19	4.05	0.1	2.56	28.92	26	0.31
PRS0030	1.12	0.36	2.69	4.09	0.38	3.23	24.58	26	0.54
PRS0031	0.71	-1.39	2.37	3.97	0.15	2.92	29.83	26	0.27
PRS0032	0.42	-2.28	2.84	6.54	0.05	3.89	19.36	26	0.82
PRS0033	1.1	-0.87	1.49	3.01	0.36	2.08	40.37	26	0.04
PRS0034	0.51	-2.53	0.53	3.89	0.08	0.27	39.73	26	0.04
PRS0035	1.01	-0.97	1.49	2.79	0.31	1.96	46.8	26	0.01
PRS0036	0.49	-4.06	-0.7	1.96	0.07	-0.45	27.37	26	0.39
PRS0037	0.74	-1.68	0.93	2.83	0.17	1.3	47.13	26	0.01
PRS0038	1.28	-0.91	1.4	2.83	0.48	1.96	42.18	26	0.02
PRS0039	1.2	-0.44	1.25	2.69	0.43	1.54	38.91	26	0.05
PRS0040	0.74	-0.85	2.62	5.16	0.16	3.41	28.72	26	0.32
PRS0041	0.94	0.14	2.47	3.62	0.27	2.74	39.09	26	0.05
PRS0042	0.05	-30.03	9.9	50.99	0	6	39.24	26	0.05
PRS0043	0.55	-0.57	1.99	4.77	0.09	1.9	43.1	26	0.02
PRS0044	0.55	0	2.41	4.64	0.09	2.38	48.06	26	0.01
PRS0045	0.77	-0.54	2.02	4.09	0.18	2.44	47.17	26	0.01

Table B2-52: IRT statistics – Tunisia model, 45-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.1	0.48	3.04	4.49	0.36	3.65	28.53	26	0.33
PRS0002	1.03	-0.08	2.9	4.69	0.31	3.65	46.54	26	0.01
PRS0003	0.62	-2.61	2.61	6.45	0.11	3.17	23.58	26	0.6
PRS0004	-0.1	13.99	0.33	-14.76	0	0.69	43.88	26	0.02
PRS0005	0.69	-0.93	3.56	7.12	0.13	3.95	29.5	26	0.29
PRS0006	0.69	0.18	2.73	5.29	0.14	2.68	37.71	26	0.06
PRS0007	0.27	-5.53	2.06	7.12	0.02	3.29	44.63	26	0.01
PRS0008	0.88	-0.6	1.45	3.11	0.24	1.72	29.77	26	0.28

PRS0009	0.58	-1.32	2.72	5.39	0.1	3.65	20.49	26	0.77
PRS0010	0.41	-3.52	-0.67	2.51	0.05	-0.63	40.43	26	0.04
PRS0011	0.53	-1.39	2.06	5.31	0.08	2.32	31.16	26	0.22
PRS0012	0.57	-1.67	2.58	5.4	0.1	3.59	33.43	26	0.15
PRS0013	1.01	0.26	2.17	3.09	0.31	2.26	31.98	26	0.19
PRS0014	1.31	0.66	2.5	4.63	0.48	2.38	15.65	26	0.94
PRS0015	0.84	-1.01	1.23	3.13	0.21	1.54	38.53	26	0.05
PRS0016	1.03	0.14	2.4	3.32	0.32	2.62	30.49	26	0.25
PRS0017	0.79	-0.9	0.99	3.47	0.19	0.57	39.18	26	0.05
PRS0018	0.48	-0.17	4.62	7.04	0.07	5.34	35.13	26	0.11
PRS0019	0.06	-18.9	16.44	43.49	0	6	24.25	26	0.56
PRS0020	1	-0.32	1.67	3.13	0.31	2.02	27.16	26	0.4
PRS0021	1.07	-0.26	1.85	3.4	0.34	2.32	19.3	26	0.82
PRS0022	0.65	0.47	3.12	5.37	0.13	3.41	35.46	26	0.1
PRS0023	0.94	-0.46	2.02	4.02	0.26	2.5	21.2	26	0.73
PRS0024	0.78	-0.98	3.23	6.28	0.17	3.71	22.69	26	0.65
PRS0025	1.22	-0.09	1.83	3.16	0.45	2.26	27.78	26	0.37
PRS0026	0.71	-1.84	1.6	4.14	0.15	2.38	28.24	26	0.35
PRS0027	0.74	-0.35	3.08	4.88	0.17	3.77	26.36	26	0.44
PRS0028	0.63	-1.23	1.59	4.39	0.12	1.6	20.41	26	0.77
PRS0029	0.53	-1.35	2.13	4.48	0.09	2.56	32.2	26	0.19
PRS0030	1.34	0.64	2.75	4.19	0.53	3.29	33.85	26	0.14
PRS0031	0.57	-1.9	1.87	4.07	0.1	2.5	34.04	26	0.13
PRS0032	0.78	-1.49	1.77	4.24	0.18	2.44	36.09	26	0.09
PRS0033	1.19	-0.84	1.61	3.54	0.4	1.9	32.24	26	0.19
PRS0034	0.42	-2.39	1.06	4.47	0.05	1.06	28.02	26	0.36
PRS0035	0.59	-0.87	2.71	5.19	0.11	3.41	29.88	26	0.27
PRS0036	0.69	-2.72	-0.43	1.49	0.15	-0.33	29.33	26	0.3
PRS0037	0.64	-2.28	0.61	2.51	0.13	0.93	32.01	26	0.19
PRS0038	0.85	-0.83	1.86	3.31	0.22	2.32	27.33	26	0.39
PRS0039	1.11	-0.06	1.73	2.83	0.38	1.96	34.25	26	0.13
PRS0040	0.42	-1.55	3.88	8.36	0.05	4.85	41.12	26	0.03
PRS0041	0.44	-0.22	5.12	7.7	0.06	5.88	29.25	26	0.3
PRS0042	-0.08	17.8	-4.41	-24.37	0	-6	30.32	26	0.25
PRS0043	1.15	-0.19	1.4	2.74	0.41	1.6	25.6	26	0.49
PRS0044	0.88	0.08	2.02	3.67	0.23	2.2	39	26	0.05
PRS0045	0.57	0.25	2.93	4.87	0.1	2.92	28.19	26	0.35

Table B2-53: IRT statistics – pooled model, 30-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.08	0.4	2.88	4.21	0.35	3.41	61.62	26	0
PRS0002	0.9	-0.08	2.87	4.6	0.24	3.53	67.59	26	0
PRS0005	1.02	-0.6	2.23	3.77	0.31	2.86	57.7	26	0
PRS0006	0.9	0.21	2.51	4.49	0.24	2.86	46.53	26	0.01
PRS0008	0.73	-0.92	1.44	3.24	0.17	1.66	46.25	26	0.01
PRS0011	0.78	-0.88	1.75	3.7	0.19	2.26	49.99	26	0
PRS0013	0.71	-0.23	2.01	3.59	0.16	2.02	99.2	26	0
PRS0014	1.34	0.55	2.27	3.58	0.53	2.68	62.35	26	0
PRS0016	1.26	0.32	2.02	2.92	0.48	2.26	47.78	26	0.01
PRS0017	0.71	-1.34	0.64	3.01	0.16	0.45	53.61	26	0
PRS0018	0.86	0.08	2.75	4.34	0.22	3.29	32.26	26	0.18
PRS0020	0.98	-0.42	1.76	3.09	0.29	2.14	36.69	26	0.08
PRS0021	1.01	-0.38	1.85	3.4	0.31	2.32	31.13	26	0.22
PRS0022	1	0.24	2.35	3.75	0.3	2.74	42.15	26	0.02
PRS0023	0.92	-0.34	2.1	4.08	0.25	2.56	54.38	26	0
PRS0024	0.7	-1.06	2.88	5.34	0.15	3.83	37.99	26	0.06
PRS0025	1.05	-0.16	1.77	3.26	0.33	2.14	62.89	26	0
PRS0026	0.79	-1.46	1.47	3.66	0.19	2.14	40.28	26	0.04
PRS0027	0.88	-0.34	2.2	3.7	0.24	2.68	40.59	26	0.03
PRS0029	0.71	-0.71	1.97	3.61	0.16	2.26	48.49	26	0
PRS0030	1.46	0.52	2.35	3.43	0.64	2.74	43.68	26	0.02
PRS0032	0.71	-1.33	1.95	4.26	0.15	2.68	52.98	26	0
PRS0033	1.18	-0.67	1.58	3.18	0.41	2.14	37.3	26	0.07
PRS0035	0.85	-0.81	1.87	3.69	0.21	2.44	45.15	26	0.01
PRS0037	0.8	-1.43	1.07	2.61	0.2	1.42	58.02	26	0
PRS0038	1.01	-0.76	1.6	3.02	0.31	2.08	44.12	26	0.01
PRS0039	1.17	-0.18	1.52	2.68	0.42	1.78	67.04	26	0
PRS0041	0.85	-0.07	2.77	4.25	0.22	3.29	53.45	26	0
PRS0043	0.72	-0.35	1.71	3.59	0.16	1.78	57.18	26	0
PRS0045	0.63	-0.36	2.3	4.2	0.12	2.44	57.62	26	0

Table B2-54: IRT statistics – Egypt model, 30-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.01	0.64	2.85	4.14	0.31	3.23	32.11	26	0.19
PRS0002	0.86	0.3	2.98	4.78	0.22	3.59	32.36	26	0.18
PRS0005	1.06	-0.22	2.13	3.36	0.34	2.56	27.57	26	0.38
PRS0006	1.06	0.21	2.2	3.82	0.33	2.56	36.99	26	0.07
PRS0008	0.74	-0.94	1.27	2.9	0.17	1.36	28.95	26	0.31
PRS0011	0.93	-0.5	1.89	3.29	0.26	2.32	30.46	26	0.25
PRS0013	0.7	-0.56	1.63	3.24	0.15	1.6	48.83	26	0
PRS0014	1.26	0.64	2.2	3.44	0.48	2.5	45.53	26	0.01
PRS0016	1.77	0.46	1.71	2.48	0.95	1.96	14.05	26	0.97
PRS0017	0.83	-1.19	0.44	2.15	0.21	0.45	44.02	26	0.02
PRS0018	1.14	0.11	2.17	3.58	0.39	2.62	34.98	26	0.11
PRS0020	1.05	-0.2	1.93	3	0.33	2.2	30.82	26	0.23
PRS0021	0.89	-0.3	2.03	3.57	0.24	2.44	21.46	26	0.72
PRS0022	1.08	0.21	2.25	3.45	0.35	2.56	23.26	26	0.62
PRS0023	1.04	-0.08	1.99	3.64	0.32	2.38	25.22	26	0.51
PRS0024	0.57	-1.05	3.21	6.1	0.1	4.19	32.87	26	0.17
PRS0025	1.02	-0.04	1.69	3.03	0.32	1.9	35.66	26	0.1
PRS0026	0.8	-1.08	1.62	3.4	0.19	2.14	29.65	26	0.28
PRS0027	0.8	-0.4	1.82	3.38	0.2	2.02	32.83	26	0.17
PRS0029	0.94	-0.14	1.9	3.14	0.27	2.14	35.11	26	0.11
PRS0030	1.7	0.6	2.08	2.93	0.87	2.38	26.74	26	0.42
PRS0032	0.87	-0.89	1.75	3.46	0.23	2.32	29.21	26	0.3
PRS0033	1.19	-0.43	1.68	3.19	0.42	2.2	33.53	26	0.15
PRS0035	0.89	-0.7	1.8	3.89	0.24	2.26	35.67	26	0.1
PRS0037	0.98	-0.87	1.5	2.64	0.29	1.84	32.02	26	0.19
PRS0038	0.94	-0.59	1.61	3.07	0.27	1.96	26.34	26	0.44
PRS0039	1.16	-0.08	1.64	2.64	0.41	1.84	43.83	26	0.02
PRS0041	1.1	-0.17	2.29	3.73	0.36	2.86	33.65	26	0.14
PRS0043	0.67	-0.34	1.72	3.48	0.14	1.72	44.71	26	0.01
PRS0045	0.67	-0.58	1.85	3.46	0.14	1.9	54.26	26	0

Table B2-55: IRT statistics – Palestine model, 30-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.19	0.03	2.74	4.08	0.42	3.35	40.64	26	0.03
PRS0002	0.84	-0.58	2.74	4.41	0.21	3.41	43.41	26	0.02
PRS0005	1.14	-0.98	1.81	3.21	0.38	2.44	24.68	26	0.54
PRS0006	1.01	0.23	2.67	4.66	0.3	3.11	26.91	26	0.41
PRS0008	0.65	-1.24	1.61	3.76	0.13	2.02	24.61	26	0.54
PRS0011	0.83	-1.14	1.48	3.41	0.21	2.02	44.08	26	0.01
PRS0013	0.65	-0.45	1.97	3.99	0.13	2.08	34.15	26	0.13
PRS0014	1.57	0.32	2.08	3.12	0.73	2.5	35.21	26	0.11
PRS0016	0.92	0.26	2.38	3.56	0.26	2.56	27.49	26	0.38
PRS0017	0.52	-2.26	0.57	4.39	0.08	-0.09	32.59	26	0.17
PRS0018	0.85	0.18	2.81	4.33	0.22	3.29	18.8	26	0.84
PRS0020	0.82	-0.91	1.75	3.41	0.2	2.26	29.21	26	0.3
PRS0021	1.15	-0.58	1.65	3.24	0.39	2.2	23.61	26	0.6
PRS0022	1.39	0.1	1.96	3.07	0.58	2.38	39.88	26	0.04
PRS0023	0.73	-0.68	2.48	5.11	0.16	3.05	32.4	26	0.18
PRS0024	0.8	-1.17	2.3	4.3	0.19	3.11	19.37	26	0.82
PRS0025	0.96	-0.41	1.75	3.61	0.27	2.08	51.81	26	0
PRS0026	0.83	-1.71	1.24	3.8	0.2	1.54	26.05	26	0.46
PRS0027	1.14	-0.28	2.1	3.53	0.39	2.68	31.1	26	0.22
PRS0029	0.55	-1.4	2.29	4.26	0.09	2.68	43.42	26	0.02
PRS0030	1.17	0.33	2.6	3.95	0.41	3.11	30.67	26	0.24
PRS0032	0.41	-2.32	2.9	6.69	0.05	4.01	16.68	26	0.92
PRS0033	1.11	-0.85	1.5	3.02	0.36	2.08	35.63	26	0.1
PRS0035	1.02	-0.96	1.49	2.78	0.31	1.96	50.61	26	0
PRS0037	0.77	-1.62	0.9	2.74	0.18	1.3	36.42	26	0.08
PRS0038	1.29	-0.91	1.4	2.84	0.49	1.96	40.57	26	0.03
PRS0039	1.16	-0.45	1.27	2.75	0.41	1.54	39.4	26	0.04
PRS0041	1.01	0.13	2.36	3.45	0.31	2.62	22.15	26	0.68
PRS0043	0.56	-0.55	1.97	4.69	0.1	1.9	30.72	26	0.24
PRS0045	0.74	-0.55	2.1	4.24	0.17	2.56	28.21	26	0.35

Table B2-56: IRT statistics – Tunisia model, 30-item (Resilience)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
PRS0001	1.05	0.5	3.15	4.66	0.33	3.77	27.66	26	0.38
PRS0002	1.03	-0.09	2.9	4.69	0.31	3.65	45.27	26	0.01
PRS0005	0.73	-0.89	3.39	6.76	0.15	3.77	24.1	26	0.57
PRS0006	0.67	0.19	2.8	5.42	0.14	2.8	20.72	26	0.76
PRS0008	0.84	-0.63	1.48	3.21	0.22	1.72	42.96	26	0.02
PRS0011	0.54	-1.35	2.02	5.18	0.09	2.26	34.58	26	0.12
PRS0013	0.96	0.27	2.27	3.25	0.28	2.32	49.62	26	0
PRS0014	1.35	0.66	2.47	4.54	0.51	2.32	25.09	26	0.51
PRS0016	1.07	0.14	2.35	3.25	0.34	2.56	32.63	26	0.17
PRS0017	0.77	-0.92	0.99	3.51	0.18	0.57	37.86	26	0.06
PRS0018	0.51	-0.17	4.36	6.65	0.08	5.04	43.83	26	0.02
PRS0020	1	-0.33	1.67	3.14	0.3	2.02	26.3	26	0.45
PRS0021	1.11	-0.25	1.8	3.29	0.37	2.26	23.13	26	0.63
PRS0022	0.68	0.46	3.02	5.2	0.14	3.29	33.06	26	0.16
PRS0023	0.89	-0.47	2.12	4.23	0.23	2.62	43.56	26	0.02
PRS0024	0.77	-0.98	3.28	6.38	0.17	3.77	22.78	26	0.65
PRS0025	1.14	-0.09	1.93	3.35	0.39	2.38	25.2	26	0.51
PRS0026	0.72	-1.81	1.55	4.04	0.16	2.32	25.27	26	0.5
PRS0027	0.8	-0.33	2.89	4.57	0.19	3.53	26.26	26	0.45
PRS0029	0.49	-1.47	2.28	4.82	0.07	2.68	33.69	26	0.14
PRS0030	1.43	0.61	2.65	4.01	0.59	3.17	39.77	26	0.04
PRS0032	0.74	-1.55	1.88	4.5	0.16	2.62	43.26	26	0.02
PRS0033	1.15	-0.86	1.66	3.65	0.37	1.96	30.65	26	0.24
PRS0035	0.6	-0.85	2.69	5.13	0.11	3.41	41.78	26	0.03
PRS0037	0.61	-2.38	0.64	2.62	0.11	0.93	36.95	26	0.08
PRS0038	0.85	-0.83	1.86	3.3	0.22	2.32	37.08	26	0.07
PRS0039	1.12	-0.06	1.72	2.81	0.38	1.96	41.16	26	0.03
PRS0041	0.47	-0.2	4.78	7.17	0.07	5.46	36.52	26	0.08
PRS0043	1.07	-0.2	1.47	2.9	0.35	1.66	30.08	26	0.26
PRS0045	0.55	0.26	3.05	5.06	0.09	3.05	29.3	26	0.3

SCALE STATISTICS

Table B2-57: Fit indices and reliability, 45-item model (Resilience)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	2295.47	855	0	0.03	0.03	0.94	0.94	0.83
Egypt	1276.06	855	0	0.02	0.04	0.96	0.97	0.84
Palestine	1424.6	855	0	0.03	0.05	0.91	0.92	0.84
Tunisia	1181.05	855	0	0.02	0.04	0.95	0.95	0.82

Table B2-58: Fit indices and reliability, 30-item model (Resilience)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	696.37	345	0	0.02	0.03	0.98	0.98	0.81
Egypt	473.74	345	0	0.02	0.04	0.98	0.99	0.82
Palestine	449.76	345	0	0.02	0.04	0.98	0.98	0.81
Tunisia	526.89	345	0	0.03	0.04	0.96	0.96	0.79

Table B2-59: Measurement invariance test, 45-item model (Resilience)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	3878.27	2565	0	0.02	0.04	0.05	0.04	0.95	0.95
Metric model	4360.15	2655	0	0.02	0.04	0.05	0.05	0.94	0.94
Scalar model	4857.74	2921	0	0.02	0.04	0.05	0.05	0.94	0.93
Difference: Metric - Configural	481.88	90	0	0	0	0.01	0.01	-0.02	-0.02
Difference: Scalar - Metric	497.59	266	0	0	0	0	0	0	0

Table B2-60: Measurement invariance test, 30-item model (Resilience)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1425.4	1035	0	0.01	0.04	0.04	0.04	0.98	0.98
Metric model	1472.44	1095	0	0.01	0.04	0.04	0.05	0.98	0.98
Scalar model	1939.19	1271	0	0.02	0.04	0.05	0.05	0.97	0.96
Difference: Metric - Configural	47.04	60	0	0	0	0	0.01	0	0
Difference: Scalar - Metric	466.75	176	0	0	0	0	-0.01	-0.01	-0.01

EMPLOYABILITY: COOPERATION
ITEM STATISTICS

Table B2-61: Response frequencies for all items, pooled model (Cooperation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ECP0001	0.42	0.41	0.12	0.05
ECP0002	0.2	0.39	0.25	0.16
ECP0003	0.25	0.38	0.27	0.1
ECP0004	0.54	0.39	0.04	0.03
ECP0005	0.44	0.48	0.06	0.03
ECP0006	0.37	0.51	0.1	0.02
ECP0007	0.48	0.39	0.11	0.03
ECP0008	0.31	0.37	0.21	0.1
ECP0009	0.34	0.5	0.12	0.04
ECP0010	0.3	0.35	0.24	0.12
ECP0011	0.1	0.23	0.44	0.23
ECP0012	0.57	0.33	0.07	0.03
ECP0013	0.22	0.36	0.29	0.14
ECP0014	0.29	0.51	0.14	0.06
ECP0015	0.64	0.24	0.08	0.04
ECP0016	0.29	0.37	0.24	0.1
ECP0017	0.29	0.38	0.21	0.12
ECP0018	0.42	0.38	0.12	0.08
ECP0019	0.13	0.4	0.29	0.18
ECP0020	0.33	0.36	0.2	0.1
ECP0021	0.24	0.45	0.21	0.1
ECP0022	0.12	0.21	0.43	0.24
ECP0023	0.27	0.33	0.27	0.14
ECP0024	0.11	0.27	0.38	0.25
ECP0025	0.34	0.38	0.2	0.08
ECP0026	0.43	0.42	0.11	0.04
ECP0027	0.25	0.48	0.22	0.04
ECP0028	0.42	0.44	0.1	0.04
ECP0029	0.54	0.37	0.06	0.03
ECP0030	0.41	0.36	0.16	0.07
ECP0031	0.11	0.21	0.33	0.36

ECP0032	0.45	0.38	0.12	0.05
ECP0033	0.14	0.25	0.33	0.28
ECP0034	0.08	0.19	0.5	0.23
ECP0035	0.48	0.29	0.16	0.07
ECP0036	0.42	0.38	0.13	0.07
ECP0037	0.38	0.49	0.09	0.05
ECP0038	0.41	0.44	0.11	0.04
ECP0039	0.49	0.39	0.08	0.05
ECP0040	0.38	0.49	0.09	0.04
ECP0041	0.21	0.43	0.25	0.11
ECP0042	0.25	0.34	0.28	0.13
ECP0043	0.19	0.25	0.25	0.32
ECP0044	0.34	0.31	0.24	0.12
ECP0045	0.34	0.4	0.17	0.09

Table B2-62: Response frequencies for all items, Egypt model (Cooperation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ECP0001	0.42	0.38	0.14	0.07
ECP0002	0.22	0.34	0.24	0.19
ECP0003	0.31	0.32	0.29	0.08
ECP0004	0.63	0.29	0.05	0.03
ECP0005	0.51	0.43	0.05	0.01
ECP0006	0.44	0.43	0.11	0.02
ECP0007	0.55	0.36	0.07	0.02
ECP0008	0.3	0.32	0.23	0.15
ECP0009	0.36	0.46	0.12	0.05
ECP0010	0.26	0.33	0.25	0.15
ECP0011	0.14	0.21	0.4	0.25
ECP0012	0.56	0.34	0.07	0.04
ECP0013	0.2	0.3	0.32	0.18
ECP0014	0.37	0.46	0.13	0.04
ECP0015	0.7	0.22	0.06	0.02
ECP0016	0.34	0.35	0.21	0.1
ECP0017	0.27	0.4	0.23	0.11
ECP0018	0.38	0.37	0.14	0.1
ECP0019	0.18	0.42	0.26	0.14
ECP0020	0.3	0.32	0.22	0.16

ECP0021	0.22	0.44	0.24	0.1
ECP0022	0.11	0.2	0.43	0.25
ECP0023	0.23	0.31	0.29	0.17
ECP0024	0.12	0.24	0.38	0.26
ECP0025	0.4	0.36	0.17	0.08
ECP0026	0.46	0.39	0.12	0.04
ECP0027	0.31	0.47	0.17	0.05
ECP0028	0.48	0.38	0.1	0.05
ECP0029	0.58	0.33	0.06	0.03
ECP0030	0.48	0.31	0.14	0.07
ECP0031	0.13	0.19	0.3	0.38
ECP0032	0.48	0.34	0.13	0.05
ECP0033	0.15	0.22	0.31	0.33
ECP0034	0.06	0.17	0.53	0.25
ECP0035	0.45	0.3	0.16	0.09
ECP0036	0.4	0.41	0.13	0.06
ECP0037	0.4	0.45	0.11	0.05
ECP0038	0.45	0.38	0.11	0.05
ECP0039	0.51	0.36	0.08	0.06
ECP0040	0.48	0.42	0.08	0.02
ECP0041	0.22	0.42	0.23	0.13
ECP0042	0.24	0.33	0.27	0.16
ECP0043	0.23	0.26	0.2	0.31
ECP0044	0.39	0.33	0.18	0.1
ECP0045	0.36	0.37	0.17	0.1

Table B2-63: Response frequencies for all items, Palestine model (Cooperation)

	Proportion of responses in the category			
Item	**Coding 1**	**Coding 2**	**Coding 3**	**Coding 4**
ECP0001	0.42	0.44	0.1	0.04
ECP0002	0.21	0.41	0.25	0.13
ECP0003	0.2	0.41	0.28	0.11
ECP0004	0.51	0.43	0.04	0.02
ECP0005	0.43	0.49	0.05	0.03
ECP0006	0.3	0.57	0.1	0.03
ECP0007	0.39	0.42	0.15	0.04
ECP0008	0.22	0.41	0.27	0.1

ECP0009	0.34	0.49	0.12	0.05
ECP0010	0.31	0.31	0.27	0.11
ECP0011	0.07	0.25	0.49	0.19
ECP0012	0.5	0.39	0.08	0.02
ECP0013	0.19	0.35	0.31	0.15
ECP0014	0.21	0.54	0.17	0.07
ECP0015	0.6	0.27	0.09	0.04
ECP0016	0.22	0.38	0.29	0.12
ECP0017	0.25	0.38	0.21	0.15
ECP0018	0.4	0.38	0.13	0.09
ECP0019	0.11	0.42	0.3	0.16
ECP0020	0.32	0.4	0.22	0.06
ECP0021	0.23	0.48	0.19	0.1
ECP0022	0.1	0.2	0.47	0.22
ECP0023	0.19	0.37	0.31	0.13
ECP0024	0.08	0.25	0.41	0.27
ECP0025	0.28	0.43	0.22	0.06
ECP0026	0.42	0.44	0.12	0.03
ECP0027	0.22	0.53	0.21	0.04
ECP0028	0.38	0.47	0.11	0.04
ECP0029	0.55	0.39	0.04	0.03
ECP0030	0.38	0.39	0.17	0.07
ECP0031	0.06	0.21	0.36	0.37
ECP0032	0.38	0.43	0.14	0.05
ECP0033	0.19	0.29	0.32	0.2
ECP0034	0.08	0.17	0.5	0.25
ECP0035	0.53	0.26	0.15	0.05
ECP0036	0.39	0.4	0.12	0.08
ECP0037	0.33	0.53	0.09	0.05
ECP0038	0.37	0.5	0.11	0.03
ECP0039	0.45	0.43	0.08	0.04
ECP0040	0.33	0.51	0.11	0.05
ECP0041	0.17	0.47	0.25	0.11
ECP0042	0.23	0.37	0.29	0.1
ECP0043	0.12	0.25	0.29	0.34
ECP0044	0.27	0.26	0.32	0.15
ECP0045	0.27	0.42	0.2	0.11

Table B2-64: Response frequencies for all items, Tunisia model (Cooperation)

	Proportion of responses in the category			
Item	Coding 1	Coding 2	Coding 3	Coding 4
ECP0001	0.41	0.41	0.12	0.05
ECP0002	0.18	0.44	0.25	0.14
ECP0003	0.24	0.41	0.24	0.11
ECP0004	0.45	0.49	0.03	0.02
ECP0005	0.35	0.53	0.09	0.04
ECP0006	0.33	0.54	0.1	0.02
ECP0007	0.47	0.38	0.11	0.03
ECP0008	0.4	0.41	0.14	0.04
ECP0009	0.32	0.55	0.11	0.02
ECP0010	0.33	0.4	0.19	0.08
ECP0011	0.07	0.25	0.45	0.23
ECP0012	0.65	0.27	0.05	0.02
ECP0013	0.27	0.43	0.22	0.07
ECP0014	0.27	0.54	0.13	0.07
ECP0015	0.6	0.25	0.09	0.05
ECP0016	0.3	0.38	0.24	0.08
ECP0017	0.36	0.36	0.17	0.11
ECP0018	0.49	0.38	0.07	0.06
ECP0019	0.07	0.37	0.33	0.23
ECP0020	0.38	0.38	0.16	0.07
ECP0021	0.29	0.42	0.19	0.1
ECP0022	0.14	0.24	0.4	0.23
ECP0023	0.39	0.31	0.21	0.09
ECP0024	0.12	0.32	0.34	0.23
ECP0025	0.32	0.37	0.22	0.09
ECP0026	0.4	0.44	0.1	0.06
ECP0027	0.22	0.46	0.29	0.04
ECP0028	0.38	0.47	0.11	0.04
ECP0029	0.48	0.41	0.07	0.04
ECP0030	0.35	0.39	0.18	0.08
ECP0031	0.12	0.22	0.33	0.33
ECP0032	0.47	0.4	0.09	0.04
ECP0033	0.1	0.25	0.37	0.29
ECP0034	0.11	0.22	0.47	0.21

ECP0035	0.47	0.31	0.16	0.06
ECP0036	0.46	0.34	0.14	0.06
ECP0037	0.39	0.5	0.08	0.04
ECP0038	0.39	0.47	0.1	0.04
ECP0039	0.49	0.39	0.08	0.04
ECP0040	0.29	0.57	0.1	0.04
ECP0041	0.23	0.4	0.28	0.09
ECP0042	0.27	0.33	0.27	0.13
ECP0043	0.2	0.24	0.26	0.29
ECP0044	0.34	0.32	0.24	0.1
ECP0045	0.37	0.41	0.14	0.07

Table B2-65: Descriptive statistics for all items, pooled model (Cooperation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ECP0001	1426	2	1	1
ECP0002	1421	2	2	1
ECP0003	1424	2	2	2
ECP0004	1423	1	1	1
ECP0005	1423	2	2	1
ECP0006	1422	2	2	1
ECP0007	1415	2	1	1
ECP0008	1426	2	2	2
ECP0009	1427	2	2	1
ECP0010	1423	2	2	2
ECP0011	1425	3	3	1
ECP0012	1429	1	1	1
ECP0013	1415	2	2	1
ECP0014	1416	2	2	1
ECP0015	1417	1	1	1
ECP0016	1416	2	2	2
ECP0017	1423	2	2	2
ECP0018	1424	2	1	1
ECP0019	1424	2	2	1
ECP0020	1425	2	2	2
ECP0021	1414	2	2	1
ECP0022	1417	3	3	1

ECP0023	1414	2	2	2
ECP0024	1416	3	3	2
ECP0025	1416	2	2	2
ECP0026	1419	2	1	1
ECP0027	1417	2	2	2
ECP0028	1423	2	2	1
ECP0029	1427	1	1	1
ECP0030	1423	2	1	1
ECP0031	1418	3	4	2
ECP0032	1422	2	1	1
ECP0033	1421	3	3	2
ECP0034	1419	3	3	1
ECP0035	1412	2	1	1
ECP0036	1420	2	1	1
ECP0037	1413	2	2	1
ECP0038	1416	2	2	1
ECP0039	1422	2	1	1
ECP0040	1414	2	2	1
ECP0041	1418	2	2	1
ECP0042	1416	2	2	1
ECP0043	1413	3	4	2
ECP0044	1417	2	1	2
ECP0045	1418	2	2	2

Table B2-66: Descriptive statistics for all items, Egypt model (Cooperation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ECP0001	560	2	1	1
ECP0002	556	2	2	1
ECP0003	558	2	2	2
ECP0004	560	1	1	1
ECP0005	561	1	1	1
ECP0006	560	2	1	1
ECP0007	557	1	1	1
ECP0008	562	2	2	2
ECP0009	559	2	2	1
ECP0010	557	2	2	2

ECP0011	560	3	3	2
ECP0012	562	1	1	1
ECP0013	555	2	3	1
ECP0014	556	2	2	1
ECP0015	556	1	1	1
ECP0016	553	2	2	2
ECP0017	557	2	2	2
ECP0018	560	2	1	1
ECP0019	559	2	2	1
ECP0020	559	2	2	2
ECP0021	559	2	2	1
ECP0022	559	3	3	1.5
ECP0023	560	2	2	1
ECP0024	560	3	3	2
ECP0025	558	2	1	1
ECP0026	558	2	1	1
ECP0027	554	2	2	1
ECP0028	558	2	1	1
ECP0029	562	1	1	1
ECP0030	558	2	1	1
ECP0031	555	3	4	2
ECP0032	557	2	1	1
ECP0033	557	3	4	2
ECP0034	560	3	3	0
ECP0035	558	2	1	2
ECP0036	562	2	2	1
ECP0037	558	2	2	1
ECP0038	559	2	1	1
ECP0039	563	1	1	1
ECP0040	556	2	1	1
ECP0041	558	2	2	1
ECP0042	554	2	2	1
ECP0043	557	3	4	2
ECP0044	558	2	1	2
ECP0045	558	2	2	2

Table B2-67: Descriptive statistics for all items, Palestine model (Cooperation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ECP0001	420	2	2	1
ECP0002	421	2	2	1
ECP0003	420	2	2	1
ECP0004	418	1	1	1
ECP0005	413	2	2	1
ECP0006	411	2	2	1
ECP0007	410	2	2	1
ECP0008	419	2	2	1
ECP0009	422	2	2	1
ECP0010	422	2	1	2
ECP0011	421	3	3	1
ECP0012	422	1.5	1	1
ECP0013	417	2	2	1
ECP0014	418	2	2	0
ECP0015	417	1	1	1
ECP0016	421	2	2	1
ECP0017	422	2	2	2
ECP0018	419	2	1	1
ECP0019	420	2	2	1
ECP0020	421	2	2	2
ECP0021	408	2	2	1
ECP0022	409	3	3	1
ECP0023	408	2	2	1
ECP0024	410	3	3	2
ECP0025	409	2	2	2
ECP0026	411	2	2	1
ECP0027	418	2	2	1
ECP0028	418	2	2	1
ECP0029	418	1	1	1
ECP0030	421	2	2	1
ECP0031	420	3	4	2
ECP0032	423	2	2	1
ECP0033	423	3	3	1
ECP0034	408	3	3	0.5

ECP0035	407	1	1	1
ECP0036	408	2	2	1
ECP0037	407	2	2	1
ECP0038	408	2	2	1
ECP0039	408	2	1	1
ECP0040	417	2	2	1
ECP0041	421	2	2	1
ECP0042	420	2	2	1
ECP0043	415	3	4	2
ECP0044	417	2	3	2
ECP0045	419	2	2	2

Table B2-68: Descriptive statistics for all items, Tunisia model (Cooperation)

		Measures of Central Tendency		Measures of dispersion
Item	n	Median	Mode	IQR
ECP0001	446	2	1	1
ECP0002	444	2	2	1
ECP0003	446	2	2	1
ECP0004	445	2	2	1
ECP0005	449	2	2	1
ECP0006	451	2	2	1
ECP0007	448	2	1	1
ECP0008	445	2	2	1
ECP0009	446	2	2	1
ECP0010	444	2	2	2
ECP0011	444	3	3	1
ECP0012	445	1	1	1
ECP0013	443	2	2	2
ECP0014	442	2	2	1
ECP0015	444	1	1	1
ECP0016	442	2	2	2
ECP0017	444	2	2	2
ECP0018	445	2	1	1
ECP0019	445	3	2	1
ECP0020	445	2	2	1
ECP0021	447	2	2	2
ECP0022	449	3	3	1

ECP0023	446	2	1	2
ECP0024	446	3	3	1
ECP0025	449	2	2	2
ECP0026	450	2	2	1
ECP0027	445	2	2	1
ECP0028	447	2	2	1
ECP0029	447	2	1	1
ECP0030	444	2	2	2
ECP0031	443	3	4	2
ECP0032	442	2	1	1
ECP0033	441	3	3	2
ECP0034	451	3	3	1
ECP0035	447	2	1	1
ECP0036	450	2	1	1
ECP0037	448	2	2	1
ECP0038	449	2	2	1
ECP0039	451	2	1	1
ECP0040	441	2	2	1
ECP0041	439	2	2	1
ECP0042	442	2	2	2
ECP0043	441	3	4	2
ECP0044	442	2	1	2
ECP0045	441	2	2	1

Table B2-69: IRT statistics – pooled model, 45-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.56	-0.61	2.96	5.36	0.09	3.53	66.04	26	0
ECP0002	0.64	-2.27	0.7	2.82	0.13	1.12	54.68	26	0
ECP0003	0.66	-1.76	0.91	3.57	0.13	0.93	46.71	26	0.01
ECP0004	1.35	0.15	2.47	3.3	0.54	2.8	43.22	26	0.02
ECP0005	0.9	-0.33	2.95	4.51	0.24	3.59	36.93	26	0.08
ECP0006	0.8	-0.77	2.69	5.08	0.19	3.53	35.44	26	0.1
ECP0007	0.99	-0.13	2.14	3.9	0.29	2.62	43.32	26	0.02
ECP0008	0.81	-1.1	1.11	3	0.2	1.36	42.82	26	0.02
ECP0009	0.8	-0.92	2.32	4.28	0.19	3.05	57.3	26	0

ECP0010	0.7	-1.33	0.99	3.16	0.15	1.06	54.99	26	0
ECP0011	-0.37	6.09	1.97	-3.33	0.04	2.92	36.74	26	0.08
ECP0012	1.41	0.28	2.06	3.14	0.6	2.44	55.33	26	0
ECP0013	0.49	-2.71	0.66	3.89	0.07	0.81	59.44	26	0
ECP0014	1	-1.07	1.64	3.18	0.3	2.26	58.77	26	0
ECP0015	0.92	0.71	2.48	3.93	0.26	2.62	38.7	26	0.05
ECP0016	0.41	-2.25	1.65	5.55	0.05	1.66	37.37	26	0.07
ECP0017	0.61	-1.59	1.26	3.45	0.11	1.54	46.18	26	0.01
ECP0018	0.51	-0.67	2.82	4.86	0.08	2.98	28.47	26	0.34
ECP0019	0.14	-14.34	0.89	11.41	0.01	3.65	38.6	26	0.05
ECP0020	0.34	-2.07	2.54	6.52	0.04	2.74	40.05	26	0.04
ECP0021	0.12	-9.73	6.76	18.73	0	6	30.91	26	0.23
ECP0022	-0.22	9.07	3.2	-5.31	0.02	4.37	64.83	26	0
ECP0023	0.25	-4.08	1.58	7.54	0.02	1.48	51.87	26	0
ECP0024	0.11	-18.88	-4.61	9.62	0	-4.55	75.87	26	0
ECP0025	0.74	-1.01	1.42	3.67	0.17	1.6	32.55	26	0.18
ECP0026	0.88	-0.38	2.2	3.93	0.24	2.74	53.5	26	0
ECP0027	0.68	-1.73	1.66	4.83	0.13	1.84	38.71	26	0.05
ECP0028	1.19	-0.35	1.84	3.19	0.42	2.38	40.67	26	0.03
ECP0029	1.18	0.17	2.38	3.44	0.42	2.74	41.56	26	0.03
ECP0030	0.71	-0.57	1.84	3.85	0.15	2.08	67.5	26	0
ECP0031	-0.04	60.46	22.49	-16.09	0	6	68.52	26	0
ECP0032	1.24	-0.24	1.58	2.83	0.46	1.96	42.02	26	0.02
ECP0033	-0.1	17.04	4.17	-9.23	0	4.25	40.38	26	0.04
ECP0034	-0.09	27.5	11.48	-13.27	0	6	38.25	26	0.06
ECP0035	0.64	-0.12	2.08	4.28	0.13	2.08	52.9	26	0
ECP0036	0.98	-0.41	1.68	3.08	0.29	2.02	42.09	26	0.02
ECP0037	1	-0.62	2.13	3.45	0.3	2.62	44.4	26	0.01
ECP0038	1.23	-0.39	1.79	3.1	0.45	2.32	39.82	26	0.04
ECP0039	1.29	-0.05	1.9	2.87	0.5	2.26	37.33	26	0.07
ECP0040	1.01	-0.61	2.17	3.64	0.3	2.74	46.49	26	0.01
ECP0041	0.26	-5.14	2.22	8.17	0.02	3.41	72.56	26	0
ECP0042	-0.03	32.81	-10.79	-55.42	0	-6	98.72	26	0
ECP0043	0.33	-4.5	-0.75	2.36	0.03	-0.93	60.8	26	0
ECP0044	0.47	-1.5	1.33	4.49	0.07	1.3	39.48	26	0.04
ECP0045	0.75	-1.01	1.53	3.32	0.17	1.9	56.98	26	0

Table B2-70: IRT statistics – Egypt model, 45-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.1	-3.16	13.13	25.44	0	6	34.02	26	0.13
ECP0002	0.74	-1.88	0.42	2.15	0.17	0.63	30.29	26	0.26
ECP0003	0.52	-1.6	1.14	4.82	0.08	0.57	48.58	26	0
ECP0004	1.61	0.49	2.08	2.79	0.78	2.32	33.98	26	0.14
ECP0005	0.8	0.08	3.74	5.72	0.19	4.55	28.46	26	0.34
ECP0006	0.92	-0.3	2.39	4.64	0.24	2.8	46.94	26	0.01
ECP0007	0.96	0.24	2.78	4.35	0.28	3.35	25.81	26	0.47
ECP0008	1.03	-0.94	0.63	2.01	0.33	0.69	24.97	26	0.52
ECP0009	0.75	-0.84	2.3	4.2	0.17	2.92	28.09	26	0.35
ECP0010	0.74	-1.51	0.66	2.57	0.17	0.75	43.33	26	0.02
ECP0011	-0.34	5.53	1.95	-3.27	0.04	2.38	31.84	26	0.2
ECP0012	1.38	0.24	1.97	2.94	0.58	2.32	40.28	26	0.04
ECP0013	0.56	-2.61	0.04	2.86	0.1	-0.03	35.6	26	0.1
ECP0014	0.89	-0.71	2.04	3.96	0.24	2.68	32.41	26	0.18
ECP0015	1.11	0.9	2.51	3.78	0.38	2.68	41.05	26	0.03
ECP0016	0.6	-1.21	1.42	3.9	0.11	1.54	25.3	26	0.5
ECP0017	0.74	-1.56	1.02	3.13	0.17	1.42	30.71	26	0.24
ECP0018	0.44	-1.16	2.67	5.19	0.06	2.8	31.2	26	0.22
ECP0019	-0.09	16.11	-4.31	-19.16	0	-6	24.65	26	0.54
ECP0020	0.47	-1.84	1.18	3.75	0.07	1.18	27.43	26	0.39
ECP0021	-0.12	10.41	-5.27	-17.84	0	-6	40.53	26	0.03
ECP0022	-0.2	10.56	3.99	-5.54	0.01	5.22	24.56	26	0.54
ECP0023	0.29	-4.1	0.64	5.49	0.03	0.63	33.2	26	0.16
ECP0024	-0.02	83.28	24.92	-43.01	0	6	36.26	26	0.09
ECP0025	0.56	-0.76	2.17	4.7	0.1	2.38	26.36	26	0.44
ECP0026	0.94	-0.17	2.11	3.82	0.26	2.56	26.18	26	0.45
ECP0027	0.53	-1.6	2.55	5.93	0.08	3.35	15.24	26	0.95
ECP0028	1.18	-0.09	1.86	3.04	0.42	2.26	37.23	26	0.07
ECP0029	1.28	0.33	2.21	3.28	0.49	2.56	27.27	26	0.4
ECP0030	0.26	-0.27	5.2	10.17	0.02	5.22	40.77	26	0.03
ECP0031	0	-1468.04	-572.36	382.87	0	-6	51.72	26	0
ECP0032	1.26	-0.11	1.48	2.7	0.48	1.78	31.72	26	0.2
ECP0033	-0.44	4.16	1.35	-1.74	0.06	1.36	35.57	26	0.1

ECP0034	-0.09	29.82	13.09	-11.85	0	6	26.27	26	0.45
ECP0035	0.9	-0.21	1.47	2.96	0.25	1.54	28.44	26	0.34
ECP0036	0.88	-0.48	1.9	3.48	0.24	2.32	48.96	26	0
ECP0037	1.06	-0.47	1.92	3.24	0.34	2.38	29.41	26	0.29
ECP0038	1.19	-0.18	1.73	2.95	0.43	2.14	35.22	26	0.11
ECP0039	1.25	0.08	1.91	2.8	0.47	2.14	46.96	26	0.01
ECP0040	0.74	-0.14	3.23	5.41	0.16	4.01	20.33	26	0.78
ECP0041	0.23	-5.59	2.6	8.59	0.02	3.71	39.84	26	0.04
ECP0042	0.19	-6.1	1.53	8.93	0.01	1.6	68.51	26	0
ECP0043	0.33	-3.82	-0.18	2.44	0.03	-0.57	50.18	26	0
ECP0044	0.53	-0.9	1.88	4.42	0.09	1.9	21.88	26	0.7
ECP0045	0.78	-0.86	1.46	3.15	0.19	1.72	40.55	26	0.03

Table B2-71: IRT statistics – Palestine model, 45-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	1.06	-0.33	2.07	3.44	0.34	2.56	32.21	26	0.19
ECP0002	0.52	-2.62	1.05	3.8	0.08	1.66	52.86	26	0
ECP0003	0.77	-2.02	0.68	3	0.18	1.12	35.12	26	0.11
ECP0004	1.41	0.03	2.43	3.36	0.59	2.86	27.36	26	0.39
ECP0005	1.15	-0.33	2.52	3.68	0.4	3.05	48.96	26	0
ECP0006	0.79	-1.23	2.63	4.67	0.19	3.53	29.6	26	0.28
ECP0007	1.03	-0.61	1.6	3.49	0.31	1.9	39.51	26	0.04
ECP0008	0.6	-2.22	0.98	3.9	0.11	1.3	45.14	26	0.01
ECP0009	0.99	-0.78	1.88	3.42	0.29	2.44	33.29	26	0.15
ECP0010	0.53	-1.59	0.96	4.05	0.09	0.75	29.77	26	0.28
ECP0011	-0.46	5.76	1.72	-3.29	0.06	2.74	35.86	26	0.09
ECP0012	1.45	0.01	1.91	3.23	0.62	2.38	31.44	26	0.21
ECP0013	0.26	-5.64	0.64	6.83	0.02	0.69	47.17	26	0.01
ECP0014	1.11	-1.4	1.27	2.72	0.37	1.9	36.52	26	0.08
ECP0015	0.82	0.58	2.6	4.38	0.21	2.74	30.14	26	0.26
ECP0016	0.11	-12.09	3.58	19.05	0	3.77	24.93	26	0.52
ECP0017	0.57	-1.99	1.08	3.23	0.1	1.3	30.85	26	0.23
ECP0018	0.59	-0.74	2.28	4.17	0.11	2.5	22.41	26	0.67
ECP0019	0.29	-7.4	0.52	5.77	0.03	2.2	44.86	26	0.01
ECP0020	0.23	-3.21	4.13	11.82	0.02	3.71	36.86	26	0.08
ECP0021	0.48	-2.63	1.86	4.7	0.07	2.68	35.55	26	0.1

ECP0022	-0.55	4.15	1.59	-2.44	0.09	2.38	25.98	26	0.46
ECP0023	0.09	-17.07	2.5	21.48	0	3.11	30.56	26	0.25
ECP0024	-0.07	35.14	10.46	-13.92	0	6	52.55	26	0
ECP0025	0.75	-1.47	1.27	3.87	0.17	1.48	41.02	26	0.03
ECP0026	0.99	-0.46	2	3.91	0.29	2.5	32.51	26	0.18
ECP0027	0.79	-1.77	1.52	4.25	0.18	1.96	33.99	26	0.14
ECP0028	1.24	-0.49	1.75	3.21	0.45	2.32	38.87	26	0.05
ECP0029	1.32	0.19	2.48	3.24	0.51	2.8	22.13	26	0.68
ECP0030	1.02	-0.55	1.39	2.91	0.32	1.72	37.75	26	0.06
ECP0031	-0.24	11.46	4.22	-2.26	0.02	3.59	39.93	26	0.04
ECP0032	1.15	-0.52	1.49	2.97	0.39	1.96	34.43	26	0.12
ECP0033	0.25	-5.92	-0.21	5.77	0.02	-0.27	37.04	26	0.07
ECP0034	-0.4	6.37	2.84	-2.89	0.05	3.95	18.5	26	0.86
ECP0035	0.36	0.35	3.85	8.11	0.04	3.71	60.85	26	0
ECP0036	0.92	-0.62	1.64	3.02	0.26	2.02	44.02	26	0.02
ECP0037	1.13	-0.81	1.91	3.01	0.38	2.38	40.58	26	0.03
ECP0038	1.15	-0.61	1.97	3.64	0.38	2.62	19.4	26	0.82
ECP0039	1.38	-0.26	1.77	2.82	0.57	2.2	11.32	26	0.99
ECP0040	1.2	-0.69	1.73	2.9	0.43	2.2	34.11	26	0.13
ECP0041	0.27	-5.93	2.22	8.12	0.02	3.95	28.35	26	0.34
ECP0042	-0.15	8.25	-2.88	-14.76	0.01	-2.14	31.94	26	0.2
ECP0043	0.43	-4.84	-1.25	1.59	0.06	-1.18	32.37	26	0.18
ECP0044	0.45	-2.28	0.32	3.95	0.06	0.15	25.58	26	0.49
ECP0045	0.76	-1.43	1.21	3.07	0.18	1.66	31.47	26	0.21

Table B2-72: IRT statistics – Tunisia model, 45-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.85	-0.46	2.08	3.78	0.22	2.56	45.18	26	0.01
ECP0002	0.72	-2.33	0.76	2.8	0.16	1.36	30.08	26	0.26
ECP0003	0.71	-1.81	0.97	3.18	0.15	1.48	36.17	26	0.09
ECP0004	1.15	-0.22	2.99	3.79	0.39	3.35	34.79	26	0.12
ECP0005	0.81	-0.87	2.7	4.43	0.19	3.41	23.16	26	0.62
ECP0006	0.61	-1.18	3.49	6.89	0.11	4.37	26.31	26	0.45
ECP0007	0.96	-0.13	2.11	3.97	0.27	2.5	33.23	26	0.16
ECP0008	0.86	-0.54	1.95	3.93	0.22	2.44	24.95	26	0.52
ECP0009	0.6	-1.36	3.42	6.78	0.1	4.49	41	26	0.03

ECP0010	0.91	-0.87	1.31	3.06	0.25	1.66	33.42	26	0.15
ECP0011	-0.38	6.9	2.05	-3.18	0.04	2.5	19.1	26	0.83
ECP0012	1.29	0.62	2.45	3.55	0.5	2.8	38.26	26	0.06
ECP0013	0.88	-1.34	1.04	3.14	0.23	1.36	34.58	26	0.12
ECP0014	0.9	-1.35	1.76	3.27	0.24	2.38	47.43	26	0.01
ECP0015	0.95	0.47	2.11	3.4	0.28	2.14	26.94	26	0.41
ECP0016	0.45	-1.95	1.7	5.49	0.06	1.54	27.9	26	0.36
ECP0017	0.45	-1.41	2.13	4.8	0.06	2.26	22.85	26	0.64
ECP0018	0.5	-0.12	3.91	5.64	0.08	4.07	38.38	26	0.06
ECP0019	0.3	-8.55	-0.83	4.05	0.03	0.81	27.82	26	0.37
ECP0020	0.38	-1.3	3.19	6.86	0.04	3.65	19.49	26	0.82
ECP0021	0.15	-6.33	6.16	14.98	0.01	6	19.45	26	0.82
ECP0022	0.1	-17.47	-4.83	11.85	0	-6	34.94	26	0.11
ECP0023	0.45	-1.08	1.91	5.29	0.06	1.78	31.22	26	0.22
ECP0024	0.45	-4.6	-0.52	2.88	0.06	0.03	33.16	26	0.16
ECP0025	0.96	-0.91	0.96	2.81	0.28	0.99	38.05	26	0.06
ECP0026	0.75	-0.6	2.5	4.14	0.17	3.05	41.2	26	0.03
ECP0027	0.77	-1.87	1.03	4.42	0.17	0.69	20.53	26	0.77
ECP0028	1.13	-0.53	1.93	3.44	0.38	2.5	22.84	26	0.64
ECP0029	0.98	-0.09	2.49	3.81	0.29	2.98	23.71	26	0.59
ECP0030	1.09	-0.72	1.13	2.58	0.36	1.48	47.43	26	0.01
ECP0031	0.11	-18.33	-6.21	6.18	0	-6	36.85	26	0.08
ECP0032	1.17	-0.18	1.91	3.09	0.42	2.32	31.03	26	0.23
ECP0033	0.1	-21.47	-6.12	8.81	0	-5.82	17.35	26	0.9
ECP0034	0.21	-9.93	-3.43	6.39	0.01	-5.22	22.3	26	0.67
ECP0035	0.74	-0.17	1.92	3.99	0.17	1.96	34	26	0.13
ECP0036	1.15	-0.17	1.51	2.83	0.4	1.78	36.28	26	0.09
ECP0037	0.79	-0.64	2.82	4.49	0.19	3.47	25.33	26	0.5
ECP0038	1.31	-0.46	1.78	3.01	0.51	2.32	16.21	26	0.93
ECP0039	1.17	-0.02	2.09	3.2	0.41	2.5	27.51	26	0.38
ECP0040	1.15	-1	1.84	3.19	0.39	2.44	33.43	26	0.15
ECP0041	0.17	-7.02	3.12	13.5	0.01	2.8	30.02	26	0.27
ECP0042	-0.16	6.12	-2.6	-11.82	0.01	-2.44	29.41	26	0.29
ECP0043	0.2	-7.1	-1.18	4.45	0.01	-1.24	41.26	26	0.03
ECP0044	0.43	-1.63	1.54	5.05	0.06	1.42	18.43	26	0.86
ECP0045	0.53	-1.03	2.54	4.92	0.09	2.98	31.08	26	0.23

Table B2-73: IRT statistics – pooled model, 30-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.56	-0.6	2.94	5.31	0.1	3.47	68.64	26	0
ECP0002	0.65	-2.24	0.7	2.8	0.13	1.12	59.68	26	0
ECP0003	0.65	-1.79	0.93	3.63	0.13	0.93	46.22	26	0.01
ECP0004	1.41	0.15	2.41	3.2	0.6	2.74	54.1	26	0
ECP0005	0.92	-0.32	2.89	4.42	0.25	3.53	32.62	26	0.17
ECP0006	0.81	-0.76	2.65	5	0.19	3.47	35.04	26	0.11
ECP0007	1.01	-0.13	2.12	3.85	0.3	2.62	42.61	26	0.02
ECP0008	0.8	-1.1	1.12	3.02	0.2	1.36	42.86	26	0.02
ECP0009	0.78	-0.94	2.37	4.38	0.18	3.11	49.54	26	0
ECP0010	0.68	-1.34	1	3.21	0.14	1.12	49.11	26	0
ECP0012	1.41	0.28	2.06	3.14	0.59	2.44	49.82	26	0
ECP0013	0.46	-2.84	0.69	4.08	0.07	0.81	58.48	26	0
ECP0014	0.99	-1.07	1.65	3.2	0.29	2.26	63.84	26	0
ECP0015	0.92	0.71	2.49	3.95	0.26	2.62	40.82	26	0.03
ECP0017	0.61	-1.59	1.28	3.48	0.11	1.54	44.37	26	0.01
ECP0025	0.73	-1.02	1.43	3.69	0.16	1.66	33.63	26	0.14
ECP0026	0.88	-0.39	2.2	3.94	0.23	2.74	48.15	26	0.01
ECP0027	0.69	-1.71	1.64	4.77	0.14	1.84	37.83	26	0.06
ECP0028	1.2	-0.34	1.84	3.18	0.43	2.32	47.71	26	0.01
ECP0029	1.19	0.17	2.37	3.42	0.42	2.74	47.52	26	0.01
ECP0030	0.71	-0.57	1.84	3.85	0.15	2.08	60.66	26	0
ECP0032	1.19	-0.24	1.62	2.91	0.43	2.02	45.6	26	0.01
ECP0035	0.64	-0.12	2.1	4.33	0.13	2.08	61.74	26	0
ECP0036	0.97	-0.41	1.69	3.12	0.28	2.08	42.36	26	0.02
ECP0037	0.99	-0.63	2.15	3.48	0.29	2.68	47.74	26	0.01
ECP0038	1.23	-0.39	1.79	3.1	0.45	2.32	39.87	26	0.04
ECP0039	1.31	-0.05	1.88	2.84	0.52	2.2	40.17	26	0.04
ECP0040	1.02	-0.6	2.16	3.61	0.31	2.74	44.33	26	0.01
ECP0044	0.44	-1.58	1.41	4.76	0.06	1.36	51.67	26	0
ECP0045	0.74	-1.02	1.56	3.37	0.17	1.9	65.5	26	0

Table B2-74: IRT statistics – Egypt model, 30-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.16	-2.06	8.63	16.7	0.01	6	34.29	26	0.13
ECP0002	0.71	-1.94	0.44	2.23	0.16	0.63	33.3	26	0.15
ECP0003	0.54	-1.54	1.11	4.66	0.09	0.57	46.2	26	0.01
ECP0004	1.67	0.49	2.05	2.74	0.83	2.32	34.09	26	0.13
ECP0005	0.82	0.08	3.66	5.59	0.2	4.49	26.51	26	0.44
ECP0006	0.94	-0.29	2.36	4.57	0.25	2.74	33.93	26	0.14
ECP0007	0.96	0.25	2.77	4.33	0.28	3.35	29.67	26	0.28
ECP0008	0.95	-0.99	0.66	2.13	0.28	0.75	23.33	26	0.61
ECP0009	0.77	-0.82	2.24	4.09	0.18	2.86	28.45	26	0.34
ECP0010	0.7	-1.58	0.69	2.71	0.15	0.81	43.37	26	0.02
ECP0012	1.44	0.24	1.93	2.87	0.62	2.26	39.05	26	0.05
ECP0013	0.45	-3.2	0.04	3.51	0.06	-0.09	33.14	26	0.16
ECP0014	0.88	-0.72	2.06	3.99	0.23	2.74	30.02	26	0.27
ECP0015	1.04	0.95	2.65	4.01	0.33	2.86	47.82	26	0.01
ECP0017	0.81	-1.45	0.95	2.9	0.2	1.36	37.2	26	0.07
ECP0025	0.58	-0.75	2.12	4.58	0.1	2.32	18.02	26	0.88
ECP0026	0.93	-0.18	2.12	3.84	0.26	2.56	26.06	26	0.46
ECP0027	0.55	-1.53	2.44	5.68	0.09	3.23	24.09	26	0.57
ECP0028	1.19	-0.09	1.86	3.03	0.43	2.26	32.63	26	0.17
ECP0029	1.31	0.33	2.18	3.23	0.51	2.56	36.48	26	0.08
ECP0030	0.29	-0.25	4.67	9.12	0.03	4.73	35.68	26	0.1
ECP0032	1.29	-0.1	1.46	2.66	0.5	1.72	30.11	26	0.26
ECP0035	0.81	-0.23	1.59	3.23	0.2	1.6	34.75	26	0.12
ECP0036	0.88	-0.48	1.91	3.49	0.24	2.32	28.72	26	0.32
ECP0037	1.05	-0.47	1.93	3.25	0.33	2.38	26.98	26	0.41
ECP0038	1.22	-0.17	1.71	2.91	0.45	2.08	23.39	26	0.61
ECP0039	1.26	0.08	1.9	2.77	0.48	2.14	43.91	26	0.02
ECP0040	0.78	-0.14	3.08	5.15	0.18	3.83	22.64	26	0.65
ECP0044	0.42	-1.09	2.28	5.4	0.06	2.32	24.57	26	0.54
ECP0045	0.83	-0.82	1.39	3	0.21	1.66	49.61	26	0

Table B2-75: IRT statistics – Palestine model, 30-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	1.02	-0.35	2.13	3.54	0.31	2.68	39.67	26	0.04
ECP0002	0.59	-2.35	0.95	3.41	0.11	1.48	43.99	26	0.02
ECP0003	0.71	-2.16	0.72	3.2	0.15	1.18	38.14	26	0.06
ECP0004	1.5	0.02	2.34	3.23	0.67	2.74	31.1	26	0.22
ECP0005	1.18	-0.33	2.47	3.6	0.42	2.98	51.86	26	0
ECP0006	0.82	-1.21	2.55	4.54	0.2	3.41	41.5	26	0.03
ECP0007	1.05	-0.6	1.57	3.43	0.32	1.9	31.64	26	0.21
ECP0008	0.67	-2.05	0.89	3.58	0.13	1.18	41.15	26	0.03
ECP0009	0.92	-0.83	1.98	3.63	0.25	2.62	35.31	26	0.11
ECP0010	0.59	-1.46	0.88	3.72	0.11	0.63	17.05	26	0.91
ECP0012	1.47	0	1.9	3.21	0.63	2.38	27.65	26	0.38
ECP0013	0.3	-4.9	0.57	5.94	0.03	0.63	50.65	26	0
ECP0014	1.09	-1.41	1.28	2.74	0.36	1.9	34.13	26	0.13
ECP0015	0.86	0.56	2.51	4.22	0.22	2.68	29.86	26	0.27
ECP0017	0.53	-2.1	1.14	3.41	0.09	1.36	43.84	26	0.02
ECP0025	0.73	-1.51	1.32	3.98	0.16	1.54	28.6	26	0.33
ECP0026	0.98	-0.47	2.03	3.96	0.28	2.56	31.42	26	0.21
ECP0027	0.77	-1.83	1.57	4.38	0.17	1.96	34.69	26	0.12
ECP0028	1.23	-0.5	1.76	3.24	0.45	2.32	50.59	26	0
ECP0029	1.3	0.18	2.5	3.27	0.5	2.8	23.07	26	0.63
ECP0030	1.01	-0.55	1.4	2.93	0.31	1.72	38.32	26	0.06
ECP0032	1.07	-0.55	1.57	3.13	0.34	2.02	46.48	26	0.01
ECP0035	0.43	0.29	3.24	6.8	0.06	3.11	64	26	0
ECP0036	0.91	-0.63	1.65	3.03	0.25	2.02	35.06	26	0.11
ECP0037	1.12	-0.82	1.92	3.02	0.38	2.38	31.74	26	0.2
ECP0038	1.12	-0.62	2	3.7	0.36	2.62	24.74	26	0.53
ECP0039	1.43	-0.26	1.73	2.75	0.61	2.14	17.34	26	0.9
ECP0040	1.15	-0.71	1.79	3	0.39	2.26	40.52	26	0.03
ECP0044	0.47	-2.19	0.31	3.8	0.07	0.15	26.14	26	0.46
ECP0045	0.74	-1.46	1.24	3.16	0.17	1.72	37.68	26	0.06

Table B2-76: IRT statistics – Tunisia model, 30-item (Cooperation)

	IRT parameters				Item Information Curve		Fit statistics		
Item	a	δ_1	δ_2	δ_3	Maximum Information	θ	χ^2	df	*p*-value
ECP0001	0.85	-0.45	2.08	3.76	0.22	2.56	38.06	26	0.06
ECP0002	0.74	-2.28	0.75	2.75	0.16	1.36	29.47	26	0.29
ECP0003	0.7	-1.8	0.98	3.19	0.15	1.48	23.12	26	0.63
ECP0004	1.19	-0.21	2.93	3.7	0.41	3.29	32.59	26	0.17
ECP0005	0.81	-0.87	2.68	4.38	0.2	3.41	19.42	26	0.82
ECP0006	0.64	-1.14	3.36	6.63	0.12	4.25	30.96	26	0.23
ECP0007	0.96	-0.14	2.12	3.98	0.27	2.56	30.61	26	0.24
ECP0008	0.88	-0.52	1.92	3.87	0.23	2.44	28.54	26	0.33
ECP0009	0.62	-1.32	3.33	6.6	0.11	4.37	31.95	26	0.19
ECP0010	0.89	-0.88	1.34	3.12	0.24	1.72	31.07	26	0.23
ECP0012	1.31	0.62	2.43	3.52	0.52	2.8	41.54	26	0.03
ECP0013	0.84	-1.39	1.08	3.25	0.21	1.42	35.2	26	0.11
ECP0014	0.88	-1.37	1.79	3.31	0.23	2.38	63.11	26	0
ECP0015	0.91	0.49	2.18	3.53	0.25	2.2	18.28	26	0.87
ECP0017	0.46	-1.39	2.11	4.76	0.06	2.26	23.99	26	0.58
ECP0025	0.93	-0.93	0.98	2.86	0.26	0.99	22.41	26	0.67
ECP0026	0.76	-0.6	2.47	4.1	0.17	2.98	35.35	26	0.1
ECP0027	0.79	-1.82	1.01	4.32	0.18	0.69	22.01	26	0.69
ECP0028	1.14	-0.52	1.92	3.42	0.39	2.5	19.54	26	0.81
ECP0029	0.98	-0.08	2.5	3.82	0.29	2.98	18.88	26	0.84
ECP0030	1.08	-0.72	1.14	2.6	0.35	1.48	38.95	26	0.05
ECP0032	1.12	-0.18	1.98	3.2	0.38	2.38	23.23	26	0.62
ECP0035	0.72	-0.18	1.97	4.09	0.16	1.96	34.38	26	0.13
ECP0036	1.15	-0.17	1.51	2.82	0.4	1.78	34.68	26	0.12
ECP0037	0.78	-0.66	2.86	4.56	0.18	3.53	28.84	26	0.32
ECP0038	1.36	-0.46	1.73	2.93	0.55	2.26	24	26	0.58
ECP0039	1.24	-0.02	2.01	3.07	0.46	2.38	27.54	26	0.38
ECP0040	1.13	-1.01	1.86	3.23	0.38	2.44	27.82	26	0.37
ECP0044	0.36	-1.93	1.84	6.02	0.04	1.72	21.81	26	0.7
ECP0045	0.54	-1.03	2.52	4.89	0.09	2.98	37.51	26	0.07

SCALE STATISTICS

Table B2-77: Fit indices and reliability, 45-item model (Cooperation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	2766.89	855	0	0.03	0.04	0.87	0.88	0.81
Egypt	1681.66	855	0	0.03	0.05	0.85	0.86	0.81
Palestine	1665.96	855	0	0.04	0.05	0.86	0.86	0.83
Tunisia	1410.08	855	0	0.03	0.05	0.88	0.89	0.82

Table B2-78: Fit indices and reliability, 30-item model (Cooperation)

	M2*	df	*p*-value	RMSEA	SRMSR	TLI	CFI	Empirical Reliability
Pooled Model	903.01	345	0	0.03	0.03	0.95	0.96	0.8
Egypt	569.26	345	0	0.03	0.04	0.94	0.95	0.8
Palestine	649	345	0	0.04	0.05	0.92	0.93	0.82
Tunisia	523.91	345	0	0.03	0.04	0.96	0.96	0.81

Table B2-79: Measurement invariance test, 45-item model (Cooperation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	4547.94	2565	0	0.02	0.04	0.05	0.04	0.91	0.92
Metric model	4830.64	2655	0	0.02	0.05	0.05	0.05	0.9	0.9
Scalar model	5893.01	2921	0	0.02	0.05	0.06	0.05	0.88	0.87
Difference: Metric - Configural	282.7	90	0	0	0.01	0	0.01	-0.01	-0.01
Difference: Scalar - Metric	1062.37	266	0	0	0	0	0	-0.02	-0.04

Table B2-80: Measurement invariance test, 30-item model (Cooperation)

	M2*	df	*p*-value	RMSEA	SRMSR: Egypt	SRMSR: Palestine	SRMSR: Tunisia	TLI	CFI
Configural model	1689.97	1035	0	0.02	0.04	0.05	0.04	0.96	0.96
Metric model	1816.74	1095	0	0.02	0.05	0.05	0.05	0.96	0.96
Scalar model	2371.19	1271	0	0.02	0.05	0.05	0.05	0.94	0.93
Difference: Metric - Configural	126.77	60	0	0	0.01	0	0	0	-0.01
Difference: Scalar - Metric	554.45	176	0	0	0	0	0	-0.02	-0.02



APPENDIX C1: BOOKLET DESIGN IN PHASE 1

APPENDIX C1: BOOKLET DESIGN IN PHASE 1

Domain of Learning	Life Skill	Block	Items
Employability	Decision Making	Dec1	15
		Dec2	15
		Dec3	15
	Negotiation	Neg1	15
		Neg2	15
		Neg3	15
Learning	Creativity	Cre1	15
		Cre2	15
		Cre3	15
	Problem Solving	Pro1	15
		Pro2	15
		Pro3	15
Personal Empowerment	Communication	Com1	15
		Com2	15
		Com3	15
	Self-management	Sel1	15
		Sel2	15
		Sel3	15
Active Citizenship	Empathy	Emp1	15
		Emp2	15
		Emp3	15
	Participation	Par1	15
		Par2	15
		Par3	15
	Respect for Diversity	Res1	15
		Res2	15
		Res3	15
		Total Items:	405
		Sample:	

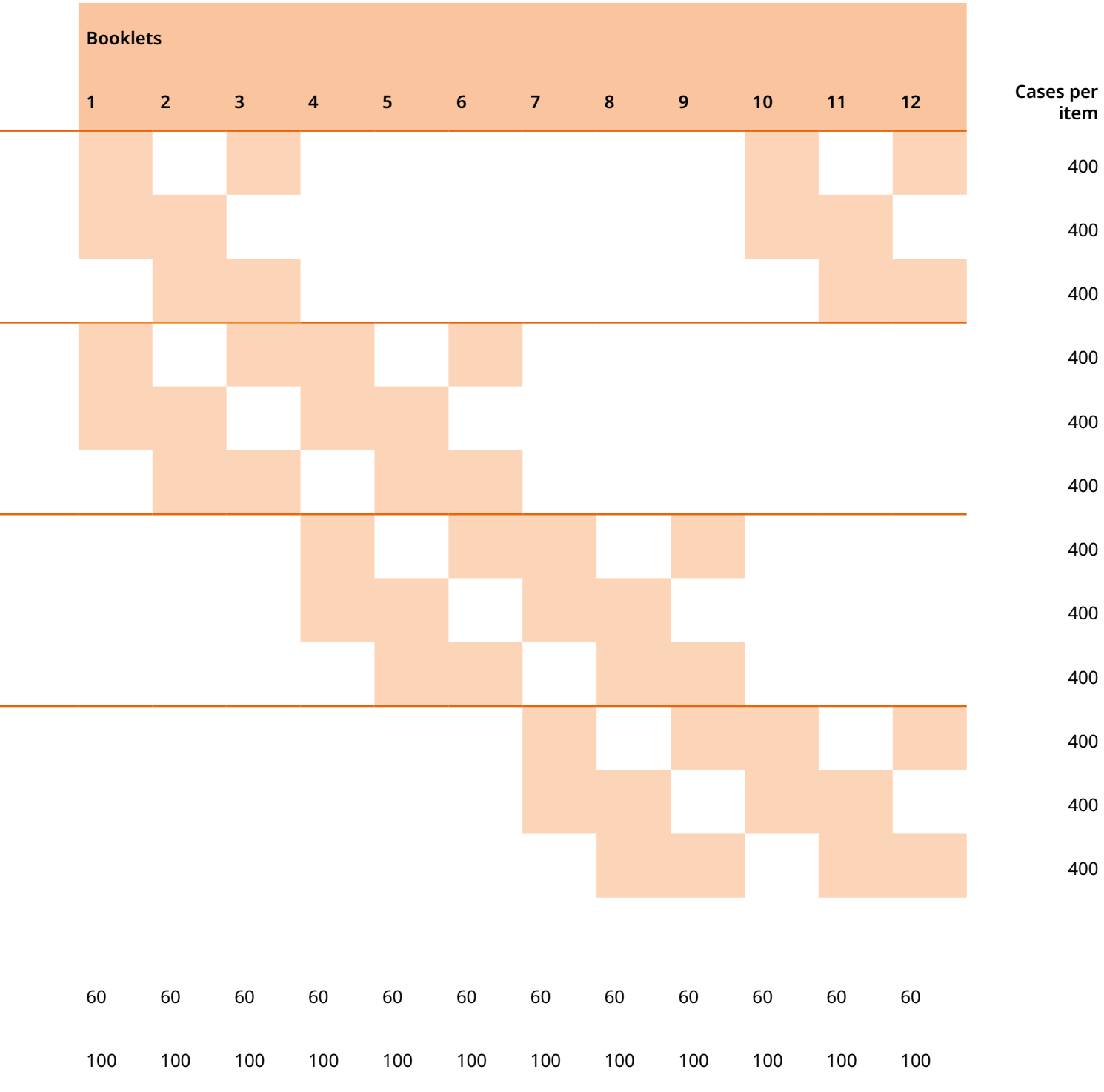
Booklet																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
x		x															
x	x																
	x	x															
x		x															
x	x																
	x	x															
			x		x												
			x	x													
				x	x												
			x		x												
			x	x													
				x	x												
						x		x									
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							x	x									
									x		x				x		x
									x	x					x	x	
										x	x					x	x
									x		x	x		x			
									x	x		x	x				
										x	x		x	x			
												x		x	x		x
												x	x		x	x	
													x	x		x	x
60	60	60	60	60	60	60	60	60	0	0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100	100	50	50	50	50	50	50	50	50	50



APPENDIX C2: BOOKLET DESIGN IN PHASE 2

APPENDIX C2: BOOKLET DESIGN IN PHASE 2

Domain	Skill	Block	Items
Learning	Critical Thinking*	1	15
		2	15
		3	15
Employability	Cooperation*	1	15
		2	15
		3	15
Personal Empowerment	Resilience*	1	15
		2	15
		3	15
	Communication*	1	15
		2	15
		3	15
	Number of Items		180
	Sample		1200


Booklets
1
2
3
4
5
6
7
8
9
10
11
12
Cases per item
400
400
400
400
400
400
400
400
400
400
400
400
60 60 60 60 60 60 60 60 60 60 60 60
100 100 100 100 100 100 100 100 100 100 100 100



APPENDIX D: STAFF, EXPERTS, ACKNOWLEDGEMENT

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IEA HAMBURG (Hamburg, Germany)

IEA Hamburg represented the International Study Centre and was responsible for the overall LSCE methodology and design, leading the implementation of the study at the national level with National Research Coordinators, producing and providing survey operation procedures and manuals, training the national teams on data management (collection and capturing), sampling, data management, and data analysis (lead).

Dr Yasin Afana (LSCE Project Manager)

Mr Ralph Carstens (Senior Research Advisor)

Mr Renato Alves Coppi (International Data Manager)

Dr Duygu Savaşcı-Smith (Sampling Research Analyst)

Mrs Sabine Tieck (Sampling Research Analyst)

Dr Yuan-Ling Liaw (Scaling and Analysis Team Lead)

Mr Maximiliano Romero (Scaling and Analysis Research Analyst)

Dr Mojca Rozman (Research and Analysis Team Analyst)

Dr Rolf Strietholt (Research and Analysis Team leader)

Mr Mohamadreza Atrian (Programmer)

Mrs Anja Waschk (TALIS-Plus Study Director)

Dr Justin Wild (Scaling and Analysis team leader in LSCE phase 1)

Dr Minge Chen (Scaling and Analysis Research Analyst in LSCE phase 1)

Christian Harries (Programmer in LSCE phase 1)

Dirk Oehler (Program Tester in LSCE phase 1)

Jurij Lenar (Research Analyst in LSCE phase 1)

NFER (Slough, United Kingdom)

NFER was assigned responsibility for instrument development, data analysis and item selection review.

Mrs Liz Twist (Project Director)

Dr Frances Brill (joint Project Manager)

Dr Lisa Kuhn (joint Project Manager)

Mrs Joanna Packer (Project Member)

Ms Isobel Beveridge (Project Member)

Ms Lydia Fletcher (Project Member)

Mr Matthew MacGregor-Stubbs (Senior Research Advisor)

Experts and Consultants

IEA and NFER worked closely together with external experts and consultants during instrument development, booklet design, and data analysis.

Mr Julian Fraillon (International Association for the Evaluation of Educational Achievement)

Dr Judy Nixon (Australian Council for Educational Research)

Dr Hynek Cigler (Masaryk University, Czech Republic)

Fons van de Vijver (Formerly Professor Emeritus Tilberg University, The Netherlands)

Bruno Losito (Roma Tre University, Italy)

Dr Esther Care (Brookings Institution, USA)

Dr Tim Kautz (Mathematica Policy Research, USA)

Dr Perman Gochyev (University of California Berkeley, USA)

Dr Fellah Lahmar (Markefield Institute of Higher Education, UK)

Dr Karma El-Hassan (American University of Beirut, Lebanon)

Steering Committee

The Steering Committee, consisting of representatives from UNICEF and the University of Roehampton, is responsible for policy coordination, quality control and providing feedback on the deliverables.

Mrs Aferdita Spahiu

Dr Alvaro Fortin

Professor Bryony Hoskins

Dr Diego Carrasco

National Focal Points of participating countries

National Focal Points were members of the Ministries of Education who facilitated access to the field, provided feedback to the assessment instruments and acted as main contact persons for the Steering Committee and the National Research Coordinators.

Dr Ramadan Mohamed Ramadan (Egypt)

Mr Jihad Draidy (State of Palestine)

Mr Mourad Sfar (Tunisia)

National Research Coordinators of participating countries

In close cooperation with National Focal Points and IEA, the National Research Coordinators were in charge of implementing the study within the country and acted as main contact partner for all persons involved in LSCE within country.

Dr Khaled ElSied (Egypt)

Dr Abdallah Bsharat (State of Palestine)

Dr Souad Selmi (Tunisia)


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