Implicit and Explicit Personality Measures in Kuwait: The Psychometric Properties of Kuwaiti Adapted Versions

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A thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy (PhD)

Declaration

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Abstract[1]

Adapting a personality-related measure to another language promotes personality theories through cross-cultural studies and enhances the fairness of testing. This thesis aims to adapt and validate different personality-related measures for use in the Kuwaiti population. Starting with a scoping review in Kuwait, the results pointed out two important conclusions: a) newly developed personality paradigms (e.g., trait emotional intelligence and belimp theory) were given less attention by researchers than their conventional counterparts such as the Big Five, and b) explicit measures dominated the field of personality assessment. Accordingly, we adapted two explicit measures (Trait Emotional Intelligence Questionnaire – Short Form and belimp inventory) and one implicit measure (Big Five IAT), following the ITC (2017) guidelines. In addition, we attempted to construct the first implicit trait EI assessment through the trait EI IAT. To this end, we conducted several pilot investigations with a total sample of 493 participants followed by two main studies (n_1 = 1458, n_2 = 314). For the adaptation of the TEIQue-SF, the findings supported a bi-factor structure, with robust psychometric properties. For the belimp inventory, we proposed a new factor structure comprising three clusters of life domains, which was supported by our data. Further, we introduced implicit personality assessment in Kuwaiti psychology, developing appropriate and robust measures to assess it (Big Five

[1] The editorial 'we' is used throughout the thesis for clarity of expression. The thesis was written solely by me, although I gratefully acknowledge the input of my supervisors in some of the ideas and their expression herein.

and trait EI IATs). Overall, we believe the present thesis makes a significant and much needed contribution to the broad domains of personality and psychometrics in Kuwait.

Impact Statement

The dissertation presents significant contributions to both academic and non-academic communities. The primary focus of the project is to adapt and validate personality-related measures for use in the Kuwaiti population, but the findings have far-reaching implications in local, regional, and international psychology literature. The academic contributions are theoretical, methodological, and practical, expanding the current literature on trait EI, belimp theory, and implicit personality assessment by including results from Kuwait, an under-represented country in the world literature. These results offer an opportunity for cross-cultural studies to researchers around the world. The methodology used, including scoping reviews and comprehensive adaptation guidelines, can help researchers advance their research in Kuwait and comparable countries.

The contributions to academic practice cannot be isolated from those mentioned above. The validated measures adapted and constructed in this dissertation can help researchers assess different personality constructs accurately. Furthermore, the findings can benefit individuals and organizations. For Kuwaiti individuals, a validated adaptation of the TEIQue-SF to assess their emotion-related self-perceptions can help them understand their trait EI better and improve it to experience positive outcomes. The introduction of a non-typical measurement method, IAT, to assess their implicit personality, can also benefit

individuals by providing a novel tool to understand where they stand in terms of the construct of interest.

For Kuwaiti organizations, the dissertation provides a reliable and valid measure to assess different personality constructs accurately. The findings also show the importance of trait EI in the workplace and how it relates to different job-related outcomes. The comprehensive tool to assess belimp theory can help with behavior modification in numerous settings, including clinical, educational, and organizational. Organizations are urged to pay more attention to personality aspects and introduce policies to better understand their employees' personalities.

Overall, the dissertation presents significant contributions to both academic and non-academic communities, including theoretical, methodological, and practical implications. The findings can help researchers around the world understand personality constructs in Kuwait and comparable countries, benefit individuals by providing them with validated measures to understand their trait EI and implicit personality and urge organizations to pay more attention to personality aspects in the workplace.

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Chapter 1: Introduction to the Dissertation

The main goals for the current dissertation are to: a) review what personality-related measures have been adapted and used in Kuwait; b) adapt and psychometrically validate explicit personality-related instruments (self-report measures; belief-importance theory (belimp) inventory and the Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF); c) adapt and psychometrically validate an implicit measure of the Big Five (Big Five Personality Implicit Association Test; IAT); and d) develop a new trait emotional intelligence IAT.

In line with these aims, four studies were conducted. The first study aimed to present a scoping review of adapted personality-related measures in Kuwait. The scoping review identifies deficits in the literature and provides us with a rationale for the rest of the dissertation as well as safeguards for its originality.

The rest of the studies concerned the adaptation of the TEIQue-SF to Kuwaiti-Arabic, belimp inventory, and the Big Five Personality IAT. We also discuss an initial effort to construct the first trait EI IAT measure in the international literature. These studies present investigations of the psychometric properties of the foregoing measures in Kuwaiti samples.

In the final chapter of this dissertation, we present a summary, along with implications for theory, methodology, and policy and practice as well as avenues for future research on the topics we have investigated.

1.1–Background to the Research

In this section, we will introduce the fields of the study, which will be later discussed in more detail in Chapter 2.

1.1.1–Scoping review

Shibayama and Wang (2020) conceptulised originality as the degree to which research provides subsequent findings that have not been presented in the existing literature. Thus, it is one of the most important criteria for a successful dissertation. One way to ensure that, is through literature scoping review, which refers to a systematic approach to scientific literature searches for the purpose of identifying knowledge gaps (Arksey & O'Malley, 2005).

To elaborate, we wanted to identify what personality-related measures have been adapted specifically for use in Kuwait. Studying personality within a specific culture is important because it allows us to understand how cultural norms and values shape an individual's personality traits, and how those traits in turn influence behaviour and interactions within that culture. It also allows for comparisons to be made across cultures, which can provide insight into the universality and cultural specificity of personality characteristics. With that being said, researchers will not be able to study the aforementioned without a reliable and valid measure.

In addition, we wanted to collect information about the most widely studied constructs along with their measurement instruments (using explicit or implicit measures) and information about what adaptation procedures were followed by

researchers. Furthermore, we wanted to summarise the approaches toward assessing the psychometric properties of these measures. Noteworthy, we did not aim to produce any synthesised result (e.g., effect size) such as is the case in systematic reviews and meta-analyses.

Thus, the scoping review was a more appropriate approach than systematic review as suggested by Munn et al. (2018) for the purposes mentioned above. We followed Arksey and O'Malley's (2005) five-stage framework for scoping reviews: 1) specifying our questions; 2) identifying relevant studies; 3) selecting studies based on certain inclusion criteria; 4) charting the information obtained from the included studies; and 5) reporting the findings.

1.1.2–Cultural adaptations of measures

Cultural adaptations of personality measures have been very popular in the last couple of decades among personality reseacrhers. One is the increasing interest in cross-cultural comparisons across different personality constructs. Also, it enhances the fairness in testing and allow participants to take the tests in their preferred languages (Hambleton & Patsula, 1998). Although it is a clearly growing literature, yet there is no global consensus on the best cultural adaptation guidelines for researchers (Epstein et al., 2015).

Researchers use the two terms, "translate" and "adapt", to describe the process of transferring a test from its original language to another. The International Test Commission (ITC, 2017) argued that the two terms are distinct.

Specifically, the term “adapt” is broader and refers to a set of systematic procedures followed by researchers to make a test accessible for individuals with different backgrounds (e.g., who speaks another mother language than the original test language).

Consequently, the ITC (2017) published comprehensive test adaptation guidelines to organise the adaptation practice among international researchers. These guidelines are detailed, as we will show in the next chapter, covering six important categories from decisions to be made prior to the adaptation process, to validating the scores obtained with the adapted measure. It is also worth noting that these guidelines are accompanied by a checklist proposed by Hernández and colleagues (2020), to clarify any ambiguities in the guidelines.

After our careful review and consideration of the literature on cultural adaptation (e.g., AERA, APA, & NCME, 2014; Beaton et al., 2000; Epstein et al., 2015; ITC, 2017), we decided to rely on the ITC (2017) guidelines to culturally adapt our identified measures. This was to ensure that we are following systematic, well-established procedures. Moreover, we wanted to show that the ITC (2017) guidelines are applicable and suitable for future cultural adaptations projects.

1.1.3–Explicit and implicit personality

Self-report measures are the most popular in personality psychology field. In this type of measures, we ask the participant to directly answer a specific question, so that inferences about his personality can be made. This direct

measurement method is scientifically viewed as an explicit measure, loosely corresponding to the explicit aspect of personality, which is one's deliberate and conscious views about their personality.

Not surprisingly, numerous personality paradigms rely on these self-report measures such as the Big Five factor of personality (Costa & McCrae, 2008) and the four-factor model of trait EI (Petrides, 2009). Thus, explaining the importance of such measures in the field of personality psychology. In Chapter 3, we will show that this type of measurement methods is also the most popular in Kuwait. However, in this dissertation, we will focus on the under-researched constructs and adapt their corresponding explicit measures in Kuwait (e.g., TEIQue-SF and Belimp inventory).

In another measurement method (e.g., implicit association tests; IAT), we ask the participant to perform a certain task, so that inferences can be made based on his performance on the task. This method is scientifically viewed as an implicit measure, corresponding to the implicit aspect of personality, which refers to one's unconscious personality.

The most popular implicit measure is the IAT (Greenwald et al., 1998). This test was originally developed to assess implicit attitudes and was not meant for implicit personality. That is until Greenwald and Farnham (2000) introduced it to the field of personality assessment. In this dissertation, we aim to introduce this measurement method to the Kuwaiti population.

1.1.4–Psychometric properties of measures

The quality of devices used in medical diagnosis is always a concern because these devices play a crucial role in the patient's health-related decisions. One way to assess device quality is through comparing the results from multiple devices that are meant to measure the same attribute (e.g., blood pressure). In psychology, this process is referred to as the assessment of the psychometric properties of a measure. To elaborate, the psychometric properties of a measure refer to the quality of results obtained from that measure (Hubley & Zumbo, 2013). It is important to check these properties because the implications that can be drawn based on certain measures are highly affected by them (Furr, 2011).

The most common psychometric properties are dimensionality, reliability, and validity of the scores obtained by the measure. Simply put, VandenBos (2007) defined dimensionality as the number of dimensions represented by certain items in a psychological construct. There are several ways to assess the dimensionality of a measure as we will elaborate in Chapter 2.

The latter two terms, reliability, and validity are features of scores obtained by a certain measure. That is, how reliable/valid is this score that is obtained using a certain measure. There are also several ways to assess the two as we will discuss in Chapter 2.

Because this dissertation is aiming to adapt and validate some personality-related measures in Kuwait, we will examine the psychometric

properties of each of them along the chapters. This step is important as further implications will be suggested by the end of this dissertation, specially, for practice and policy makers. That is to make sure that we are introducing novel measures with acceptable qualities (i.e., psychometric properties) to the Kuwaiti population.

1.2–Research Problem

As we will show in chapter three, there is a dearth of evidence related to the adaptation of well-established personality related measures to Kuwaiti-Arabic. In fact, much of the attention has been paid to measures concerning psychological constructs like Anxiety, Shyness, and Depression. This is why we are not only aiming to adapt measures of newer constructs, but also aiming to focus on well-established personality paradigms. For example, the concept of emotional intelligence has been introduced to the Kuwaiti psychology field in several studies (e.g., Al-Nasser & Al-Enezy, 2018; AlDosiry et al., 2016; Alkhadher, 2007), however, these studies either relied on the ability model or the mixed model of emotional intelligence.

Belimp theory has not yet been introduced to Kuwaiti psychology. In fact, this theory has only been studied in the United Kingdom, and therefore, we are considering the belimp inventory in our dissertation to introduce it to the Kuwaiti psychology field, but also to contribute to the development of the theory, more broadly, by testing it in a different population.

Our scoping review results revealed that researchers have only been adapting explicit-nature personality and psychological measures. In fact, we could not identify any implicit-personality related studies in the literature in Kuwait. One potential reason for that is the lack of implicit measures in Kuwait. This explains why we are interested in adapting (e.g., Big Five IAT) and constructing (e.g., trait EI IAT) implicit-nature personality measures, which will also introduce the concept of implicit personality to the Kuwaiti psychology field.

1.3–Overview of Methodology

Throughout this dissertation, we applied a mixed-method design for the purposes of this project. For example, qualitative approaches were implemented for the scoping review and for the cultural adaptation process, while quantitative approaches were implemented to assess the psychometric properties of the adapted measures, SEM, and hypotheses testing. This research design provides a more holistic understanding of the research by exploring it from multiple perspectives. Additionally, it can also help to address limitations in one type of research method by complementing it with another method.

Different sampling methods were also implemented, depending on the purpose of the study. For instance, we used a purposive sampling method to recruit participants to our pilot studies, as we wanted to ensure that our pilot sample comprises participants with an acceptable knowledge level.

We used a convenience sampling method to recruit our main study's sample (i.e., university-level students) for two main reasons. The first is because

our planned statistical analyses for the main study (e.g., bi-factor modelling in Study 1 of Chapter 4) demanded a large sample size (Bader et al., 2022; Wolf et al., 2013). The second is related to the COVID-19 lockdown restrictions in Kuwait at the time. Obviously, some of our measures (e.g., Big Five IAT, and trait EI IAT) required certain applications to work, and participants should be able to access a computer (or a laptop) to perform the IAT tasks as of Chapter 6. Due to these restrictions, we were only able to access university students in Kuwait for this particular study.

Finally, we used a non-proportional quota sampling method to recruit our professionals sample for Study 2 of Chapter 4. This is because we wanted to ensure that our sample comprises a sufficient number of participants per profession group. Although we tried to maintain the balancing between the groups, it is worth mentioning that we did not apply a proportional quota sampling method here because we were not able to identify the exact population size for each group.

1.4–Outline of the Dissertation

The layout of the present dissertation resembles the overall aim of the dissertation, as conducted through different research designs and samples. The chapters included in this dissertation are summerised as follows:

1.4.1–Chapter 2: Literature Review

This chapter covers the literature on scoping reviews, cultural adaptation practices, relevant personality theories and paradigms, such as belief-importance

(belimp) theory, trait emotional intelligence, and the Big Five factors of personality. Also, we present the theoretical basis for implementing different approaches in this project, such as the scoping review at the beginning of the project, and certain psychometric data analytic approaches (e.g., why omega may be preferable instead of alpha as an index of internal consistency for the global trait EI score).

1.4.2–Chapter 3: Adapted Personality-Related Measures in Kuwait – A Scoping Review

This chapter explores the personality measures adapted for use in Kuwait. In addition, we reviewed the adaptation guidelines used by the researchers to adapt and assess the psychometric properties of the relevant measures. The findings presented in this chapter guided us toward novel and original personality-related measures that are currently unavailable to Kuwaiti psychologists. Accordingly, these measures will be adapted and validated in the subsequent chapters for use in Kuwait.

1.4.3–Chapter 4: Adapting and Exploring the Psychometric Properties of the Kuwaiti Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF)

This chapter comprises three studies: a pilot investigation with a total of 200 participants, Study 1 including 1458 university-level students, and Study 2 including 314 professionals. The aims of this chapter were to adapt the original TEIQue-SF into Kuwaiti-Arabic, and to validate it for use in Kuwaiti population.

The findings presented in this chapter were aligned with the relevant literature, thus supporting the proposed factorial structure of the measure for use in Kuwait. The measure adapted in this chapter will then be used as a criterion in the following chapters to fulfil their aims.

1.4.4–Chapter 5: Adapting and Exploring the Psychometric Properties of the Kuwaiti Belimp Inventory

This chapter comprises two studies: a pilot investigation with a total of 138 participants, and the main study including 1458 university-level students. The aims of this chapter were to adapt the original belimp inventory into Kuwaiti-Arabic, and to validate the measure for use in Kuwaiti population. In addition, we aimed to test the central belimp theory using the adapted measure. The findings presented in this chapter will feed into the existing belimp theory literature in unique ways as we will show in the chapter.

1.4.5–Chapter 6: Introducing Implicit Association Tests of Personality to Kuwait

The main aim of this chapter is to introduce the concept and measures of implicit personality to the Kuwaiti population. It comprises different pilot studies with a total sample size of 155 participants along with a main study of 1458 university-level students. We adapted and validated the Big Five IAT and trait EI IAT for use in Kuwaiti samples. The findings revealed that the two aspects (i.e., explicit and implicit) of personality represent two distinct personality constructs,

not necessarily related, which is aligned with some findings in the literature. The implications and future directions were discussed at the end of the chapter.

1.4.6–Chapter 7: Summary of the Research

The last chapter of this dissertation provides a chapter-by-chapter recap. Briefly, we discuss the main conclusions, implications, and recommendations for theory, methodology, policy makers, and future research.

Chapter 2: Literature Review

2.1–Introduction

The present chapter summarise the literature review on the key concepts covered in this dissertation. Firstly, we introduce the scoping review methodology and contrast it with systematic reviews and meta-analytic studies. We also discuss the appropriateness of this methodology for our specific purposes, which are: 1) Identifying the personality constructs that have been researched in Kuwait, 2) Identifying the personality measures that have been adapted into Kuwaiti Arabic, and 3) Identifying the adaptation designs that researchers have followed in Kuwait.

Then, we discuss the concept of measure's cultural adaptation. Briefly, we compare and contrast the most popular guidelines in the field (e.g., Beaton et al., 2000; Bonomi et al., 1996; Guillemin et al., 1993; ITC, 2017) to identify the most suitable and comprehensive for our project. We consider current standards for educational and psychological testing (AERA, APA, & NCME, 2014) to ensure that our cultural adaptation design is aligned with them.

In addition, we present key personality paradigms and theories that can be tested by the measures adapted in this project. These are, the belief-importance (belimp) theory, Petrides' (2009) four-factor model of trait EI, and Costa and McCrae's (2008) five-factor model of personality. Furthermore, we introduce the implicit association tests (IATs) for use in assessing implicit personality. Thus, we present the key differences between explicit and implicit personality, and how

each construct is measured. We also show how the personality-related implicit association tests are designed and presented to participants. Also, we discuss how IAT scores are obtained and interpreted.

Finally, we summarise the relevant literature regarding evaluating the psychometric properties of the measure. Specifically, we will contrast between several ways to assess a measure's factorial structure (e.g., exploratory and confirmatory factor analysis). We also introduce another novel approach in the form of exploratory structural equation modelling. Lastly, we briefly discuss the concepts of reliability and validity, so that all of the data-analytic procedures implemented in our study are justified.

2.2–Scoping Review

2.2.1–Introduction to Scoping Review

One way to identify new topics and developments within a field is to search the literature. Scoping reviews offer a systematic approach to searching literature and identifying new research topics or gaps. Further, they are considered transparent methods for summarising the literature. Although this approach is increasingly popular in systematic literature searches, there is no universal definition for it (Arksey and O'Malley, 2005; Pham, 2014). However, scoping reviews are a technique for mapping literature in an effort to gain knowledge.

2.2.2–Scoping Review Framework

Arksey and O'Malley (2005) adopted a five-stage framework for scoping reviews. The first stage identifies the research questions and guides the construction of search strategies for the study. For example, if the goal is to identify the measures adapted in Kuwait, several terminologies related to the term 'measure' may exist, such as tests, instruments, and scales. In the second stage, the goal is to identify relevant studies. This stage searches different sources, such as electronic databases, reference lists, electronic journals, existing networks, and relevant organisations and conferences, for published and unpublished studies. The third stage concerns the study selection. This stage considers the inclusion and exclusion criteria for each study located in the previous stage. The fourth stage charts the data and records study-related information, such as details about the authors, constructs being measured, and the study results. The final stage aims to organise, summarise, and report the results. Unlike meta-analyses, this stage does not include the synthesis of a single value from different studies (Munn et al., 2018). Instead, the goal is to answer research questions that are qualitative in nature. Notably, there is an optional consultation exercise stage that is used to validate the scoping review findings.

2.2.3–When to Use Scoping Review?

Munn et al. (2018) proposed six indications designating the scoping review more appropriate than a systematic review. The first indication is that the

researcher aims to identify available evidence in a specific field. For example, a researcher may aim to identify tests used to measure anxiety levels in healthy adults. The second indication is the aim to illustrate the definitions in the literature. For instance, a researcher may aim to uncover definitions of 'test adaptation' by others in the field. The third indication is the aim to survey specific literature to uncover methods of research within the field. Expressly, the researcher aims to determine the adaptation procedures followed by others to identify any methodological inconsistencies. The fourth indication is the aim to identify factors related to a specific concept. The fifth indication is the aim to identify and analyse gaps within the field. For example, a research goal may be to identify what has not been performed during the test adaptation process. The last indication is the scoping review serving as a forerunner to a systematic review. If each of Munn et al.'s (2018) indications are satisfied, the scoping review should be chosen over the systematic review.

In short, a scoping review aims to provide an overview or map of the existing literature on a particular topic, research area, or question of interest. It is a preliminary form of synthesis that aims to identify the breadth of available evidence, key concepts, theories, gaps in research, and types of evidence sources. Scoping reviews are particularly useful when examining emerging or complex topics where the literature may be heterogeneous or limited.

While a systematic review, on the other hand, is a rigorous and comprehensive synthesis of primary research studies that aims to answer a

specific research question. It involves a systematic and transparent process of searching, selecting, appraising, synthesizing, and analyzing the available evidence. Systematic reviews employ strict methodological criteria to minimize bias and increase the reliability of the findings.

To ensure the originality of this research project, a scoping review on adapted personality-related measures in Kuwait was executed. This review follows the five-stage framework proposed by Arksey and O'Malley (2005). The aim of this scoping review is twofold: 1) to identify personality-related instruments adapted in Kuwait, and 2) to establish adaptation designs that are actively followed. Of note, this review does not aim to produce synthesised results to answer a specific question, as systematic reviews and meta-analyses intend.

2.2.4–Why Does the Adaptation of a Measure Matter?

One may question why not using any existing Arabic adapted measure in Kuwait, rather than focusing on adapting the measures within the Arabic Kuwaiti context. In short, using any non-Kuwaiti Arabic measures in Kuwait is not feasible for many reasons (Wrobel, 2015). First, the Arabic language is a collection of several formal and informal dialects (Abdul-Mageed, 2018; Habash, 2010). Each dialect has its own peculiarities of expressions that may not be expressible or understandable in other dialects depending on the geographic region (Zibb, 2012). Where in such case, every item has its own significance and can affect the meaning of the item. Second, Kuwait is in the Arabian Peninsula that comprises multiple cultures (Harb, 2015). Cultural differences may lead to

different psychometric properties. Furthermore, every population (i.e., culture) has its own unique norms. Researchers focusing on individuals' interpretations will not be able to perform meaningful comparisons, if the norms do not exist within the intended culture. Consequently, adapting the measures with respect to each culture following a systematic way should be considered, rather than using a general measure for every culture.

2.3–Cultural Adaptation Practices

2.3.1–Introduction to Cultural Adaptation Practices

Over the last decades, there has been a considerably increasing interest in developing multi-language versions of the personality-related testing materials. Hambleton and Patsula (1998) anticipated this increasing interest as the international exchanges of tests are becoming more common, and the interest in cross-cultural research and international comparative studies is growing. Subsequently, researchers working with non-English speaking populations tend to *translate* and *adapt* established English language tests, as the majority of personality-related tests are originally developed in English.

The two terms, "translate" and "adapt", are often used in the literature to reflect the process of developing a test in one language from an established test to a second language. However, the two terms are distinct (ITC, 2017). The former means expressing the word in a foreign language. In contrast, the latter means making something suitable for a new use and possibly requiring some modifications. It is clear that the term adapt is a broader concept when it comes

to test development activities, as it refers to the “changes in tests that are made to increase a test’s accessibility for individuals who otherwise would face construct-irrelevant barriers on the original test” (AERA, APA, & NCME, 2014, p. 215). Where the term translate is merely one of the test adaptation activities. In this introduction, the focus will be on test adaptation, which requires a combination of processes, including the translation (Borsa et al., 2012; Hambleton, 2001), to yield a test with comparable psychometric properties as the original.

Adapting a test has advantages over developing a new one. For instance, it allows for cross-cultural comparative studies, where researchers can compare data from different samples and different backgrounds. Furthermore, it enables people to take tests in their preferred language, which boosts the validity and fairness of the assessment, in return (Hambleton & Patsula, 1998), as individuals are increasingly likely to live in multicultural and multilingual communities (Ercikan & Por, 2020).

Even with the exponential increase in test adaptation practices, no global consensus has been reached on methodological guidance. One possible reason for this is dearth of empirical evidence on best adaptation practices. A review of thirty-one guidelines carried out by Epstein et al. (2015) concluded that there is no consensus regarding best guidance when adapting a test into another language due to lacking empirical evidence. The International Test Commission (ITC) started a project in 1994 to set a number of guidelines to provide a

methodological approach for researchers within the field. A later revised version of *Guidelines for Translating and Adapting Tests* (ITC, 2017) seems to be the most comprehensive work the ITC has done on the practice so far. The first edition of their guidelines was published by Van der Vijver and Hambleton (1996). The early edition received several helpful reviews (e.g., Jeanrie & Bertrand, 1999; Hambleton, 2001; Hambelton et al., 2004; Tanzer & Sim, 1999), which were addressed and considered to improve the guidelines in the second edition (ITC, 2017).

2.3.2–Guidelines for Adapting Tests

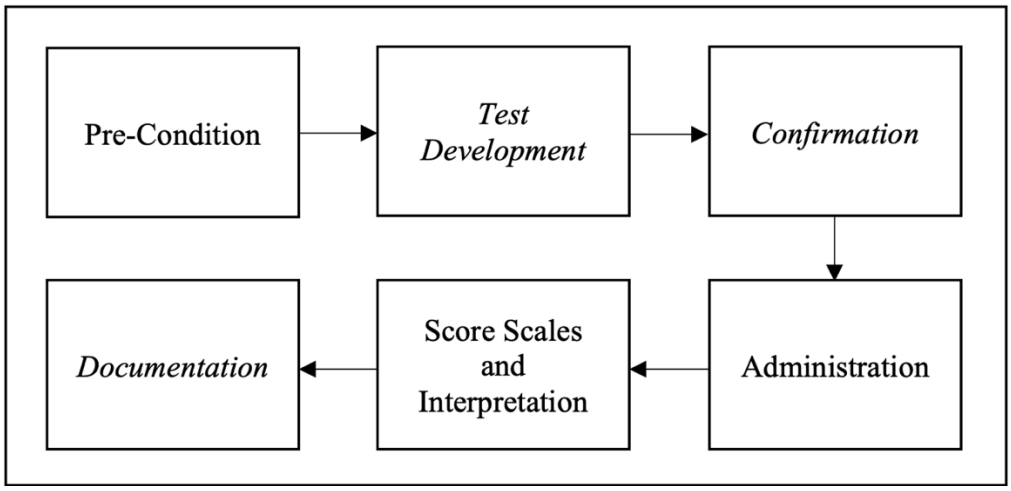
The test adaptation process is habitually viewed as simple as translating the original test into another language of interest. This view neglects the fact of the cultural differences that may exist when translating a test into a different language. As a result, this will lead to some sources of error in the results (i.e., invalidity), which will be discussed in detail later, and may present biases in the results (Herdman et al., 1998).

Guillemin and his colleagues (1993) proposed cultural adaptation whenever differences among the culture, language, and/or country of use exist in the population of interest. With that being said, the cultural adaptation process should be applied whenever the test is administered on the targeted population that is different than the source population in, at least, one of the previously mentioned aspects (i.e., culture, language, and country). As mentioned before, there is no global consensus on the best guidance when considering test

adaptation. However, the most recent and used guidelines reviewed for this matter, are sharing commonalities with respect to the adaptation stages, in which they endeavour to ensure the equivalency among the adapted and the source tests (Beaton et al., 2000; ITC, 2017). Figure 1 illustrates the six stages proposed by the ITC (2017) and the three stages proposed by Beaton et al. (2000). These stages are broader than the popular forward and backward judgmental designs set by Guillemin et al. (1993) and Bonomi et al. (1996), which focus on forward and back-translation, reviewing the two versions, and pretesting them.

Figure 1

The Adaptation Stages Purposed by Beaton et al. (2000) and the ITC (2017)



Note. Stages written in *italic* are shared between the two sources, while non-italic are mentioned only in the ITC (2017)

Beaton and her colleagues (2000) outlined a set of six-stage guidelines for the cross-cultural adaptation process, which is the most cited work within the field to date. The first stage is the forward translation, where two bilingual translators should be involved to translate the instrument from the source language to the target language. In the next stage, the two initial translations are synthesised to

produce a single common translation. Then, this common translation is going to be back-translated by two translators resulting in two back-translated versions. In the fourth stage, an expert committee comprised of methodologists, content-specific and language professionals, and translators, will review all previously done works and will resolve any discrepancies among them to achieve the equivalence between the source and the target versions in four aspects of equivalency. The first aspect is *semantic equivalence*, where the committee will check whether the words in the two versions have the same meaning and that there are no grammatical difficulties. The second aspect is *idiomatic equivalence*, where the committee will develop a new item with a similar meaning when there are words or items that are difficult to translate (i.e., colloquialisms or idioms). The third aspect is *experiential equivalence*, where the committee will check whether the item is capturing something that exists in the target culture. The last aspect is *conceptual equivalence*, where the committee will make sure that the words hold the same conceptual meaning between the source and the target cultures. By the end of the fourth stage, a pre-final version of the adapted instrument created by the expert committee will be ready for the fifth stage, i.e., pretesting. In the pretesting stage, ideally, thirty to forty participants are asked to complete the instrument and interviewed to probe about what they thought about the meaning of each item.

An additional process of statistical analysis to scrutinize the psychometric properties of the instrument is highly recommended by the authors (Beaton et al.,

2000). Reichenheim and Moraes (2007) referred to this process as the *measurement equivalence* aspect of equivalency. Measurement equivalence is ensured by evaluating the dimensional structure, the reliability, and both the construct and the criterion validity of the translated instrument. In the final stage, all of the reports and documents done in the previous stages should be submitted to the developer of the instrument. Beaton and her colleagues (2000) believe that a reasonable translation can be assumed if the stages were followed and documented properly, without any further objective assessment of the target version. These six stages outlined by Beaton et al. (2000) are still within the same guidelines' framework proposed by Guillemin et al. (1993) and Bonomi et al. (1996), which were mentioned earlier. This framework is sufficient if adapting a test for use in another culture is our main focus. However, if the goal is to conduct a cross-cultural comparative study, further steps must be taken (Hambleton & Patsula, 1998). The further steps focus on gathering empirical evidence supporting the validity of the adapted test.

A more comprehensive and recent work on the instrument adaptation process guidelines was done by ITC (2017), resulting in a total of eighteen guidelines classified into six categories (Table 1). Each guideline on the ITC (2017) is stated clearly, contrary to were these not stated clearly purposed by Beaton and her colleagues (2000). Furthermore, each guideline is explained in full detail and suggestions for practice are provided, too.

Table 1

ITC's (2017) Categories and Guidelines

Category	Guidelines
Stage 1: Pre-Condition	(1) Obtain the necessary permission from the holder of the intellectual property rights relating to the test before carrying out any adaptation. (2) Evaluate that the amount of overlap in the definition and content of the construct measured by the test and the item content in the populations of interest is sufficient for the intended use (or uses) of the scores. (3) Minimize the influence of any cultural and linguistic differences that are irrelevant to the intended uses of the test in the populations of interest.
Stage 2: Test Development	(4) Ensure that the translation and adaptation processes consider linguistic, psychological, and cultural differences in the intended populations through the choice of experts with relevant expertise. (5) Use appropriate translation designs and procedures to maximize the suitability of the test adaptation in the intended populations. (6) Provide evidence that the test instructions and item content have similar meaning for all intended populations. (7) Provide evidence that the item formats, rating scales, scoring categories, test conventions, modes of administration, and other procedures are suitable for all intended populations. (8) Collect pilot data on the adapted test to enable item analysis, reliability assessment and small-scale validity studies so that any necessary revisions to the adapted test can be made.
Stage 3: Confirmation	(9) Select sample with characteristics that are relevant for the intended use of the test and of sufficient size and relevance for the empirical analyses. (10) Provide relevant statistical evidence about the construct equivalence, method equivalence, and item equivalence for all intended populations.

Category	Guidelines
	(11) Provide evidence supporting the norms, reliability and validity of the adapted version of the test in the intended populations.
	(12) Use an appropriate equating design and data analysis procedures when linking score scales from different language versions of a test.
Stage 4: Administration	(13) Prepare administration materials and instructions to minimize any culture- and language-related problems that are caused by administration procedures and response modes that can affect the validity of the inferences drawn from the scores.
	(14) Specify testing conditions that should be followed closely in all populations of interest.
Stage 5: Score Scales and Interpretation	(15) Interpret any group score differences with reference to all relevant available information.
	(16) Only compare scores across populations when the level of invariance has been established on the scale on which scores are reported.
Stage 6: Documentation	(17) Provide technical documentation of any changes, including an account of the evidence obtained to support equivalence, when a test is adapted for use in another population.
	(18) Provide documentation for test users that will support good practice in the use of an adapted test with people in the context of the new population.

The first category (i.e., section) is the *Pre-Condition*. This category covers some decisions to be made before proceeding with the adaptation process. For example, researchers should contact the holder of intellectual property rights in order to grant permission. Also, the researcher should check whether the construct of interest exists in the target culture. Finally, minimising the influence of the cultural and linguistic characteristics irrelevant to the construct that the test is intended to measure at an early stage.

The second category is *Test Development*. This category focuses on the actual test adaptation process. Researchers should ensure that the adaptation process considers not only the linguistic differences of the test but also the psychological and cultural differences within the target population. This process must be done by at least one expert who is familiar with the languages, cultures, content of the test, and general principles related to the testing field. Moving on to the translation process, the researcher should use the appropriate translation design to maximise the functional equivalence rather than focusing on the literal equivalence of the test. The two common designs at this stage are the forward translations and the back translations. At a later stage, the researcher should provide evidence that the test instructions, item content, item formats, rating scales, scoring categories, test conventions, modes of administration, and all other related procedures are suitable for the target population. Finally, a pilot study using the adapted test should be done to allow for item analysis, reliability assessment, and small-scale validity. The ITC recommended a modest sample size (e.g., 100) for such procedures, in which the researcher can carry out a classical item analysis study to procure information about the item and scale levels. Also, it will allow the researcher to carry out a reliability analysis using coefficient alpha or coefficient omega for polytomous items.

The third category is *Confirmation*. This category outlines the guidelines for compiling empirical evidence on the equivalence, reliability, and validity of the test. The first guideline suggests selecting a sufficient sample size with the

relevant characteristics for the intended use of the test. Secondly, the researcher should present tests' equivalency evidence with statistics for all intended populations. Three different aspects of test equivalency should be assessed: construct equivalence, method equivalence, and item equivalence. Assessing the equivalence for each aspect quantitatively and qualitatively is substantial. Quantitatively, different methods shall be used to assess the equivalence for each aspect. For instance, construct equivalence can be assessed by comparing the factorial structure of the original and the adapted tests. While method equivalence can be assessed using the analysis of covariance (ANCOVA). Whereas item equivalence can be studied by the differential item functioning (DIF) analysis. On the other hand, several qualitative approaches can be performed to assess the equivalence of each aspect, such as observations, interviews, focus groups, and open-ended questions' surveys. Finally, the researcher should provide evidence supporting the norms, reliability, and validity of the adapted test, as the evidence of the original test does not apply to the adapted one automatically.

Test *Administration* is the fourth category. In this category, the ITC guides researchers toward preparing the administration and instruction materials to minimise any cultural or lingual problems that are caused by misunderstanding the test procedures, which, in return, can affect the validity of the results obtained from the adapted test.

The fifth category is *Score Scales and Interpretation*. This category discusses the interpretation of any group score differences and the score's comparisons among different populations. The research question plays a fundamental role when it comes to the group's scores differences interpretations. Not surprisingly, numerous interpretations can be explained for the group differences due to the cultural and lingual differences among the participants. On the other hand, comparisons among different populations should not be made unless the measurement invariance evidence has been established. Measurement invariance indicates the nonexistence of the construct, method, and item biases in the adapted test. The two guidelines within this category urge researchers to be cautious when comparing the groups' scores and interpreting the findings.

The last category is *Documentation*. Beaton et al. (2000) suggested documenting each stage in their guidelines, where it can help to track what has been performed and what changes have been made during that stage. This category appeared in the most two acceptable guidelines within the field, manifesting the importance of the documentation process in the adaptation as important as how the translation and other activities are. Moreover, Hernández et al. (2020) pointed out the necessity to document each step to support the quality of adaptation results. More strictly, Gudmundsson (2009) mentioned that one could not claim the existence of the adapted test unless the process followed

certain steps, where each step is documented properly. Yet, the documentation process is often neglected in practice.

A criterion checklist has been proposed by Hernández and her colleagues (2020) to overcome any issues related to the ambiguity of the ITC guidelines when applying them in practice. Also, for each criterion, a number of acceptable levels of accomplishment have been suggested. When developing the checklist, the researchers pointed out two important issues to be addressed by future researchers when adapting a test following the ITC's guidelines. First, each guideline must be considered unless it is not applicable; if it is not applicable, a justification should be made. Second, there are minimum requirements that must be satisfied when adapting a test, and these requirements are affected and increased by whether decisions are made based on the test scores and how important these decisions are. The minimum requirement for concluding the level of satisfaction is described in the document that can be found at https://www.cop.es/pdf/ITC-guidelines-for-test-adaptation-CRITERION-CHECKLIST.pdf.

2.3.3–Standards for Educational and Psychological Testing and Test Adaptation

The comprehensive work of The American Educational Research Association (AERA), American Psychological Association (APA), and National Council on Measurement in Education (NCME) *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014) provides standards for

those who are interested in the testing field, which allow them to develop, evaluate, assess the psychometric properties for their intended test uses. Our review identified a total of eleven standards (Table 2) related to the test adaptation process, where ten of them are directly related to the test adaptation process, and one is indirectly related. This number reveals how the adaptation process has evolved in the recent decade, compared to the three standards back in 1985 (Hambleton & Patsula, 1998). The eleven standards altogether provide a framework for considering the sources of error in the adaptation process.

Following the standards sequence as discussed in the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), the first standard, Standard 2.10, states the need for reliability and precision analyses whenever significant changes are done to the original test.

Moving to the fairness in testing chapter, which includes six standards out of the eleven related to the test adaptation procedures. This number of standards is not surprising as boosting the fairness in testing is one of the advantages of the test adaptation process. Standard 3.2 states the test developers' responsibility to minimise any source of construct-irrelevant errors when measuring a construct, such as linguistic, communicative, cognitive, cultural, physical, or any other source of error. Standard 3.9 states the test developers' responsibility to develop test accommodations, such as addressing individuals' specific needs (e.g., linguistic, cultural), to remove any source of construct-irrelevant error by the test takers. Standard 3.10 states the need to document

everything related to the test accommodations, when applied, by test developers. Standard 3.11 states the need to provide evidence of the validity of score interpretation for intended uses of the adapted test. Standard 3.12 states the need to describe the methods used to establish the efficiency of the adapted test and to document the empirical or logical evidence for the validity of test score interpretations. The last standard in this chapter is Standard 3.13, which states the need to administer a test in the language that is most relevant and appropriate for the test taker, except if the purpose of the test is to measure language proficiency. Moving on to the next standard, Standard 4.4 states the need to describe the content and psychometric specifications for each version of the test, when any changes are permitted, and consequently, the implications of these changes on score interpretations derived from different versions. Standard 5.7 states the need to provide empirical evidence of the comparability of scores between the adapted and the original test. Standard 7.6 states the need to document the adaptation procedures, the demographics of translators, the samples of test-takers used in the process, and reliability and validity evidence, if feasible. The last standard of our review is specifically meant to be for psychological testing; Standard 10.5 states the need to take into account the individual differences, including but not limited to linguistic differences, when using a test to assess psychological constructs. Even more, it states that if no normative nor validity studies are available for the intended population, test interpretations should be presented as hypotheses rather than conclusions.

Table 2

Standards for Educational and Psychological Testing Related to Test Adaptation

Chapter	Standard
Reliability/Precision and Errors of Measurement	2.10. When significant variations are permitted in tests or test administration procedures, separate reliability/precision analyses should be provided for scores produced under each major variation if adequate sample sizes are available.
Fairness in Testing	3.2. Test developers are responsible for developing tests that measure the intended construct and for minimizing the potential for tests' being affected by construct-irrelevant characteristics, such as linguistic, communicative, cognitive, cultural, physical, or other characteristics. 3.9. Test developers and/or test users are responsible for developing and providing test accommodations, when appropriate and feasible, to remove construct-irrelevant barriers that otherwise would interfere with examinees' ability to demonstrate their standing on the target constructs. 3.10. When test accommodations are permitted, test developers and/or test users are responsible for documenting standard provisions for using the accommodation and for monitoring the appropriate implementation of the accommodation. 3.11. When a test is changed to remove barriers to the accessibility of the construct being measured, test developers and/or users are responsible for obtaining and documenting evidence of the validity of score interpretations for intended uses of the changed test, when sample sizes permit. 3.12. When a test is translated and adapted from one language to another, test developers and/or test users are responsible for describing the methods used in establishing the adequacy of the adaptation and documenting empirical or logical evidence for the validity of test score interpretations for intended use.

Chapter	Standard
	3.13. A test should be administered in the language that is most relevant and appropriate to the test purpose.
Test Design and Development	4.4. If test developers prepare different versions of a test with some change to the test specifications, they should document the content and psychometric specifications of each version. The documentation should describe the impact of differences among versions on the validity of score interpretations for intended uses and on the precision and comparability of scores.
Scores, Scales, Norms, Score Linking, and Cut Scores	5.7. When standardized tests or testing procedures are changed for relevant subgroups of test takers, the individual or group making the change should provide evidence of the comparability of scores on the changed versions with scores obtained on the original versions of the tests. If evidence is lacking, documentation should be provided that cautions users that scores from the changed test or testing procedure may not be comparable with those from the original version.
Supporting Documentation for Tests	7.6. When a test is available in more than one language, the test documentation should provide information on the procedures that were employed to translate and adapt the test. Information should also be provided regarding the reliability/precision and validity evidence for the adapted form when feasible.
Psychological Testing and Assessment	10.5. Tests selected for use in psychological testing should be suitable for the characteristics and background of the test taker.

2.3.4–Test Adaptation Error Sources

After reviewing the standards, the sources of error affecting the equivalency of the outcome compared to the original version in the test

adaptation process can be classified into three broad categories as suggested by Hambleton and Patsula (1998): (1) cultural/language differences, (2) technical designs and methods, and (3) factors affecting results interpretations. In the following paragraphs, each category will be discussed in detail.

2.3.4.1–Cultural and Language Differences. The adaptation process is usually viewed as a literal translation, word for word, from the source language to the target language. This view fails to ensure the equivalence between the source test and the adapted one, culturally and lingually. Focusing on the literal translation may lead to identifying any linguistic discrepancies between the two forms. However, cultural differences between the source population and the target population cannot be identified. For example, focusing on the literal translation of the term "*get into someone's shoes*", which appears in one of the Trait Emotional Intelligence Questionnaire's (TEIQue) items (Petrides, 2009), does not take into account the fact that this term is incomprehensible in Arabic. Therefore, looking for other alternatives leading to the intended meaning should be considered from a cultural perspective for such terms.

To gather enough evidence to claim that the two forms are equivalent, researchers should consider several steps based on the ITC guidelines rather than only focusing on the literal translation step. Foremost, one should ensure that the intended construct, measured by a certain test, does exist in the target population. For instance, the psychological androgyny construct (Bem, 1974) might be accepted in many western countries but not in conservative Islamic

countries such as Kuwait. Therefore, such constructs have not been presented in these countries. Furthermore, the construct should be perceived in the same manner across adaptations. Second, each language version should be administered in an identical way. This is not limited to the method of test delivery (e.g., paper and pencil, or online), but also includes familiarisation of the participant with the test materials and clarifications of the test instructions before the test (Gregory, 2014). Third, items and responses formats should be equally appropriate in the two versions. For instance, rating scales are common within the psychology research fields in Kuwait, whereas, implicit association tests are not. Hence, researchers interested in applying implicit association tests should consider providing clear instructions on performing the test for the participants to eliminate any errors due to the test format. Last, but not least, the social desirability in responses is one of the factors affecting the validity of the results. For example, being religious in Kuwait is socially desirable, compared to the USA, as discussed by Abdel-Khalek and Lester (2012).

2.3.4.2–Technical Designs and Methods. Several error sources can arise by the adaptation methodology, which may affect the validity of the results. Obviously, errors may arise when researchers adapt a test that was not intended to be used in another language or culture. Moreover, much consideration should be taken when choosing translators, as translation is one of the main procedures in test adaptations. Being proficient in the two languages is not a sufficient factor for choosing the translators; being familiar with the target population's culture is a

major advantage. Furthermore, when considering the translation procedure, the existence of several dialects within a population may lead to misunderstanding the translated word if handled improperly. Also, considering the translation designs, such as forward and backward translations, Hambleton and Patsula (1998) argued that the back translation designs may lead to substantial errors in the adapted test, even though it was the most popular at that time. A study done by Behr (2016) provided empirical evidence that the back translation method fails to ensure the equivalency between the original and the adapted tests. It reveals that the back-translation outcomes are contrasted when more people are involved in the process and inconsistency in detecting the presumed flaws appears. Consequently, errors in the actual translation may remain undiscovered by mainly relying on back-translation methods. Finally, the equivalency between the source and adapted tests will still be questionable if researchers did not establish the empirical analyses. Many statistical methods can be used to provide empirical evidence for the construct, method, and item equivalency (Sireci et al., 2005), which can be used to detect any potential errors after field-testing. Approaches to assess the construct, method, and item equivalency are shown in Table 3.

Table 3

Approaches to Assess the Construct, Method, and Item Equivalency

Equivalency Source	Possible Approaches
Construct	Subject matter experts
	Exploratory Factor Analysis
	Confirmatory Factor Analysis
	Multidimensional scaling
	Comparison of nomological networks
Method – Sample Bias	Analysis of covariance
	Randomized-block designs
	Regression Analysis
	Partial correlation
Method – Instrument Bias	Monotrait-multimethod studies
	Collateral information
	Examination of change (retesting participants)
Item	Differential item functioning (DIF)

2.3.4.3–Confounding Factors Affecting the Interpretations of Results.

In the results stage, sources of error related to confounding variables may arise. Specifically, when the cross-cultural results are interpreted in a way to claim that one population is better than the other. One example is when the researcher intends to claim that the population of one country is smarter than that of another country based on the IQ results of samples drawn from the two countries. Another example will be if the study is intended to understand the differences in anxiety levels between two populations. Many variables can confound the results of the two examples, such as socioeconomic status, educational level, quality of life, etc. Therefore, precautions should be considered when interpreting the results from the two versions of the test, especially when the researcher aims to compare different populations. Consequently, researchers should consider

controlling possible confounders statistically using the appropriate statistical analysis methods.

2.3.5–Addressing the Error Sources

Failing to address the foregoing sources of error may result in inequivalence, invalid results, and result misinterpretations. Accordingly, two major aspects should be considered during the adaptation process to minimise the effect of these errors in practice: (1) documentation and (2) empirical evidence.

2.3.5.1–Documentation. Documentation plays a significant role across the different stages of the test adaptation process. In fact, Documentation not only provides information about the adapted test for future test users but also allows them to track the whole procedures and considerations taken in each step of the test adaptation process. In the scope of addressing the error sources, Documentation can be used to lay down the procedures' quality arguments by the test adapter. For example, the test adapter may argue that the appropriate translation design has been applied and the outcome is satisfactory. However, this argument cannot be claimed without documenting what has been done during the whole translation process. Clearly, Documentation is one of the test adaptation's fundamental steps that allows test adaptors to track their work in earlier stages. On the other hand, it allows critics to follow whether proper considerations were taken within each step. Therefore, any future flaws can be specified and resolved easily. Besides the final report and the adapted test

information documents, each step of the adaptation process must be well-documented.

2.3.5.2–Empirical Evidence. Carrying out an empirical analysis on the data gathered from the adapted instrument is a fundamental procedure of the adaptation process to ensure both the item-level and scale-level equivalency between the original and the adapted instrument. Several statistical approaches can be applied to gather empirical evidence as there is no one approach without shortcomings (Hambleton, 2001). For instance, classical and item response theory item analyses can be performed to scrutinise the psychometric properties of the scale, as suggested by Geisinger (1994). By applying the two theories, researchers can evaluate the response biases and whether they exist similarly among the original and the adapted instruments through as simple as examining the frequency distributions or by more complicated procedures such as Differential Item Functioning (DIF); (Holland & Wainer, 2012). Furthermore, the reliability of the scale and subscale scores among the original and the adapted instruments must be compared to examine whether any differences in response styles exist due to issues related to the adaptation process. In addition, factor analysis must be performed to examine the structure of the adapted instrument and whether it is different from the original one. In fact, any differences in the factorial structure of the instrument between the original and the adapted instruments may indicate that the adaptation process has flaws. After satisfying the criteria related to the earlier statistical techniques, several validity studies

using the adapted instrument must be done to build on the empirical evidence that ensures the measurement equivalency along with the previously mentioned techniques (Reichenheim & Moraes, 2007).

2.4–Belief-Importance Theory

2.4.1–Introduction

According to belief-importance (belimp) theory, personality traits affect the individual tendency to perceive convergences and divergences between their belief that they can achieve goals and the importance that they place on them (Petrides, 2011a; Petrides, 2011b). In turn, the belimp process offers a significant improvement in the ability to predict behaviour over any existing personality inventory.

The belief term is similar to the expectancy for success in Bandura's self-efficacy theory. In his theory, Bandura (1997) differentiated between two kinds of expectancy beliefs: outcome and efficacy expectations (Eccles & Wigfield, 2002). The former concerns the beliefs that certain behaviours will lead to certain task-related goals, whereas the latter concerns the beliefs about whether an individual can perform the necessary behaviour, sufficiently, towards the goal. The key difference between the two is that an individual can believe that a certain behaviour will lead to achieving a certain goal (outcome expectation) yet cannot believe that they can perform this action effectively (efficacy expectation). Indeed, Bandura's work is a task-specific expectation and has been applied to behaviour in many life domains (Bandura, 1997). However, belimp theory can be

viewed as a confidence in achieving success in multiple life domains to predict individual behaviour.

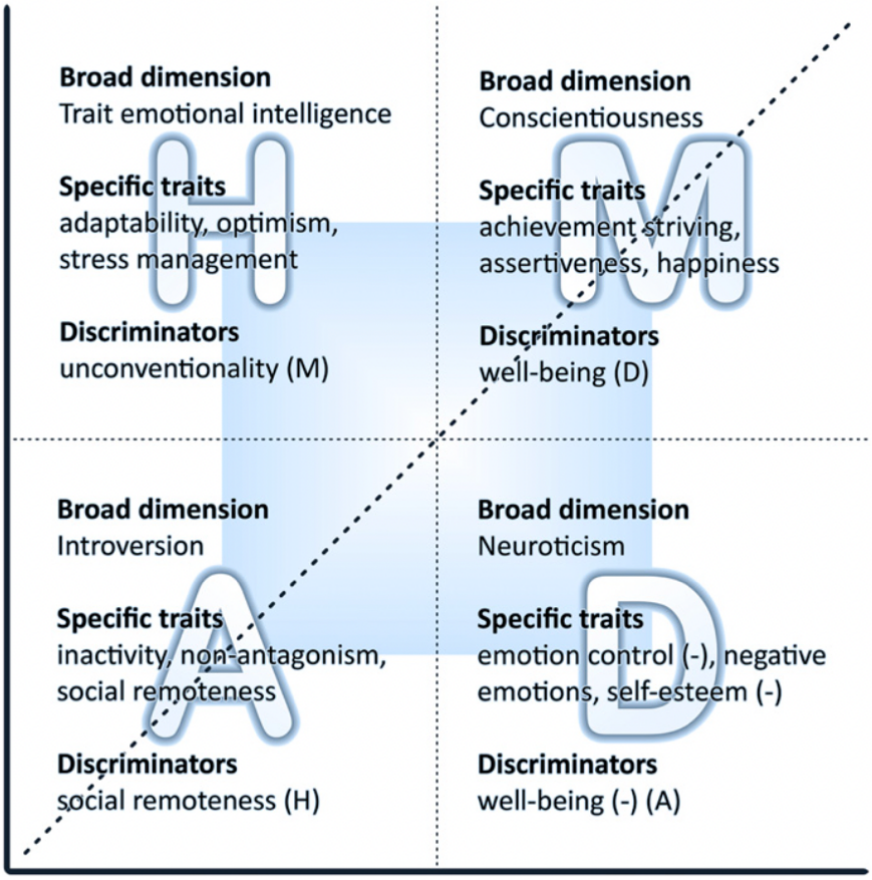
The importance term is similar to the task value construct proposed by Eccles et al. (1983) in their expectancy–value (EV) theory. Roughly, it reflects the attainment value that concerns the importance of doing well (Leaper, 2011). As with Bandura's work, EV theory is task-specific, concerning the motivation derived by the expectations for success and task value constructs to achieve in a particular domain. Meanwhile, belimp theory does not only concern a specific life domain but multiple life domains.

2.4.2–Understanding the Belimp Plane

The belimp plane (Figure 2) consists of two coordinates, one is conceptualised as belief (i.e., y-axis) and the other one as importance (i.e., x-axis). The two coordinates are orthogonal, as shown in Figure 2. However, the two coordinates will correlate in practice, given how people tend to invest in goals that they value more, which consequently increases their self-belief (Bandura, 1997).

Figure 2

The Belimp Plane



Note. Reprinted from "An application of belief-importance theory with reference to trait emotional intelligence, mood, and somatic complaints," by K. V. Petrides, 2011b, *Scandinavian Journal of Psychology,52*(2), 162. Copyright 2011 by K. V. Petrides. Reprinted with permission.

The two coordinates are affected by certain personality traits. Consequently, the individual's location on the belimp plane is determined by them. Belimp theory hypothesises that conscientiousness and introversion personality aspects confer a tendency to move towards the symmetry axis (i.e., diagonal line). Meanwhile, the neuroticism and trait emotional intelligence aspects confer a tendency to diverge from the symmetry axis. This divergence

creates residuals that can be either positive, as in the case where the belief is higher than the importance, or negative, when the importance is higher than the belief.

Four quadrants are conceptualised within the belimp plane, each of which roughly corresponds to one personality dimension and is also associated with a specific discriminator trait that helps distinguish it from their adjacent quadrants. Nonetheless, these discriminator traits cannot be treated as a key trait for their quadrant.

The top left quadrant in Figure 2, called the Hubris quadrant, corresponds to trait emotional intelligence. It suggests unconventionality, as individuals tend to believe that the major life domains are unimportant to them, even though they believe that they can succeed in them. Individuals in this quadrant tend to have a high belief that they can attain goals but place low importance on these goals.

The top right quadrant, the Motivation quadrant, corresponds to the personality trait of conscientiousness personality, which related to conventionality and diligence. Individuals high on this trait normally tend to achieve in what they view as important in the majority of life domains. Those falling into this quadrant tend to have high belief that they can attain goals and also set high importance on these goals.

The bottom right quadrant, the Depression quadrant, corresponds to the personality trait of neuroticism. It suggests modesty as it requires for one to admit low confidence in achieving certain goals, even though such goals are important,

in most of life domains. The well-being trait is a key discriminating trait for differentiating between this quadrant and the motivation quadrant above. Individuals in this quadrant tend to have low belief scores but high importance scores.

The last quadrant located in the bottom left is the Apathy quadrant and corresponds to personality trait of introversion. It suggests detachment because it entails disinterest in major life domains although this may be coupled with carelessness.

Two different types of the belimp plane can be identified: the *conditional* and the *master* belimp plane. The conditional plane can be viewed as a life-domain specific plane. Thus, there is potentially a belimp plane for every life domain. The master plane is only one, which represents the average of the conditional planes across all life domains. Accordingly, conditional planes can be either concordant or discordant with respect to the master belimp plane. For example, individuals showing high importance and beliefs (i.e., individuals in the Motivation quadrant) with respect to goals in related multiple life domains may not necessarily treat every life domain in the same manner.

The degree of concordance between the conditional and master planes is an empirical question, contingent on the individual himself. The degree of concordance between the conditional plane and other criteria can be estimated conceptually. For instance, criteria such as the job performance construct will be more likely to be concordant with the life domain of work. These concordant

planes are considered as significant predictors of behaviour, as they carry substantial information on the individual and the relevant context.

2.4.3–Belimp Inventory

Only one instrument has been developed to measure the belimp outcomes and to posit individual position on the belimp plane. The questionnaire is developed in English by Petrides (2011a) and covers 15 life domains with a total of 150 questions. Specifically, for each life domain, it comprises five questions concerning the participant's belief that certain goals can be achieved by them and five matching questions concerning the importance they set on these goals. The participants are asked to answer each question by giving a percentage score ranging from 0% (*absolutely unimportant*) to 100% (*absolutely important*) for the questions concerning goal importance, and 0% (*minimum confidence*) to 100% (*maximum confidence*) for the questions concerning the belief in reaching a particular goal. To our knowledge, there have been no published adaptations of the inventory in other cultures or languages. This could explain why this theory did not receive much attention in the literature, especially in the eastern constituent of the world. Therefore, we are aiming in this dissertation to culturally adapt the belimp inventory into Arabic for use in the middle east, specifically Kuwait, as will be seen in Chapter 5.

The number of items is relatively high, and that is due to the number of life domains included in the questionnaire. Petrides (2011a) accounted for several considerations when constructing this questionnaire to test the theory. The first

consideration was the inclusion of broader life domains instead of narrower ones. This allowed for mental aggregation across multiple domains, which in turn could overcome the influences of any personality traits on a specific domain. The second consideration concerned the individual differences in belief and importance. Explicitly, the life domain must elicit individual differences in the belief and importance; otherwise, it will result in a skewed distribution. Finally, the life domains must be appealing and within the individual's control. For instance, it is not ideal to ask individuals about their belief that their government can support poor people (e.g., *I really believe that my government can support poor people*).

2.4.4–Considerations and Strategies for Testing Belimp Theory

Testing allows for further understanding of the overall framework. For belimp theory, three considerations must be satisfied to achieve a valid resultant test (Petrides, 2011a). The first is the sample size. The nature of the theory necessitates a large sample size for testing. Second, researchers should consider including multiple life domains. This is required for increasing the reliability of determining an individual's position on the master belimp plane. The last consideration concerns the belief and importance with respect to coordinating for operationalisation. A high internal consistency of .80 and above is desired. Moreover, a small number of items must be included per coordinate, to avoid undesirably long scales.

Three different statistical procedures can be used to test belimp theory. Every approach varies in terms of focus and hence has unique requirements,

advantages, and disadvantages; researchers must be aware of them before choosing the appropriate testing approach. Nonetheless, all approaches can be applied to both the whole plane and the outer region data. However, the outer regions of the belimp plane are less affected by quadrant migration, and consequently, they are expected to offer clearer results (Petrides, 2010).

The first approach is through the one-way ANOVA technique, followed by post-hoc tests, if applicable. This approach is the simplest in nature and less sample-size demands compared with the others. In this approach, participants are divided into four groups, representing the four belimp plane quadrants, derived from the 2 x 2 table combining the high and low scores on the two belimp coordinates (more details can be found in Petrides, 2011a, in the section on strategies for testing belimp theory).

The second approach is through moderated multiple regression. This approach demands a larger sample size, and it is used to relate the individual belimp positions with other dependent variables, which cannot be handled by the ANOVA approach. In this approach, the two belimp coordinates and their multiplicative interaction will serve as regressors in the statistical model.

The third approach is through latent variable modelling. This approach demands the largest sample size but takes the measurement error in the variables into account.

2.4.5–Empirical Testing of Belimp Theory

Given that belimp theory is grounded on personality traits, based on its postulation, personality traits have been linked to the belimp coordinates. The first empirical study (Petrides, 2010) tested the central hypotheses of belimp theory by including a single life domain, namely, the life domain of appearance. Petrides (2010) advanced 12 hypotheses, two of which are based on the trait emotional intelligence, and the others on the Big Five and their facets. Petrides (2010) used the three earlier mentioned statistical approaches to test the theory. First, with the ANOVA approach, Petrides (2010) performed 12 one-way ANOVAs corresponding to the number of hypotheses. The results suggested that all of the differences among the belimp quadrants were significant. Ten hypotheses were fully supported, whereas two, on the Motivation and Apathy quadrants, were partially supported. The Motivation quadrant had the second highest score on conscientiousness, after the Hubris quadrant; the Apathy quadrant had the second lowest score on the trait emotional intelligence questionnaire-short form sociability factor, after the Depression quadrant.

As hypothesised, participants in the hubris Quadrant scored higher compared with counterparts in the Motivation quadrant on unconventionality; the Motivation quadrant group scored higher than the Depression quadrant group on the well-being factor of trait emotional intelligence; the Depression quadrant group scored lower than the Apathy quadrant group on the trait EI well-being;

and the Apathy quadrant group scored lower than the Hubris quadrant group on sociability.

Second, Petrides (2010) conducted moderated multiple regression and latent variable modelling to analyse the data on neuroticism. The results showed that the greater the negative residuals on the belimp plane (i.e., the importance is greater than the belief), the higher the neuroticism levels. This finding is aligned with belimp theory, albeit limited to a single life domain. Consequently, the replication of this result should be studied with other life domains to support and contribute to the theory.

Petrides and Frederickson (2011) tested belimp theory based on another life domain (academic achievement). They performed eight one-way ANOVAs to test eight different hypotheses. Six of them were fully supported and two were partially supported. In the case of the two hypotheses, the focal group, relative to the other groups, always scored second, instead of first. Specifically, the Hubris quadrant group scored second on global trait emotional intelligence after the Motivation quadrant group, while the apathy quadrant group scored the second lowest on the extraversion scale. Both results were expected, given the difficulty of injecting the diverse personality dimensions onto the belimp quadrants. Taking the trait emotional intelligence as an example, the optimism and stress management facets are closer to the hubris quadrant than to the motivation quadrant, whereas achievement striving and assertiveness are closer to the motivation quadrant than to the hubris one.

In a later work, Petrides (2011b) conducted two studies to test belimp theory. The first study was limited to the single life domain of financial security, and the second one addressed this limitation by including two different life domains (attractiveness and popularity). The two studies were designed to test several hypotheses related to belimp theory through the ANOVA approach. For most of the hypotheses, the results yielded clear and consistent outcomes regardless of the included life domain. For example, the apathy quadrant group always scored the lowest on the trait emotional intelligence for sociability, no matter the life domain included in the analysis. Petrides (2011b) also found a strong significant association between the belimp classifications from the two different life domains included in study 2, supporting one of the belimp theory postulations. Clearly, the belimp classifications are irrespective of the life domain included and no conflicts should be expected.

A relatively more recent work by Petrides and Furnham (2015) included four different life domains to extend the previous findings. Two of the life domains had been used earlier (appearance and financial security), and the other two were included for the first time to test the theory (family and friends). The additional domains help illustrate that the belimp classifications are not a function of the life domain, as proposed by belimp theory. Petrides and Furnham (2015) relied on the ANOVA approach to test the theory. Five different classifications were made based on each life domain (i.e., four life domains) and a global one consisting of all four life domains through aggregation. Several hypotheses were

tested per classification. The results showed that most of them were fully supported, and few were partially supported. Notably, the focal group always scored second (instead of first) in the partially supported hypotheses, as in Petrides and Frederickson (2011). Furthermore, more hypotheses were fully supported when the analysis was carried out based on the global plane. Consequently, the inclusion of more life domains, when testing belimp theory, tend to help support the main belimp theory, as expected. However, the same could also lead to different classifications for each individual, which would be based on the life domain. Furthermore, the final hypothesis in Petrides and Furnham (2015) concerned the overlap in classifications between the four life domains. The overlap among the domains was significant, except for that between friends and appearance. This result along, with the results from Petrides (2011b), provides evidence that the belimp classifications will overlap based on different life domains, leading to a stable classification at the individual level.

To conclude from earlier findings, we would expect that the Hubris quadrant will have the highest score on global trait EI; Motivation quadrant will have the highest scores on Big Five conscientiousness and the Self-control factor of trait EI; Depression quadrant will have the highest score on Big Five neuroticism and the lowest on global trait EI; and the Apathy quadrant will have the lowest score on Big Five extraversion and the Sociability factor of trait EI.

2.4.6–Clustering the Broad Life Domains of Belimp

For practical reasons, we believe that there is a need to categorise life domains included in the belimp inventory to a manageable number before proceeding to any statistical testing. Indeed, the number of higher-order life domains and the justification of each domain within it are empirical issues. In a meta-analytic study, Cummins (1996) found that the number of general life domains identified by different researchers ranged from 3 to 24 domains.

Raphael et al. (1996) presented three general life domains as aspects of people's concept, namely, *Being, Becoming,* and *Belonging*. Although the three general domains were originally proposed and widely applied within people with disabilities (Hensel, 2001; Jones et al., 2018; Livingston & Rosenbaum, 2008; Raphael et al., 1996; Raphael et al., 2001). Yet, we believe that this holistic model can be extended to individuals without disabilities, and therefore, we will retain them in the current dissertation.

More specifically, according to Raphael et al. (1996) the domain of *Being* refers to who the person is. It includes three sub-domains: physical being, psychological being, and spiritual being. We believe that the aging, financial, health, leisure, and spirituality domains can be fitted within the Being domain.

The domain of *Belonging* refers to the person's fit with the surrounded environment. It includes three sub-domains: physical belonging, social belonging, and community belonging. We believe that appearance, family, friends, relationships, and social domains can be fitted within the Belonging domain.

The domain of *Becoming* refers to the person's dedicated activities toward his goals. It includes three sub-domains: practical becoming, leisure becoming, and growth becoming. We believe that the habit, happiness, legacy, motivation, and success domains can be fitted within the Becoming domain. Noteworthy, the leisure sub-domain of becoming represents a set of activities that lead to stress reduction. While the leisure domain in the belimp inventory concerns how long someone dedicates to leisure in his life, which represents who the person is more than what he seeks to be. This is why we proposed that leisure domain can be fitted under the Being domain, but not the Becoming domain.

In his later review on life domains, Cummins (2005) argued that, generally, most domains selected by researchers are not theoretically justified and empirically tested. This issue is of special interest, and consequently, in this study we will apply confirmatory factor analysis (CFA) to test our proposed life domain clusters.

2.5–Trait Emotional Intelligence

2.5.1–Introduction

The emotional intelligence (EI) construct has been extensively researched since the 1990s, with various measures used to assess the construct (O'Connor et al., 2019). Petrides and Furnham (2000) distinguished two distinct EI constructs based on their measurement method, namely *trait EI* and *ability EI*. The latter, known as the cognitive-emotional ability, is concerned with emotion-related cognitive abilities that should be measured using maximum performance

tests and theoretically belongs to the cognitive ability domain (Petrides, 2011c). In contrast, the trait EI, known as trait emotional self-efficacy, is defined as a constellation of self-perception located at lower levels of personality hierarchies (Petrides et al., 2007). Unsurprisingly, this distinction between the two constructs was supported by empirical findings (Brannick et al., 2009). The researchers found that ability EI and trait EI measures did not correlate. Furthermore, the ability EI measure did not correlate with personality scales, while the trait EI measure did. In this project, we focus on the trait EI.

2.5.2–Trait EI Construct

In simple words, trait EI is concerned with people's perceptions of their emotional abilities and is assessed through self-report questionnaires. As noted earlier, the key difference between the two constructs (i.e., trait EI and ability EI) is how they operationalise. The ability EI is based on the maximum performance tests, such as IQ tests, with correct and wrong answers. It is troublesome because of the subjectivity of emotional experiences. Contrarily, the trait EI operationalisation is straightforward because it includes self-perceptions and dispositions aligned with the subjective nature of emotions. Consequently, the number of trait EI models and measures exploded, providing an impression that it is an easy business. However, anyone with basic psychometrics knowledge knows that it is not.

2.5.3–Trait EI Models

Several models underlying the EI construct framework were proposed since the term was first introduced by Salovey and Mayer (1990). The two researchers postulated that EI consists of several adaptive abilities such as appraisal and expression, regulation, and utilisation of emotions in solving problems. However, they revised their model (Mayer & Salovey, 1997) to emphasise the cognitive components of the construct and conceptualise it regarding potential intellectual and emotional growth.

Salovey and Mayer viewed EI as an ability-based construct (i.e., cognitive in nature); however, Bar-On (2004) argued it. The latter defines EI as “an array of non-cognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (page. 14). Bar-On studied the personality characteristics that determine one’s life success beyond any cognitive intelligence. The researcher identified five broad dimensions: intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood. However, this model was revised by Bar-On in 2000 and relabelled to a model of emotional and social intelligence.

Later, Petrides and Furnham (2001) content-analysed notable EI model and relevant constructs to derive their first sampling domain that specifically underlies the trait EI construct. This step was crucial to operationalise any psychological construct (Cattell, 1973). Their sampling domain comprised 15 facets (Table 4): adaptability, assertiveness, emotional appraisal towards self

and others, emotion expression, emotion management toward others, emotion regulation, low impulsiveness, relationship skills, self-esteem, self-motivation, social competence, stress management, trait empathy, trait happiness, and trait optimism. This model is the most scientifically acceptable trait EI model compared to other models because the above step was bypassed when the construct was defined in the earlier models (e.g., Bar-On, 2004; Salovey & Mayer, 1990).

Table 4

The Adult Sampling Domain of Trait Emotional Intelligence

Factors	Facets	High scores view themselves as ..
Well-being		
	Trait happiness	...cheerful and satisfied with their lives
	Trait optimism	...confident and likely to ‘‘look on the bright side’’ of life
	Self-esteem	...successful and self-confident
Self-control		
	Emotion regulation	…capable of controlling their emotions
	...capable of controlling their emotions	...capable of controlling their emotions
	Impulsiveness (low)	...reflective and less likely to give in to their urges
Emotionality		
	Emotion expression	...capable of communicating their feelings to others
	Emotion perception (self and others)	...clear about their own and other people’s feelings
	Relationships	...capable of maintaining fulfilling personal relationships
	Trait empathy	...capable of taking someone else’s perspective
Sociability		
	Assertiveness	...forthright, frank, and willing to stand up for their rights
	Emotion management (others)	...capable of influencing other people’s feelings
	Social awareness	...accomplished networkers with superior social skills
Auxiliary facets		
	Adaptability	...flexible and willing to adapt to new conditions
	Self-motivation	...driven and unlikely to give up in the face of adversity

Note. Adapted from “*Technical manual for the Trait Emotional Intelligence Questionnaires (TEIQue)*”, by Petrides, K. V., 2009, p. 13, London, UK: London Psychometric Laboratory.

2.5.4–Trait EI Measures

The first trait EI measure was the *Trait Meta-Mood Scale* (TMMS) proposed by Salovey and colleagues (1995). This measure was loosely based on Salovey and Mayer's model (1990), which views it as a subset of social intelligence involving the ability to monitor one's own and others' feelings and emotions to guide one's thinking and actions. The measure produces scores on three factors but not a global score. The three factors are attention to emotion, emotional clarity, and emotion repair. This measure does not cover the entire trait EI sampling domain and unintentionally ignores many core facets of the trait EI construct.

The second measure, which we will further discuss, is most commonly used in the literature. The *Bar-On Emotional Quotient Inventory* (EQ-*i*) (Bar-On, 2004) comprises 15 subscales and five higher-order factors: interpersonal, intrapersonal, adaptation, stress management, and general mood. It covers the sampling domain of trait EI better than the early TMSS measure. However, unlike TMSS, the theoretical background of the EQ-*i* is ambiguous. It has been converted from a well-being inventory to a trait EI measure. This ambiguity leads to many limitations surrounding this inventory, starting from its factorial structure. To elaborate, Petrides and Furnham (2001) studied the factorial structure of this measure, and the empirical analysis showed no evidence for higher-order structure as believed by the measure's developer. Unsurprisingly, this inventory includes several trait EI irrelevant facets such as problem-solving, relating

testing, and independence. Further, it ignores several relevant trait EI dimensions such as emotion perception, expression, and regulation.

The third measure is the *Schutte Emotional Intelligence Scale* (SEIS; Schutte et al., 1998). Like TMMS, the theoretical framework of this measure was based on Salovey and Mayer's (1990) EI model framework. Therefore, this measure is threatened by the same limitation of trait EI domain incompleteness because it is only based on the three factors model.

The last measure is one of our adaptation interests, the *Trait Emotional Intelligence Questionnaire* (TEIQue; Petrides, 2009). This measure receives much attention when measuring the trait EI because it is based on the scientifically sound sampling domain proposed by Petrides and Furnham (2001) and the trait EI theory, which conceptualises the construct as a personality trait located at the lower levels of personality hierarchies.

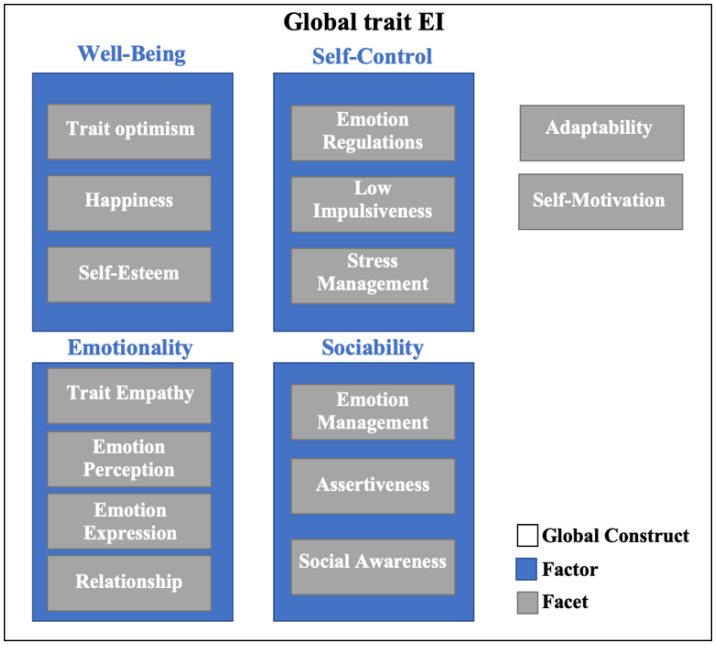
2.5.5–Trait Emotional Intelligence Questionnaire (TEIQue)

As noted earlier, the TEIQue was developed following strong scientific procedures. The measure construction started with defining the sampling domain of the construct through content analysis. Specifically, the content analysis targeted the earlier EI models (i.e., Bar-On, 2004; Salovey & Mayer, 1990) and various cognate constructs (e.g., alexithymia, affective communication, emotional expression, and empathy), where 15 facets were identified at the end (Petrides, 2009). Afterwards, the items were developed to cover every facet in the construct sampling domain, maintaining every item belongs to one facet only. The whole

process included 153 items, providing scores on 15 facets. Out of these, 13 facets loaded onto four oblique factors: well-being (trait optimism, happiness, and self-esteem), self-control (emotion regulation, low impulsiveness, and stress management), emotionality (trait empathy, emotion perception, emotion expression, and relationships), and sociability (emotion management, assertiveness, social awareness). The remaining two facets, adaptability and self-motivation, were loaded onto the global trait EI score directly (Figure 3). The participants were asked to answer each statement on a 7-point Likert scale, ranging from completely disagree to completely agree. This scientifically developed measure exists in many forms and languages because researchers worldwide are keen to contribute to the trait EI theory by studying the construct globally with a reliable measure.

Figure 3

The TEIQue Factorial Framework Based on Petrides' (2009) Model



2.5.6–Other TEIQue Forms and Versions

The TEIQue exists in four different forms, and each form exists at least in two versions. A brief description of each version is presented in Table 5. The original TEIQue is the long measure comprising 153 items, measuring scores on 15 different facets, 4 factors, and a global trait EI score, which also exists in a shorter form (a.k.a. TEIQue-SF). The TEIQue-SF is a 30-items form based on the original long TEIQue in which two items from every facet were selected based on their correlations with the corresponding total facet scores. This form can be used in research with limited experimental time and funds (e.g., PhD projects). Recent research showed that the two forms yielded the same results (Laborde et al., 2016; Laborde et al., 2017). However, unlike the original long-form, the short form doesn't provide any facet scores. Besides, due to the fewer number of items, the four factors extracted from this measure had lower internal consistencies compared to the same factors in the longer form (Petrides, 2009).

The earlier TEIQue form was developed to measure the construct in the adult population until Petrides and colleagues (2006) modified TEIQue to measure the same construct in adolescents between 13 and 17 years. The TEIQue-AAF, the full form of TEIQue, measures the same construct and yields scores on the same facets and factors. The short form of this version is the TEIQue-ASF which comprises 30 short statements and derives scores on the factors level and the global level, but not on the facet level.

Another version was developed for collecting other-ratings (i.e., observer-ratings). The TEIQue 360^0 comprises 153 items, measuring 15 distinct facets, 4 factors, and a global trait EI, asking the observer to assess the male or female ratees. This version does not reflect the trait EI but can be viewed as a rated EI measure. Like other versions, this version exists in two forms, the -SF and the -FB forms. The TEIQue 360^0-SF is the short form of the original one comprising 30-items and deriving scores on the factor and global levels only. The other form, TEIQue 360^0-FB, is slightly different in format compared to the other versions and forms. In the -FB form, the participant (in this case the observer) is asked to rate a certain ratee in each of the 15 facets in percentages instead of the usual 7-point Likert scale.

The last is the TEIQue-CF version. This version aims to assess the emotion-related facets of personality in children between 8 and 12 years. This measure comprises 75 items covering 9 facets and a global trait EI score. Unlike the regular TEIQue versions, the -CF version is based on another sampling domain that has been specifically developed for children (Mavroveli et al., 2008). This version exists in one short form, the TEIQue-CSF. The short-form comprises 36 items that can derive a global trait EI score between 8 and 12 years old.

Table 5

A Brief Description of Different TEIQue Forms

Scale	Age	n	Facets[a]	Factors[b]	Global[c]	Completion Time	Response Format
TEIQue	Adult	153	15	4	Yes	25 min	7-Likert-type
TEIQue-SF	Adult	30	0	4	Yes	5 min	7-Likert-type
TEIQue-AF	13-17 years	153	15	4	Yes	25 min	7-Likert-type
TEIQue-ASF	13-17 years	30	0	4	Yes	5 min	7-Likert-type
TEIQue 360°	Not Specified	153	15	4	Yes	20 min	7-Likert-type
TEIQue 360°-SF	Not Specified	30	0	4	Yes	5 min	7-Likert-type
TEIQue 360°-FB	Not Specified	15	0	4	Yes	5 min	Percentages
TEIQue-CF	8-12 years	75	0	9	Yes	25 min	5-Likert-type
TEIQue-CSF	8-12 years	36	0	0	Yes	10-15 min	5-Likert-type

Note. n = number of items
[a] The number of possible facets scores that can be obtained
[b] The number of possible factors scores that can be obtained
[c] Whether a global trait EI score can be obtained

2.5.7–TEIQue Translations

As the interest in trait EI literature grows exponentially among researchers, exploring the trait EI characteristics across cultures and between countries emerged. The original English TEIQue has been translated into 27 different languages (https://psychometriclab.com/translations-of-teique/). However, the norms for this measure is only available in 17 countries: Australia, Austria, Belgium, Brazil, Canada, China, Croatia, Cyprus, France, Germany, Greece, Italy, Norway, Poland, Spain, the UK, and the USA (Petrides, 2009).

Clearly, there are different norms for countries that share the same language. For instance, for Australia, Canada, the UK, and the USA, the norms are different even though the English language version was applied to these countries. It indicates that the norms are language-independent but depend on the culture and the country, as discussed in the cultural adaptation literature review. Some items were replaced, rephrased, or reordered during the adaptation process to reflect the intended culture before exposing them to the participants (Deniz et al., 2013; Martskvishvili et al., 2013; Jolić-Marjanović & Altaras-Dimitrijević, 2014; Shahzad et al., 2014; Ulutas, 2019).

Additionally, to ensure the cross-cultural factorial stability of TEIQue, many international academics collaborated and formally reported their adaptations' findings with other languages in peer-reviewed journals. The international research with different TEIQue translations supported the 4-factors model proposed by Patrides and Furnham (2001) using different factor analyses techniques (e.g., confirmatory factor analysis, exploratory factor analysis, and exploratory structural equation modelling; see Table 6).

Table 6

Published Translations of TEIQue

Study Details			Factor Analysis		Cronbach's Alpha[a,b]				
Study	**Measure**	**Language**	**Method**	**Factors**	**Global**	**WB**	**SC**	**EM**	**SO**
Abe et al., 2012	TEIQue-SF	Japanese/Japan	CFA	4	.87	.75	.65	.62	.71
Al-Dassean, 2023	TEIQue-SF	Arabic/Jordan	CFA	4	.91-.87	.81-.72	.53-.38	.68-.61	.54-.58
Aluja et al., 2016	TEIQue	Catalan/Spain	CFA & EFA	4	.95	.91	.87	.89	.86
Andrei et al., 2016	TEIQue	Italian/Italy	CFA	4	.86	.84	.57	.71	.77
Ashouri et al., 2021	TEIQue	Iranian/Iran	EFA	4	.95	.90	.80	.86	.69
Chirumbolo et al., 2019	TEIQue	Italian/Italy	ESEM	4	.86	.70	.69	.78	.82
Deniz et al., 2013	TEIQue-SF	Turkish/Turkey	CFA & EFA	4	.81	.72	.70	.66	.70
Di Fabio et al., 2016	TEIQue	Italian/Italy	CFA	4	.96	.93	.81	.92	.80
Feher et al., 2019	TEIQue-SF	Mandarin/China	CFA	4	.88	.82	.65	.65	.47
Freudenthaler et al., 2008	TEIQue	German/Austria	CFA & EFA	4	.96	.94	.86	.90	.88
Gökçen et al., 2014	TEIQue	Chinese/Hong Kong	EFA	4	.91	.75	.82	.80	.82
Hjalmarsson & Dåderman, 2022	TEIQue-SF	Swedish/Sweden	NA	NA	.86	.55	.81	.61	.86
Jacobs et al., 2015	TEIQue-SF	German/Germany	CFA	4	.88	.85	.67	.58	.62
Jolić-Marjanović & Altaras-Dimitrijević, 2014	TEIQue	Serbian/Serbia	CFA & EFA	4	.95	.80	.82	.78	.80
Kryukova & Shestova, 2020	TEIQue-SF	Russian/Russia	CFA & EFA	4	.80	.77	.67	.57	.65
Martskvishvili et al., 2013	TEIQue	Georgian/Georgia	EFA	4	.87	.82	.71	.69	.78
Mikolajczak et al., 2007	TEIQue	French/Belgium	EFA & Parallel Analysis	4	.94 - .95	.91 - .91	.85 - .87	.86 - .90	.86 - .87
Perazzo et al., 2020	TEIQue-SF	Portuguese/Brazil	ESEM	4	.88	.85	.65	.64	.60
Pérez-Díaz & Petrides, 2021	TEIQue-SF	Spanish/Chile	CFA & ESEM	4	.90	.84	.81	.63	.41
Rahimi, 2019	TEIQue	Persian/Iran	CFA	4	.87	.75	.59	.66	.72
Sánchez-Ruiz et al., 2020	TEIQue	English/Lebanon	CFA & EFA	4	.86	.81	.75	.68	.78
Shahzad et al., 2014	TEIQue-SF	Urdu/Pakistan	NA	NA	.89	NA	NA	NA	NA
Stamatopoulou et al., 2016	TEIQue-SF	Greek/Greece	NA	NA	.89	.78	.60	.64	.75
Szczygiel et al., 2015	TEIQue-SF	Polish/Poland	NA	NA	.90-.87	NA	NA	NA	NA
Ulutas, 2019	TEIQue	Turkish/Turkey	EFA & CFA	4	.91	.85	.70	.76	.84
Zuanazzi et al., 2022	TEIQue	Portuguese/Brazil	EFA	4	.90	.86	.79	.76	.80

Note. TEIQue = Trait Emotional Intelligence; TEIQue-SF = Trait Emotional Intelligence – Short Form; NA = Not Available; ESEM = Exploratory Structural Equation Modelling; EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis; TEIQue = Trait Emotional Intelligence Questionnaire; TEIQue-SF = Trait Emotional Intelligence Questionnaire – Short Form; WB = Well-being; SC = Self-control; EM = Emotionality; SO = Sociability

a. Whenever there are two values in the cell, the first one is based on the male sample and the second one is based on the female sample.
b. Omega coefficient was used instead of Cronbach's alpha when the number is in *italics*. Test-retest reliability is used when the number is in **bold**.

Further, the internal consistency as an indicator of the reliability was assessed through Cronbach's alpha, except for one study that used omega indices (Pérez-Díaz & Petrides, 2021). The internal consistency indices ranged from.80 to.96, showing an extraordinary reliability level of the overall scale.

However, on the factor's level, some troublesome internal consistency indices were noted. For example, the well-being factor had a Cronbach's alpha of.55 when it was translated to Swedish (Hjalmarsson & Dåderman, 2022), and the self-control factor had a Cronbach's alpha of.57 and.59 when translated to Italian (Andrei et al., 2016) and Persian (Rahimi, 2019), respectively. Further, the emotionality factor had a Cronbach's alpha of.58 when it was translated to German and was applied in Germany (Jacobs et al., 2015) and.57 when translated to Russian (Kryukova & Shestova, 2020). Lastly, the sociability factor showed the relatively lowest Cronbach's alpha value of.47 when it was translated to Mandarin and applied in China (Feher et al., 2019) and.41 when it was translated to Spanish and applied in Chile (Pérez-Díaz & Petrides, 2021).

Although the previously mentioned reliability indices may sound problematic, it should not doubt the credibility of the TEIQue psychometric properties for three main reasons. First, the results are sample-specific in each country and cannot be generalised to other countries. Second, the relatively low Cronbach's alpha values were not noted in a regular pattern across different translations, and some only appeared in two translations at maximum. Third, it could also potentially be a feature of poor adaptation practice. Therefore,

researchers should continue studying the psychometric properties for more TEIQue translations within each country and publish them to contribute to the TEIQue international research. Moreover, future research must consider re-studying the measure within broader samples across each country (i.e., without over studying the students' samples).

Finally, and noteworthy, exploratory factor analysis was used in some studies to examine the factor-level compatibility between the translated and original versions. The results of a few studies showed inconsistent factor-level loadings, where facets are loaded on different factors compared to the theoretical model (Table 7). For instance, the adaptability facet, which does not load on any factor based on the original model, is loaded on the self-control factor (Mikolajczak et al., 2007; Ulutas, 2019). Likewise, the self-motivation facet does not load on any factor in the original model; however, in some translations, it loads on the well-being factor (Mikolajczak et al., 2007; Ulutas, 2019) and in others on the emotionality factor (Martskvishvili et al., 2013). Further, few studies reported the self-esteem facet under the sociability factor while it was theorised under the well-being factor (Mikolajczak et al., 2007; Martskvishvili et al., 2013; Sánchez-Ruiz et al., 2020). Additionally, the low impulsiveness facet is loaded on the emotionality factor instead of the self-control factor (Mikolajczak et al., 2007; Martskvishvili et al., 2013).

Table 7

Facets Loading on Different Factors in Different Translations of TEIQue

Translation	Facet	Original Factor	Adapted Factor
English/Lebanon			
	Self-esteem	Well-being	Sociability
French/Belgium			
	Adaptability*		Self-control
	Impulsiveness (low)	Self-control	Emotionality
	Self-esteem	Well-being	Sociability
	Self-motivation*		Well-being
Georgian			
	Impulsiveness (low)	Self-control	Emotionality
	Self-esteem	Well-being	Sociability
	Self-motivation*		Emotionality
Portuguese/Brazil			
	Adaptability*		Self-control
	Self-motivation*		Well-being
Turkish			
	Adaptability*		Self-control
	Emotional Expression	Emotionality	Sociability
	Self-motivation*		Well-being

* This facet did not load on any factor but loaded on the Global trait EI directly.

2.5.8–The relationship between trait EI and Sociodemographic Variables

As any other personality trait, trait EI could correlate with certain sociodemographic variables. These correlations may be different from one country or culture to another. Thus, particular attention has been paid to these correlations in different countries such as Chile, Greece, Italy, Japan, Serbia, United Kingdom, and United States. Clearly, less attention has been paid to the Kuwaiti culture, and therefore, we are aiming to fill this gap in the TEIQue literature concerning these correlations within Kuwaiti samples.

2.5.8.1–Age. Several studies across different countries examined the relationship between TEIQue factors and age. The results emerged from these studies were inconsistent as some of them reported a positive relationship (e.g., Lin et al., 2013, in United States; Petrides & Furnham, 2006, in the United Kingdom; Stamatopoulou et al., 2016, in Greece), while a negative relationship was observed in another (Jolić-Marjanović & Altaras-Dimitrijević, 2014, in Serbia). Pérez-Díaz et al. (2021) merged data from four countries: Brazil, Chile, Italy, and United Kingdom, and found no relationship.

2.5.8.3–Citizenship status. One study looked at the trait EI differences among citizens and non-citizens in Japan (Abe et al., 2013). They found that non-citizens (A sample comprises Taiwanese, Thais, and Indonesians, living in Japan) scored higher than their Japanese counterparts on global trait EI. The effect size in this study was not reported. We believe that this area is under-researched, and we are aiming to contribute to it by examining the differences among citizens and non-citizens in Kuwait.

2.5.8.3–Gender. Examining the gender differences in trait EI received more attention in the TEIQue literature than other sociodemographic variables. This is not surprising because researchers wanted to examine whether “IQ is male, and EQ is female” is true in different countries. In short, we can say that this claim is not accurate.

In fact, several studies concluded the opposite, where males scored higher than females on global trait EI (Chirumbolo et al., 2019, in Italy; Petrides,

2009, in United Kingdom; Perazzo et al., 2020, in Brazil). In these studies, the effect sizes were medium to low, suggesting that the differences can be due to the constitution of the sample. The majority of studies, however, concluded that the global trait EI differences were not significant among the two gender groups (Abe et al., 2018, in Japan; Jolić-Marjanović & Altaras-Dimitrijević, 2014, in Serbia; Lin et al., 2013, in United States; Martskvishvili et al., 2013, in Georgia; McKinley et al., 2014, in United States; Pérez-Díaz & Petrides, 2021, in Chile; Sánchez-Ruiz et al., 2010, in United Kingdom; Siegling et al., 2012, in Canada; Stamatopoulou et al., 2016, in Greece).

On the factor-level, males consistently scored higher than females on the Self-control and Sociability factors of trait EI (Chirumbolo et al., 2019; Jolić-Marjanović & Altaras-Dimitrijević, 2014; Martskvishvili et al., 2013; McKinley et al., 2014; Perazzo et al., 2020; Siegling et al., 2012; Stamatopoulou et al., 2016). While females showed higher Emotionality scores than males (Chirumbolo et al., 2019; McKinley et al., 2014; Siegling et al., 2012). Thus, we would expect the same in our Kuwaiti sample.

2.5.8.4–Marital status. As citizenship status and trait EI, trait EI differences among different marital status groups are overlooked. Pérez-Díaz et al. (2021) examined the trait EI differences among different marital status in Chile, Italy, and United Kingdom. They found that married participants scored significantly higher than others in Chile and Italy, but not the United Kingdom, on

global trait EI. The findings in Chile and Italy in their study were consistent with the earlier findings in Greece (Stamatopoulou et al., 2016).

2.5.8.5–University majors. Although TEIQue literature is growing in the academic field, only few studies concerned the trait EI differences across university majors. Sánchez-Ruiz et al. (2010) found that students in Arts majors had numerically higher global trait EI scores than other majors. In another study, Sánchez-Ruiz et al. (2013) found that psychology students scored had higher trait EI scores than their counterparts in other majors such as computer sciences, business, electrical engineering, and accounting. Taking the findings from these two studies, we believe that students in Arts majors will have higher trait EI scores than their counterparts in Science majors.

2.5.9–The relationship between trait EI and Job-related Variables

Employees' emotions play a crucial part in the workplace (Ashkanasy & Dorris, 2017). Evidence from the field of Organisational Psychology and Behaviour suggest that positive emotions influence workplace success-related variables, such as creativity, work engagement, coping, teamwork, and collaboration (Diener et al., 2020). Further evidence in the form of meta-analysis by Shockley et al. (2012) revealed that negative emotions were associated with harmful organisational behaviours. In fact, earlier findings from the decision-making field showed that people's behaviour is determined by the emotions they expect to experience in the future or those they have experienced previously (Mellers et al., 1999). These effects have also been investigated with reference

to trait emotional intelligence theory to which we now turn (Sevdalis, Petrides & Harvey, 2007).

Several studies found that trait EI predicts many job-related variables such as job performance (Joseph et al., 2015; Li et al., 2018; O'Boyle et al., 2011), job satisfaction (Hubscher-Davidson, 2016; Ignat & Clipa, 2012; Li et al., 2018; Naderi Anari, 2012; Platsidou, 2010; Schutte & Loi, 2014), and organisational commitment (Nikolaou & Tsaousis, 2002; Petrides & Furnham, 2006; Salami 2008). Yet these either focused exclusively on a single professional group (e.g., teachers) or pooled together multiple professions without regard to their unique characteristics. In the present dissertation, we will contribute to the existing body of the trait EI literature by including different and previously uninvestigated professions.

2.5.9.1–Job Performance. Job performance is one of the most researched concepts within organisational settings, and one of the key variables included in our study. Motowidlo (2003) viewed job performance as a set of behaviours carried out by an individual that the organisation expects in a period of time. In one meta-analytic study, O'Boyle et al. (2011) found that trait EI is a very strong predictor of job performance with clear incremental validity over cognitive ability and the Five Factors of personality. In fact, Sackett et al. (2021) found, in a recent meta-analytic study, that trait EI is the best personality-related predictor of job performance.

2.5.9.2–Job Attitudes. Other job-related variables included in our project are job satisfaction, organisational commitment, and job attitudes. Job satisfaction can be viewed as how people feel about their job and several aspects related to it (Spector, 1997). While organisational commitment is viewed as people's psychological bond to the organisation and how they persist in sacrificing for this organization (Allen & Meyer, 1990).

Judge and Kammeyer-Mueller (2012) argued that job attitude is a multifaceted construct composed of several job-related attitudes such as job satisfaction and organisational commitment. Thus, job attitudes can be viewed as a hierarchical evaluation of one's feelings toward their job (i.e., job satisfaction) and one's attachment to their job (i.e., organisational commitment). For this, we will view job attitudes as a latent variable represented by both job satisfaction and organizational commitment throughout this project.

Miao and colleagues (2016) studied the relationship between EI and job attitudes concepts (e.g., job satisfaction and organisational commitment). Their meta-analytic study found that self-reported trait EI was positively related to job attitudes. Thus, participants with higher trait EI generally tend to have higher job satisfaction and organisational commitment.

Researchers started their investigation on the causal relationship between job attitudes and job performance in the '70s (e.g., Sheridan & Slocum, 1975; Siegel & Bowen, 1971; Wanous, 1974). Since then, most studies have shown that job performance and positive job attitudes (e.g., job satisfaction and

organisational commitment) were positively correlated. Yet, the causal relationship between them was inconclusive. Explicitly, does job performance increase job attitudes, or it is the other way around? Riketta (2008) conducted a meta-analytic regression to answer this question. The results of his study favoured the idea that positive job attitudes influenced job performance, but not the other way around. Therefore, we will retest this view in the current project.

It is worth to mention that none of the foregoing meta-analyses has included results from Kuwait. Two reasons may potentially explain that. One is related to the fact that relevant studies may have been published in Arabic only, making them inaccessible to English researchers. The other reason could be the lack of studies in Kuwait. Either way, there is a noticeable lack of studies in Kuwait published in English and can be globally reached by interested people.

As in most countries, two job providers exist in Kuwait: the government and the private sectors. The Central Statistical Bureau (CBS) of Kuwait (2021) reported that three-quarters of the employees in the government sector are Kuwaitis, while they only represent 4.5% of the employees in the private sector (CBS, 2014a, b). This discrepancy can be due to the salary paid by each sector compared to the job nature, working hours, and job security. Excluding the military sector from their report, CBS showed that 56% of the employees in the government sector are females, in which most of them are working in the Ministry of Education. Further, the report showed that most employees in the government

sector are between 25 and 44 years old. The results were similar in the private sector.

In the present project, we are contributing to the literature by studying the relationship between trait emotional intelligence, job attitudes, and job performance in different professions within Kuwait. We will also present a starting-up trait EI profile for each profession for future researchers who wish to investigate these profiles for any purpose.

2.6–The Five Factor Model of Personality

2.6.1–Introduction

Undoubtedly, the five-factor model of personality, known as the Big Five, is the most popular personality model. Although the origin of this model is unclear, it is obvious that this model emerges based on Cattel's system that depends on the factor analytic approach (for further details, see Digman, 1990). The researcher showed that the five-factor model was robust in many studies following the factor analytic approach. In other words, much of what is meant by the term *personality* is explained by the five-factor model.

Nevertheless, the factor names and their interpretations were inconsistent among the researchers. For example, Norman's (1963) five factors were surgency, agreeableness, conscientiousness, emotional stability, and culture. While Costa and McCrae's (2008) most popular five factors were extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Frequently, there is a global consensus on factors' labels: I. Extraversion or

surgency; II. Friendliness or agreeableness; III. Conscientiousness; IV. Neuroticism or emotional stability; and V. Openness to experience or intellect.

2.6.2–Costa and McCrae's Five-Factor Model of Personality

Costa and McCrae (2008) developed an inventory to assess the five factors of personality in 1985, known as the NEO-Personality Inventory (NEO-PI). This inventory was limited to facet scales for Neuroticism (N), Extraversion (E), and Openness (O) factors only. Later, the two researchers developed the Revised NEO Personality Inventory (NEO-PI-R) in 1992 to add facet scale for the two remaining factors: Agreeableness (A) and Conscientiousness (C). The NEO-PI-R provided an in-depth facets and factors levels' personality assessment as it comprises 240 items. However, long measures are less practical when it comes to the personality assessment, especially, in survey research, due to the limitations of time. Accordingly, a shorter form of the NEO-PI family has been developed by the researchers comprising 12-items for each factor making up the total to 60 items. This shortened version is known as the NEO Five-Factor Inventory (NEO-FFI). We used this shortened form in our study due to the circumstances relating to our project (i.e., limited time and funding resources). Weiner and Greene (2017) summarised the interpretations of each factor in their *Handbook of Personality Assessment* (See table 11.4 in Chapter 11).

Soon after the revised version appeared, several translations were made that led to a growing body of international personality research (for more details, see Costa & McCrae, 2008). The inventory has been translated into more than

25 languages and culturally adapted in more than 50 cultures across all continents (McCrae & Terracciano, 2005).

2.6.3–The Big Five and Trait EI

Many studies concerned the relationship between the Big Five factors and trait EI, measured by the TEIQue (Freudenthaler et al., 2008; Pérez-González & Sanchez-Ruiz, 2014; Perazzo et al., 2020; Petrides et al., 2010; Robinson et al., 2020; Siegling et al., 2015; Van der Linden et al., 2012; Vernon et al., 2008). This is not surprising because trait EI is viewed as a personality trait and studying its relationship with a well-established trait taxonomy such as the Big Five model should be a concern.

Several studies concerned the level of overlap between the Big Five and trait EI (Petrides et al., 2010; Siegling et al., 2015; Vernon et al., 2008). By regressing global trait EI scores on the Big Five factors, the researchers found that the Big Five factors, jointly, explained, at least, 50% of the global trait EI variance. Thus, a 50% overlap between the Big Five and trait EI is expected.

In more detail, Neuroticism always showed the strongest correlation among the other Big Five variables with the global trait EI. Extraversion and Conscientiousness also showed a relatively stronger correlations with the global trait EI, compared to Agreeableness and Openness. Thus, we would expect the same pattern in our study when the Big Five and global trait EI is concerned.

2.7–Implicit Personality Measures

2.7.1–Introduction

Historically, psychologists interested in studying the personality differences among individuals relied on self-report measures (e.g., Big Five and TEIQue). These measures are *direct* and scientifically categorised under *explicit* measures. Explicit measures assess mental structures and processes accessible through introspection (James & LeBreton, 2012). In other words, participants are asked directly to respond to items concerning their explicit needs, motives, values, and traits. For example, when you ask people directly how they feel about a product, you are using an explicit question.

In contrast, when you do not ask people directly about their feeling but assess their behaviour or how they perform a task (e.g., whether they come back to buy the same product again), you are using an *indirect* method. This indirect measurement method is referred to as *implicit* measure. Implicit measures are contrary to their explicit counterparts in which the earlier assess the mental structures and processes that are inaccessible through introspection (James & LeBreton, 2012). Accordingly, one may define implicit measures as an indirect assessment tool that people may be unaware of or are unwilling to report (Rudman, 2011). Undoubtedly, response latencies are the most common implicit measure during the last decade.

In response to latency studies, researchers are interested in measuring the reaction times when participants perform a certain task. Thus, the

participants are not asked about their feelings, instead, they focus on performing an objective task in which inferences are drawn from their timed performance. Implicit association tests (IAT; Greenwald et al., 1998) are the most common response latency that relies on reaction times to assess different personality aspects such as attitudes and traits (see section 2.7.2, for further details). Their main advantage over their explicit counterparts is that they are less susceptible to faking (Steffens, 2004; Vecchione et al., 2014). It is obvious as people tend to distort their explicit feelings, attitudes, or traits to present themselves to others favourably. Accordingly, IAT is developed to make it hard for participants to control their responses (i.e., to fake their responses) and reveal things that people may not even know that they possess.

Petrides and Furnham (2000) studied the EI construct and pointed out that different measurements lead to different constructs (e.g., trait EI vs. ability EI). We also argued that the implicit and explicit measures refer to two different personality-related constructs: implicit personality and explicit personality. Although one method (i.e., implicit measure) overcomes the disadvantages of the other (i.e., explicit measure), we believe that they complement each other and neither one is superior. As suggested by James and LeBreton (2012), researchers should study both aspects to develop a comprehensive understanding of one's personality and the consequential behaviours or constructs. More importantly, Lane and colleagues (2007; p.67-68) presented a table comprising the correlation indices between an implicit measure and its

corresponding explicit measure from several studies. They showed that the correlation between the implicit and its corresponding explicit measure was weak in the majority of studies. Therefore, we would expect similar weak correlation in our study in Chapter 6.

2.7.2–Implicit Association Test

The IAT was introduced by Greenwald and colleagues (1998) to assess implicit attitudes. Two years later, Greenwald and Farnham (2000) introduced this measurement method to the personality field. The key concept behind the IAT is that inferences about one's attitudes, feelings, or traits are based on reactions time (i.e., the time taken to perform the task). The logic behind relying on reaction times is based on the idea that people perform better (i.e., with speed and accuracy) when the task is aligned with their cognitive associations. In other words, when the task demands conflict with one's automatic mental links, the test takers are slowed down and make more mistakes. In short, it is based on the association between the participant's reaction time to categorise stimuli related to two pairs of concepts: *target* and *attribute*.

The IAT test comprises five separate categorisation tasks, represented by seven blocks. In the first categorisation task (Block 1), the participant is asked to sort words relating to the concepts (e.g., Me and Others) into categories. In the second task (Block 2), participants are asked to perform the same sorting task, but this time with different concepts (e.g., Emotionality and Logicality). In the third task (Blocks 3 and 4), the categories are combined in a way that presents two

concepts on the left of the screen, while the other two on the right (e.g., Me + Emotionality and Others + Logicality). In the fourth task (Block 5), the placement of the concepts presented in Block 2 switches (e.g., Logicality on the left and Emotionality on the right) and the participant is asked to perform the same sorting task. In the fifth task (Blocks 6 and 7), all concepts are combined again, but in a different combination than in Blocks 3 and 4 (e.g., Me + Logicality and Others + Emotionality). A schematic overview of these blocks is presented in Figure 4 using one of the trait EI sub-IATs from our study, which was based on the guidelines by Lane et al. (2007).

In concepts such as the Big Five and trait EI, several IATs, each called sub-IAT, are used to assess the underlying constructs. For instance, the Big Five IAT consists of five sub-IATs corresponding to the five constructs representing the Big Five (Costa & McCrae, 2008). Similarly, the trait EI IAT consists of four sub-IATs corresponding to the four factors of trait EI (Petrides, 2009).

In both concepts, the first categorisation task was only presented in the first sub-IAT and eliminated from the following sub-IATs for two reasons. First, the participant has already been introduced to the concepts related to the first categorisation task (i.e., *Me + Others*) which is one of this IAT's aims. Second, to avoid adding unnecessary trials that lead to longer tests, as adding these trials will result in including 140 more trials. Clearly, adding these trials will increase the likelihood of respondent fatigue (Ben-Nun, 2008), which can threaten the validity of our results.

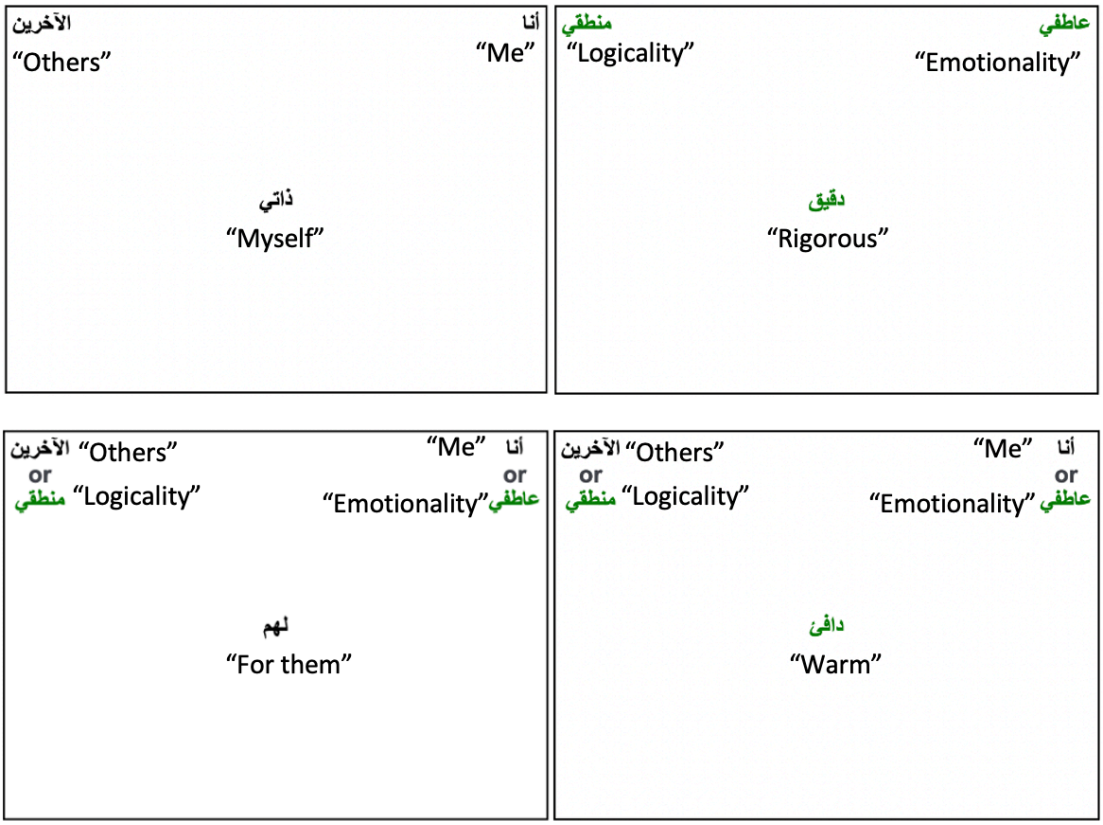
Figure 4

Schematic overview of the IAT

Block	Trials	Left Key Assignment	Right Key Assignment
1	20	Me	Others
2	20	Emotionality	Logicality
3	20	Me + Emotionality	Others + Logicality
4	40	Me + Emotionality	Others + Logicality
5	40	Logicality	Emotionality
6	20	Me + Logicality	Others + Emotionality
7	40	Me + Logicality	Others + Emotionality

Figure 5

Illustration of Emotionality-Logicality IAT



Note. English translations in quotation marks were not shown to participants.

2.7.3–Building IAT Blocks

As shown in Figure 4, the IAT comprises seven blocks. In Block 1, the participants are asked to rapidly classify stimulus (in our case, a word) into the concept *me* (by pressing the left assigned key "E" in English keyboard and "ت" in Arabic keyboard) and *others* (by pressing the right assigned key "I" in English keyboard and "هـ" in Arabic keyboard). The same task is repeated in Block 2 with two different concepts, *emotionality* and *logicality*. In Block 3, the previous two tasks are combined, and the participants are asked to perform the classification task with two concepts on each side; when the stimulus belongs to the concepts *me* or *emotionality*, the participant will have to press the left key. The same task is performed in Block 4 but with more trials. In Block 5, the task in Block 2 is reversed. The participants will press the left key if the stimulus belongs to the *logicality* concept and the right key for the *emotionality* concept. In the last two blocks, Block 6 and 7, the concepts are reversed from Blocks 3 and 4, and participants are asked to perform the same classification task.

Several considerations must be concerned when constructing an IAT. The first consideration is related to defining the construct because this will affect the choices of the categories in the next stage. Many categories have an obvious comparison category, such as *me* and *others* categories, in our study. However, in some cases, choosing the comparable category is not an obvious step. In such cases, it is advised to use a mutually exclusive category from the same domain. For example, Grumm and Collani (2007) used *extraversion* and *introversion*

categories in their study. Therefore, we followed the advice to use an approach to choose the appropriate categories in our study (See Grumm & Collani (2007) p. 2215 for further examples).

After choosing the appropriate categories, the IAT developer must ensure that the stimuli under each category are well-chosen. Lane et al. (2007) stated *stimuli matter* when they discussed the contradictory attitudes toward America when the category America was presented by the names of certain presidents compared to flag images and other common sightseeing. Furthermore, they suggested avoiding negated stimuli because participants tend to take more time to process the negations and classify it properly, which indeed affects the response time. We believe that the stimuli must undergo pilot testing in which participants should be given the four categories and a shuffled list of all stimuli and asked to perform the classification task. By doing this, we can ensure whether the stimuli list under each category is appropriate.

An illustration of one of the categorisation tasks used in our trait EI IAT is shown in Figure 5. As can be seen, two different colours are used for targets and attribute categories. It helps to reduce the task ambiguity when two pairs are shown on a certain task instead of one category on each side, as suggested by Lane et al. (2007).

Another stimuli-related concern is the number of stimuli used under each category. The first aspect involves whether an equal number of stimuli should be used under each category. This aspect is under-researched within the field;

however, we see no clue in including the unequal number of stimuli under each category. The second aspect is related to the appropriate number of stimuli. Several studies using different numbers of stimuli (e.g., as low as four and as high as 25 stimuli) concluded that stimuli number does not affect the magnitude effect nor the reliability of the scores (Greenwald et al., 1998; Nosek et al., 2005).

Furthermore, the IAT comprises three single-categorisation practice blocks (Blocks 1, 2, and 5) and four double categorisation critical blocks (Blocks 3, 4, 6, and 7). We followed the suggestions in the literature (Greenwald et al., 1998; Nosek et al., 2005; Lane et al., 2007) to include 20 trials in Blocks 3 and 6 and 40 trials in Blocks 4 and 7. In Block 5, we included 40 trials to reduce the first combined pair effect on the IAT scores because participants would show greater IAT effects for whichever combined pair is shown first (i.e., order effect; Nosek et al., 2005; Schnabel et al., 2008). Also, the IAT was designed through Qualtrics to counterbalance the double categorisation blocks among participants.

Last, as suggested by Lane et al. (2007), we included error feedback to the participants whenever the stimulus is wrongly classified (i.e., a red “X” appears in the middle of the screen). The participant is instructed to press the other key to correct his response, and an error penalty is added to his recorded response time.

2.7.4–The Logic behind IAT

In IAT, the task response time is the measurement core, and all conclusions are based on it. As stated earlier, when the IAT was first presented,

it was presumed that the participant would perform the classification task more accurately and faster if the associated categories shared the same keys on the keyboard.

For that logic, the response time for each task is recorded and stored. Afterwards, the differences in the responses time to a certain pairing of the target and attribute (e.g., *Me + Emotionality* and *Others + Logicality*) are compared to the reversed set (e.g., *Me + Logicality* and *Others + Emotionality*). This comparison estimates the association strength between the two sets of pairing. To elaborate, if the task response time is faster for the first set, we can conclude that the relative association in the first set is stronger than the other set. Hence, the participants reflect an implicit preference to view themselves as emotional over being logical.

2.7.5–Scoring and Interpreting IAT Effects

At early stages, researchers reported the IAT effects as the differences in mean response time between two combined pairings (i.e., Blocks 4 and 7) until Greenwald and colleagues (2003) introduced an improved scoring algorithm (called *D*) that overcomes all early IAT scoring methods issues. *D* is the difference in mean response time between the IAT's two combined tasks (e.g., *Me + Emotionality* and *Me + Logicality*), divided by its associated (i.e., inclusive) standard deviation. They also recommended deleting all trials greater than 10,000 milliseconds (i.e., very slow) and all subjects for which more than 10% of

their trials have a response time lesser than 300 milliseconds (i.e., button mashers).

Lane et al. (2007) pointed out five advantages of using *D*. First, *D* minimises the correlation between the IAT effects and individuals' mean response time. Second, it minimises the effect of the IAT blocks' order. Third, it minimises the effect of IAT experience on selecting new IATs. Fourth, it retains higher internal consistency values. Last, it maximises the correlations between the corresponding implicit and explicit measures. Further, Rudman (2011) pointed out that it reduced the unwanted error variance caused by individual differences in performing the task and cognitive skills. Therefore, *D* is used throughout this study during IAT use.

The IAT *D* score is called an IAT effect size. Rudman (2011) suggested that the *D* statistic estimates IAT effect size magnitude and the values of.15, .35, and .60 correspond to small, medium, and large effect sizes, respectively. Further, the *D* statistic can be transformed into a more familiar effect size measure, Cohen's *d*, dividing *D* by the sample's standard deviation.

2.8–Evaluating Psychometric Properties

2.8.1–Introduction

Hubley and Zumbo (2013) defined *Psychometrics* as the field of study that focuses on the theory and techniques associated primarily with the measurement (i.e., quantifying) of constructs, including the measures' development, interpretation, and evaluation. In other words, psychological measures are

necessary to test various psychological theories, and the psychometrics field ensures the quality of these measures. In particular, adequate psychometric quality of the measure has crucial implications on any interpretation drawn from psychological research and their meaning. For instance, based on the psychometric theory, the correlation between any two variables is affected by one of the measure's psychometric properties related concept, the reliability (Furr, 2011). Therefore, the psychometric properties of the measurement quality should be questioned before drawing any implications from psychological studies. Specifically, researchers should examine some basic psychometric properties that threaten the measurement quality such as dimensionality, reliability, and validity.

2.8.2–Dimensionality and Factorial Structure

In psychology, dimensionality is defined as the number of dimensions applied in measuring a construct (VandenBos, 2007). In other words, it reflects the number of variables (i.e., factors) assessed by certain items. Some measures are unidimensional (i.e., single-factor), with all items reflecting a single variable (e.g., Rosenberg Self-Esteem Scale; O'Brien, 1985). While other measures are multidimensional (i.e., two or more factors) in which a specific set of items reflects multiple psychological variables (e.g., TEIQue-SF; Petrides, 2009).

Usually, when a set of items is used to measure a certain psychological construct, researchers aggregated their scores in practice to obtain what is called a global or total score. However, this score is psychologically meaningless unless

the correlation between the items is examined. In short, the items must correlate with each other to conclude that they share a common psychological construct. Similarly, for a multidimensional measure, the correlation between different variables (i.e., factors) must be examined before creating a global score for the overall psychological construct.

Thompson (2004) argued that examining the factorial structure of a measure is significant to evaluate the score validity, specifically, the construct validity. He also argued that the same procedure would lead to an empirically driven theory development based on the nature of constructs. Researchers developed several dimensionality evaluation (i.e., factor analysis) methods to address the importance of the factorial structure of a measure, such as exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and a blend of CFA and EFA approaches known as exploratory structural equation modelling (ESEM).

2.8.3–Exploratory Factor Analysis and Confirmatory Factor Analysis

As the name suggests, EFA is used when the goal is to *explore* the substantive number of factors that can be extracted based on the data. It is in contrast to CFA, in which the researcher's goal is to *confirm* the number of factors suggested by the literature. Researchers apply EFA when the intended measure is relatively new within the field and under-researched. While CFA is used when the measure's factorial structure across many studies emerges over time to confirm the factorial structure in other settings or samples. For example,

applying EFA would lead to a meaningless interpretation when researchers are using methods to test the factorial structure of TEIQue-SF because its factorial structure is well-established across nations and cultures. Therefore, applying CFA will be much more appropriate.

Broadly, EFA is a data-driven method that explores the inter-item correlations to identify which set of items are strongly correlated with each other but weakly with others (Brown, 2015; Furr, 2011). This set of items is believed to represent a psychological dimension (i.e., factor). Therefore, if all items are highly correlated, the measure is unidimensional, and if more than two sets exist the measure is multidimensional.

Contrarily, CFA is a hypothesis-driven type structural equation modelling (SEM) that confirms the factorial model suggested by the literature (Brown, 2015; Cai, 2013). Similar to EFA, it examines the correlations between the items, leading to a number of factors. However, in CFA, researchers specify the number of factors before the analysis compared to the EFA, where no specifications are made. Further, the item correlation patterns are also within the scope in CFA. Accordingly, CFA requires a stronger empirical foundation to guide the factorial structure of the measure.

Widaman (2012) argued that CFA can be viewed as a restricted form of EFA because of the parameters estimated through the analysis. In CFA, the parameter estimation is restricted and guided by the theory and prior research, and therefore, the model accepts a limited orientation of the factors. While in

EFA, an infinite number of alternative factor orientations can result from the model because of the unrestricted parameter estimation.

Upon fitting the best model describing the factorial structure of a measure, researchers report parameter estimates such as the item's factor loadings, inter-factor correlations, and error variances (Furr, 2011). These parameter estimates give a deeper insight into the factorial structure and the psychometric properties of the measure. For example, factor loadings show the degree to which each item is linked to a certain factor (Cai, 2013; Furr, 2011); therefore, researchers can identify any problematic items by examining these estimates.

Despite the clear differences between the two-factor analysis approaches, Browne (2001) argued that the CFA approach was often used for exploratory purposes. In some cases, the specified measurement model, which is tested through CFA, is not well-fitted, and therefore, some modifications could be made to the measurement model. Consequently, Browne preferred EFA rather than CFA. Furthermore, many researchers argued that many measures used within the personality field were well-defined using the EFA but not supported by the CFA approach (Church & Bruke, 1994; Marsh et al., 2009; McCrae et al., 1996). This is because the CFA relies on a restrictive approach when the factor loadings are estimated in which every item loads only and exclusively on one factor. This approach is too restrictive for personality research, where some items can load on two or more factors if the two factors are highly correlated. Therefore, there is

a need to develop a less restrictive factor analysis approach that combines the theoretical framework of both CFA and EFA.

2.8.4–Exploratory Structural Equation Modelling

Exploratory structural equation modelling (ESEM) is a relatively new approach that integrates both CFA and EFA within the same approach (see Asparouhov & Muthén, 2009 for more details). With the ESEM approach, some factors are specified according to the CFA approach, while others are according to the EFA approach. Not only selecting the two approaches as they are, but ESEM also has some technical advantages over the CFA and EFA approaches to overcome their limitations (Brown, 2015). For instance, ESEM is the most appropriate approach to analyse the factorial structure of multidimensional measures in a large sample, such as the case of the present dissertation (Marsh et al., 2010). Additionally, with ESEM, personality measurement researchers have access to typical SEM parameters estimates along with their associated standard error and goodness-of-fit statistics (Asparouhov & Muthén, 2009; Marsh et al., 2009; Marsh et al., 2014).

2.8.5–Model Fit Statistics

Regardless of which method is used to evaluate the factorial structure of a measure (i.e., measurement model), researchers follow the same path to examine the overall adequacy of a model (Furr, 2011). Fit indices are used as a measure of overall measurement model adequacy in the CFA context to determine how many factors to retain. Although these fit indices are commonly

used in the context of CFA and SEM in general, many researchers used them within the EFA context, as pointed out by Finch (2020).

Hair et al. (2010) categorised model fit indices into three types: A) Absolute fit indices, B) Incremental fit indices, and C) Parsimony fit indices. The absolute fit indices are direct measures of how well the proposed model fits the sample data. Incremental fit indices are measures of the estimated model's fit compared to a baseline model (e.g., null model). The last group of fit indices are parsimony fit indices, which are designed to provide a balance between model fit and complexity. Table 8 presents a summary of the most-commonly used fit indices of each type.

Table 8

Different Types of Fit Indices

Category	Index	Notes
Absolute fit indices	χ^2	Not applicable for large sample sizes and greater number of observed variables
	GFI	Affected by sample size due to its effect on sampling distributions
	RMSEA	Corrects for model complexity and sample size
	SRMR	Useful for comparing fit across models
Incremental fit indices	CFI	Relatively insensitive to model complexity
	TLI	Kind of conceptually similar to CFI but it is not normed
Parsimony fit indices	AGFI	Less used because of sensitivity to sample size and model complexity
	PNFI	Used to compare between one model to another, with a higher values indicating better fit

Note. χ^2 = Chi-square, GFI = Goodness-of-fit index, RMSEA = Root mean square error of approximation, SRMR = Standardised root mean residual, CFI = Comparative fit index, TLI = Tucker Lewis index, AGFI = Adjusted goodness-of-fit index, PNFI = Parsimony normed fit index.

Notwithstanding the work in the SEM field, the acceptable values for fit indices remain a controversial issue. In the early 90s, several researchers suggested guidelines for acceptable (i.e., cutoff) fit values. For example, a nonsignificant χ^2 value suggests an acceptable fit, CFI > .90 (Hu & Bentler, 1995), and RMSEA < .08 (Browne & Cudeck, 1992). While in a later work, Hu and Bentler (1999) suggested another cutoff value for CFI and that a value equal or greater than .95 can be used (along with several different indices) to argue that the proposed model fits the observed data.

Clearly, evidence supporting both positions created a conflict on which cutoffs both researchers and reviewers should rely on. In more recent work, Hair and colleagues (2010) explicitly argued that neither .90 nor .95 (as an acceptable cutoff for CFI) are “magic” values to distinguish between good and bad models. Accordingly, they suggested reporting multiple indices from different types so did Hu and Bentler (1999). This is because reporting a single fit index, even with a stricter cutoff value, is not better than reporting the χ^2 value alone (Marsh et al., 2004).

Furthermore, researchers should consider both sample size and model complexity when choosing the appropriate cutoff (Hair et al., 2010; Weston & Gore Jr, 2006). Research with larger samples and less complex models may require stricter criteria. Hair et al. (2010) provided characteristics of different fit indices representing acceptable fits for different model situation. These characteristics are summarised in Table 9. For example, if the research is based

on a sample of 1000 participants and a three-construct model with 15 indicators, then evidence of a good fit would be significant χ^2, a CFI of at least .92, and RMSEA less than .07. This would not apply to research with a sample size of 200 and a single construct with 6 indicators. Therefore, careful consideration should be paid by researchers to their study characteristics before interpreting fit indices.

Table 9

Characteristics of Different Fit Indices Demonstrating Goodness-of-Fit Across Different Model Situations

	N < 250			**N > 250**		
	m ≤ 12	**12 < m < 30**	**m ≥ 30**	**m ≤ 12**	**12 < m < 30**	**m ≥ 30**
χ^2	Insignificant *p*-values expected	Significant *p*-values even with good fit	Significant *p*-values expected	Insignificant *p*-values even with good fit	Significant *p*-values expected	Significant *p*-values expected
CFI or TLI	.97 or better	.95 or better	Above .92	.95 or better	Above .92	Above .90
SRMR	Biased, use other indices	.08 or less (with CFI of .95 or higher)	Less than .09 (with CFI above .92)	Biased, use other indices	.08 or less (with CFI above .92)	.08 or less (with CFI above .92)
RMSEA	Values < .08 with CFI = .97 or higher	Values < .08 with CFI of .95 or higher	Values < .08 with CFI above .92	Values < .07 with CFI of .97 or higher	Values < .07 with CFI of .92 or higher	Values < .07 with CFI of .90 or higher

Note. Adapted from "*Multivariate data analysis*", by J. F. Hair, C. B. William, J. B. Barry, and E. A. Rolph, 2010, p. 647, Upper Saddle River, NJ: Prentice Hall.

Finally, we can conclude that determining whether a certain model is good or bad is not a straightforward practice. In contrast, it is easier to determine whether one model is better than another in the case of multiple models. Taking CFI as an example, a CFI of .95 is definitely better than a CFI of .85 for a similar model (Hair et al., 2010). Thus, if multiple alternative models exist, researchers can retain the model with a better fit as long as it is theoretically meaningful.

2.8.9–Reliability

Commonly, reliability refers to the degree to which the observed score variance reflects the true score variance, or in other words, to which extent the observed scores are free from measurement error (Furr, 2011; Hubley & Zumbo, 2013; Geisinger, 2013). Statistically, it can also be viewed as the *repeatability* and *consistency* of the scores. Each of the earlier definitions is approached (i.e., estimated) differently and referred to different reliability perspectives.

2.8.9.1–Methods of Estimating Reliability. Several methods can be used to estimate the reliability of a score on a certain measure. In general, these methods are based on two main models to test the reliability: the parallel testing model and the sampling domain model (see Geisinger et al., 2013, p. 24).

The two methods, i.e., the test-retest and alternate forms reliability, are alike when they are both considered as examples of the parallel test model. The two methods concern the *stability* of scores by examining the similarity of the individual scores on two different conditions (i.e., occasions or comparable forms). They differ from each other in two ways; first, the same measure is used

on two occasions in the test-retest method, but two comparable forms of the same measure are administered in the alternate forms. Second, the time between the two occasions is longer when the test-retest method is used than the alternate forms.

Different methods based on the sampling domain model estimate the reliability of scores through the consistency concept. In contrast to the two previously mentioned parallel model methods, internal consistency methods do not administrate two measures or the same measure twice. However, they rely on the level of agreement (i.e., consistency) among different parts within the same test (Furr, 2011).

Generally, the internal consistency methods are divided into two main techniques: split-half and item homogeneity techniques (Geisinger, 2013). The split-half technique was developed earlier than the item homogeneity technique, and in general, it is less complex. In short, the logic behind the split-half technique is to divide the test into two halves by matching or alternating the items (e.g., dividing into odd and even numbers) and then correlate the scores of the two halves. A higher correlation between the two halves is considered an acceptable reliability level. However, the correlation between the two halves represents the reliability of each half, not the overall measure. Therefore, an adjustment known as the Spearman-Brown formula is used to compute the split-half reliability (Geisinger, 2013). Although the reliability computations for the split-half technique are simple, dividing a measure into two halves is not a

straightforward procedure. Due to the subjective nature of this procedure, the results of the reliability estimates may be inconsistent, depending on how you divide the measure.

In the homogeneity of items technique, there is no need to split the measure into halves. This approach looks at the consistency in all items on a certain measure without dividing them. By this, researchers overcome one of the vital disadvantages of the split-half technique, the reliability estimates inconsistency. No matter which item homogeneity indices (i.e., reliability coefficients) have been used, the estimates of reliability will be identical, given the same dataset.

Cronbach's alpha (Cronbach, 1951), also known as *coefficient alpha*, is the most common item homogeneity index in the literature. Alpha uses the inter-item correlations to estimate the reliability of scores on a certain measure. This index is useful in estimating the reliability of scores measured on an interval or ratio scale. Thus, it is often used to investigate the reliability of scores on personality measures using Likert scales. Further, it is sometimes used to assess the unidimensionality of a measure; however, this is considered one of the misuses of coefficient alpha (Revelle & Zinberg, 2008; Schmitt, 1996). Cronbach argued that the two terms, internal consistency and homogeneity, refer to two different aspects of the measure, and they are often mixed in the literature. The internal consistency refers to the correlation between items, and it is necessary for homogeneity but not sufficient. Homogeneity refers to the unidimensionality of

a group of items. Therefore, in short, Cronbach's alpha can never be viewed as a unidimensionality index but an index to estimate the internal consistency of the measure.

Another misuse of Cronbach's alpha is reporting it when the measure is multidimensional. Cronbach's alpha underestimates the reliability if the inter-item correlation matrix used in the computations is not of a unit rank, in other words, not unidimensional (Cronbach, 1951; Schmitt, 1996), which is the case of most personality measures. Reise and colleagues (2013) showed that Cronbach's alpha overestimates the reliability of scores obtained by multidimensional measure. Therefore, psychometricians developed more powerful reliability estimates for multidimensional measures (e.g., TEIQue-SF) such as McDonald's hierarchical omega (ω_h) (McDonald, 2013; Zinbarg et al., 2005). Technically, the McDonald's hierarchical omega represents the degree to which scores reflect a variation on a single common factor, such as estimating the precision of the global trait EI scores from the TEIQue-SF. Revelle and Zinbarg (2008) showed that ω_h was more accurate than other reliability indices (e.g., Cronbach's alpha) in estimating the reliability of scores obtained from multidimensional measures. Therefore, it is recommended to estimate the reliability through ω_h when examining a multidimensional measure, while Cronbach's alpha for unidimensional measures.

2.8.10–Validity

Validity refers to the degree to which a measure is used to assess a supposed construct. In other views, it refers to the accuracy and precision of a measure in assessing the supposed construct. It means it is about the level of evidence (i.e., strong versus weak), not all or none. It also concerns the measure's scores, apart from the measure itself. Therefore, researchers should pay attention to the validity interpretations (Sierci & Sukin, 2013).

Evaluating the validity of a measure is an important step concerning its psychometric properties, like assessing the dimensionality and reliability. Even with robust dimensionality and reliability scores, a poor level of validity compromises the psychometric properties of the measure (Furr, 2011).

Numerous types of measurement validity exist that can be divided into the following three broad categories: content-related, criterion-related, and construct-related validity (Sierci & Sukin, 2013).

2.8.10.1–Content-related Validity. Content-related validity refers to the degree to which the measure's content is relevant and representative of the construct of interest (VandenBos, 2007). For instance, if the measure is designed to assess the trait emotional intelligence, content validity indicates how well-representative the items within the measure are. Not only the items but content validity concerns all elements related to the measure, such as the instructions, response formats, and scoring instructions (Haynes et al., 1995). For example, the content validity of an IAT type measure will be compromised if it is used to

assess the explicit nature of the construct. Therefore, it is important to survey the field experts concerning the content validity of the measure.

2.8.10.2–Criterion-related Validity. Criterion-related validity refers to the degree to which our measure of interest is related to another well-established measure (i.e., criterion; VandenBos, 2007). Statistically, the correlation coefficient between our measure and the criterion can be viewed as the criterion validity coefficient (Hubley & Zumbo, 2013). The larger the correlation coefficient is, the better criterion-related evidence we retain.

Overall, the criterion-related validity evidence can be either *predictive* or *concurrent*. As the name suggests, predictive validity refers to the degree to which a score on our measure of interest can *predict* a score on a criterion measure (i.e., at a later date). While concurrent validity refers to the degree to which a score on our measure of interest is related to a current criterion (i.e., at the same time or nearly the same time).

Several statistical procedures can be used to quantify criterion-related validity. A simple way to approach concurrent validity is by simple correlational analysis. Correlation analysis assesses the relationship between two numeric values, in our case, the scores on our measure of interest and the scores on the criterion measure. The direction of the relationship (i.e., positive or negative) would be based upon the literature and how the two measures are expected to correlate. Notably, this approach can be used to quantify the concurrent validity but not the predictive validity due to the Pearson's correlation coefficient's nature.

Laborde et al. (2016) studied the concurrent validity of the long and short forms of TEIQue through this method.

Regression Analysis is a more advanced method used to assess the correlation between variables (i.e., concurrent validity) or how one variable predicts another outcome (i.e., predictive validity). This method has been widely used to evaluate the criterion-related validity of the long and short forms of TEIQue (Frederickson et al., 2012; Gardner & Qualter, 2010; Siegling et al., 2015).

2.8.10.3–Construct-related Validity. Construct-related validity refers to the degree to which a measure is capable of measuring a construct (VandenBos, 2007). For example, if a researcher develops a measure to assess the global trait EI, the construct validity of the measure is the extent to which the measure exclusively assesses global trait EI as opposed to other related constructs.

Three main aspects related to the construct-related validity are factor analysis, convergent validity, and divergent validity. Factor analysis is one of the techniques used to retain the construct-related validity and has been covered earlier. The other two aspects, convergent and divergent validity, involves comparing our measure with the existing measure that concerns the same construct.

Convergent validity refers to the extent to which a score on our measure of interest is strongly correlated with a similar measure (VandenBos, 2007). Evidence of the convergent validity can be retained through a simple bivariate

correlation (i.e., simple associations) or regression (i.e., associations after taking other covariates into account), depending on the nature of the relationship. A high correlation between our and the other measures for the same construct is expected. However, concerning the construct validity, some may argue why we would develop a new measure if it is highly correlated with another measure for the same construct. We believe that in some cases (e.g., less money or time resources), having alternative measures for the same construct is useful. Furthermore, Laborde et al. (2016) showed that the short and long forms of the TEIQue yielded the same results. This evidence helps researchers with less time and financial resources to use the shorter form of TEIQue (i.e., TEIQue-SF) instead of the long one to achieve their research goals.

Contrarily, divergent (i.e., discriminant) validity refers to the extent to which our measure *diverges* from another measure of the different construct (VandenBos, 2007). Both factor analysis method and correlation analysis can be done to assess divergent validity. A poor correlation is assumed between our measure and the other construct-irrelevant measure. However, this poor correlation could be due to the low-reliability levels of one of the measures (Furr, 2011). Hence, one should check the reliability of the measures during the validity assessment through correlation analysis. Furr (2011) also pointed out the effect of skewness on correlations. The researcher argued that correlations between unequally distributed measures tend to be smaller than their equally distributed

counterparts. Therefore, the effect of skewness should be considered whenever correlations are of interest throughout the project.

Chapter 3: Adapted Personality-related Measures in Kuwait: A Scoping Review

3.1–Abstract

Scoping reviews are considered as a useful method to provide a comprehensive overview of a specific topic. We used this method in our study to search the personality-related measures' adaptation literature within the Kuwaiti-Arabic context to identify the most researched constructs and measures. The scoping review followed the Arksey and O'Malley's (2005) five-stage framework. Eight different key terms were searched through seven different databases to identify the relevant literature. Fifteen articles were included in our final review after meeting our inclusion criteria. These articles comprise 30 different personality-related measures' adaptation. The results show that depression and shyness were the most researched constructs by researchers. Also, the majority of measures were adapted before 10 years. Concerning the adaptation procedures, forward and back translations along with the expert committee were the most three practices followed by researchers. For the purpose of our PhD project, we will consider adapting the measures that were not adapted before. Furthermore, we will follow the ITC (2017) guidelines during the adaptation to ensure the best degree of equivalency.

3.2–Introduction

The primary goals of our review are to explore which personality-related instruments have been adapted in Kuwait and which adaptation procedures (i.e., guidelines) have been followed. The first goal is to narrow our focus on constructs, and the instruments used to measure them, which are given less attention in Kuwait, taking into account their importance in the field of personality (e.g., trait emotional intelligence). The second goal concerns identifying best practices for adapting psychometric instruments and overcoming any potentially relevant issues documented by the authors. Accordingly, the following questions guided our review:

1. What personality-related constructs have been researched in Kuwait?
2. What personality-related measures have been adapted in Kuwait?
3. What test adaptation procedures have been used in the field of personality in Kuwait?

3.3–Methods

3.3.1–Identifying relevant studies

The search terms were posed in both the Arabic and English languages to capture the personality instrument literature. This search approach has been used based on Arksey and O'Malley's (2005) suggestion of using wide definition of keywords to cover the available literature, broadly. A Kuwaiti psychometrician was consulted to advise about the terminology used in this context in Kuwait along with identifying the appropriate databases. The key terms used in our

Arabic databases search were *“instrument adaptation”, “test adaptation”, “scale adaptation”, “intervention adaptation”, “instrument translation”, “test translation”, “scale translation”* and *“intervention translation”.* The same key terms have been used in our English databases search with the addition of the word *“Kuwait”.* The following Arabic databases were searched: Al Manhal, Dar AlMandumah, and Kuwait University’s Library system. While the English databases were SCOPUS, Psych INFO, Web of Science, and the University College London’s Library system. The search process was rolling between April 2021 and October 2022 to keep our studies record as updated as possible.

3.3.2–Study Selection

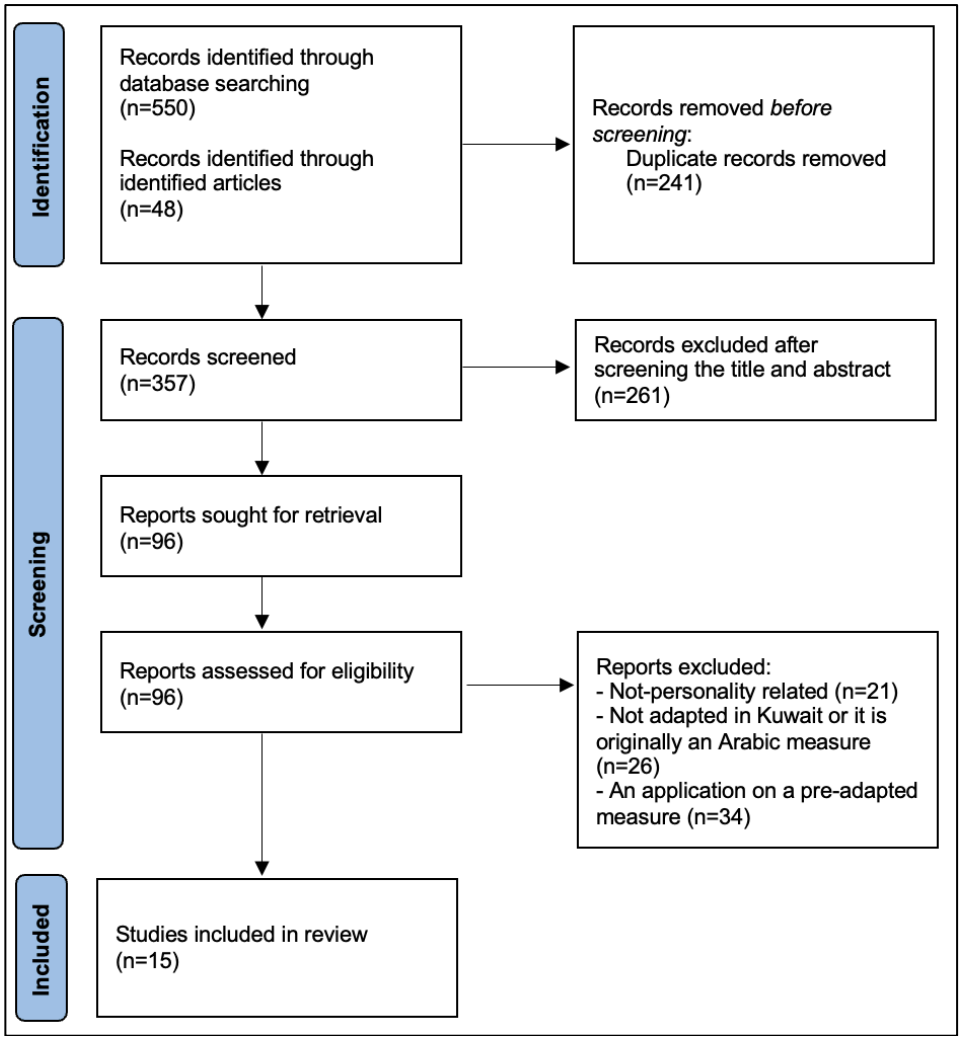
Two inclusion criteria were applied to capture the literature that answers our questions. The first criterion was to include studies where personality-related instruments were adapted or translated. The personality instruments are those measuring personality-related constructs listed in the *Measures of Personality and Social Psychological Constructs* (Boyle et al., 2015). The constructs are limited to the those of *Hope, Optimism, Anger, Hostility, Life Satisfaction, Self-Esteem, Trait of Confidence, Affect Dimension, Alexithymia, Empathy, Resiliency, Psychological Well-Being, Sensation Seeking, Trait Emotional Intelligence, Adult Attachment, Social Evaluation, Forgiveness, Values and Moral Personality, Religiosity, Dark Personality,* and *Perfectionism*. The second criterion was to include studies done in Kuwait, or within the Kuwaiti context. There are no criteria for the article’s language, time period, sample, nor the

adaptation design. We also included all types of articles, irrespective of whether the article has been peer-reviewed, published, or not. Including unpublished and non-peer-reviewed articles in our review is the best available practice to overcome any issues related to publication bias. This is because it affects the validity of our systematic search as it results in an over-representation of positive or significant findings, leading to a skewed or inaccurate understanding of the true state of the research on a given topic.

Using the key terms in our search, 550 articles were identified. An additional 48 articles were identified through the references of the articles identified by our initial search. The titles and abstracts of 357 articles were reviewed and resulted in excluding 261 articles due to irrelevance. The full text of the remaining 96 articles was assessed to check whether our inclusion criteria were met. Thirty-four articles were excluded from our review due to applying an early adapted measure in their studies. Furthermore, 47 articles were excluded after assessing the full text because they failed to meet our inclusion criteria. Specifically, 21 articles were excluded because the measures did not concern personality-related constructs and another 26 were excluded because they either adapted the measure in another country (i.e., not Kuwait or Kuwaiti context) or the authors used an Arabic measure. This process resulted in the inclusion of 15 articles to our scoping review. In total, these articles comprised 30 different measures. The article selection process is illustrated in Figure 6.

Figure 6

PRISMA Flow Diagram for Article Selection



3.3.3–Data charting, collation, and analysis

This is the fourth stage of the scoping review framework proposed by Arksey and O'Malley (2005). Information about the authors, the study type, the intended construct, and the original measure is represented in Table 10. Further information about the adapted measure itself, such as the measure type (i.e., explicit or implicit), the response format, the number of factors, and the number of items is presented in Table 11. Finally, information concerning the adaptation

procedures, the original sample size, the psychometrics properties, and any comments during the adaptation process, if exist, is presented in Table 12. The data were extracted from the studies by the researcher and imported to *Microsoft Excel 2021, version 16.72* (Microsoft Corporation, 2021) for coding. Frequencies and percentages were used to summarize the data and were calculated using *R*, *version 4.0.5* (RStudio, 2021).

Table 10

Information About Studies Retained from our Scoping Review

Author	Study Type	Original Measure	Original Author	Construct
Abdel-khalek & Albana (2014)	Article	TAS	Bagby et al.	Alexithymia
Abdel-Khalek & Aljawhary (2014)	Article	BFQ-C	Brabaranelli et al.	Children Personality
Abdel-Khalek et al. (2003)	Article	OHQ	Argyle & Hills	Happiness
Alansari (1993)	Dissertation	IAS	Leary	Shyness
		SRS	Jones & Russell	Shyness
		Shyness Scale	Cheek & Buss	Shyness
		SADS	Eatson & Friend	Shyness
Alansari (1997)	Article	NEO-FFI-S	Costa & McCrae	Personality
Alansari (1998)	Article	BDI-IA	Beck & Steer	Depression
Alansari (2002)	Book Chapter	BHS	Beck et al.	Hopelessness
		DES	Izard et al.	Emotions
		RSS	Cheek & Melchior	Shyness
		LOT	Scheier & Craver	Life Orientation
		STAI- Form Y	Spielberger et al.	Anxiety
		STAXI	Spielberger	Anger
		ESQ	Cattel & Curran	Emotional States and Moods
		EPQ	Eysenck & Eysenck	Personality
Al-Balhan (2006)	Article	CDI	Kovacs	Children Depression
Al-Sammak (1994)	Dissertation	STAI-State A	Spielberger	Anxiety
		BDI	Beck et al.	Depression
Al-Sammak (2019)	Article	S-I Test	Maslow et al.	Psychological Security
Alsalman & Alansari (2019)	Article	BSSI	Beck & Steer	Suicide Ideation
Hadi et al. (2006)	Article	DTS	Davidson et al.	PTSD
		CDI	Kovacs	Children Depression
		RCMAS	Reynolds & Richmond	Children Anxiety
		BDI	Beck et al.	Depression
		TAI	Spielberger & Sydeman	Anxiety
Scull (2015)	Article	EFI	Subkoviak et al.	Forgiveness
		TRIM	McCullough et al.	Negative Motivations
		DAQ	Denson, Pedersen, & Miller	Aggression

Note. BDI = Beck Depression Inventory, BFQ-C = Big Five Questionnaire – Children, BHS = Beck Hopelessness Scale, BSSI = Beck Scale for Suicide Ideation, CDI = Children's Depression Inventory, DAQ = Displaced Aggression Questionnaire, DES = Differential Emotions Scale, DTS = Davidson Trauma Scale, EFI = Enright Forgiveness Inventory, EPQ = Eysenck Personality Questionnaire, ESQ = Eight State Questionnaire, IAS = Interaction Anxiousness Scale, LOT = Life Orientation Test, NEO-FFI-S = NEO Five-Factor Inventory-3, OHQ = Oxford Happiness Questionnaire, RCMAS = Revised Children's Manifest Anxiety Scale, RSS = Revised Shyness Scale, S-I = Security-Insecurity, SADS = Social Avoidance and Distress Scale, SRS = Social Reticence Scale, STAI = The State-Trait Anxiety Inventory, STAXI = State-Trait Anger Expression Inventory, TAI = Trait Anxiety Inventory, TAS = Toronto Alexithymia Scale, TRIM = Transgression-related Interpersonal Motivations inventory.

Table 11

Information About Measures Included in our Retained Studies

Adapted Measure	Measure Type	Response Format	Factors	Items
BDI-IA[a]	Explicit (Self-report)	4-points-Likert	4	21
BDI[b]	Explicit (Self-report)	4-points-Likert	1	20
BDI[c]	Explicit (Self-report)	4-points-Likert	1	21
BFQ-C	Explicit (Self-report)	5-points-Likert	5	65
BHS	Explicit (Self-report)	Yes/No	4	20
BSSI	Explicit (Self-report)	3-points-Likert	Not Clear*	21
CDI[d]	Explicit (Self-report)	3-points-Likert	3	27
DAQ	Explicit (Self-report)	7-points-Likert	3	31
DES	Explicit (Self-report)	4-points-Likert	7	30
DTS	Explicit (Self-report)	5-points-Likert	3	17
EFI	Explicit (Self-report)	6-points-Likert	Not Clear*	60
EPQ	Explicit (Self-report)	Yes/No	4	91
ESQ	Explicit (Self-report)	4-points-Likert	8	96
IAS	Explicit (Self-report)	5-points-Likert	5	15
LOT	Explicit (Self-report)	5-points-Likert	3	10
NEO-FFI-S	Explicit (Self-report)	5-points-Likert	5	60
OHQ	Explicit (Self-report)	6-points-Likert	1	8
RCMAS	Explicit (Self-report)	Yes/No	Not Clear*	37
RSS	Explicit (Self-report)	5-points-Likert	3	18
S-I Test	Explicit (Self-report)	Yes/No/Sometimes	2	26
SADS	Explicit (Self-report)	Yes/No	8	28
Shyness Scale	Explicit (Self-report)	5-points-Likert	2	9
SRS	Explicit (Self-report)	5-points-Likert	5	22
STAI-Form Y	Explicit (Self-report)	4-points-Likert	2	18
STAI-State A	Explicit (Self-report)	4-points-Likert	1	20
STAXI	Explicit (Self-report)	4-points-Likert	2	20
TAI	Explicit (Self-report)	5-points-Likert	4	20
TAS	Explicit (Self-report)	5-points-Likert	3	20
TRIM	Explicit (Self-report)	5-points-Likert	3	18

Note. BDI = Beck Depression Inventory, BFQ-C = Big Five Questionnaire – Children, BHS = Beck Hopelessness Scale, BSSI = Beck Scale for Suicide Ideation, CDI = Children's Depression Inventory, DAQ = Displaced Aggression Questionnaire, DES = Differential Emotions Scale, DTS = Davidson Trauma Scale, EFI = Enright Forgiveness Inventory, EPQ = Eysenck Personality Questionnaire, ESQ = Eight State Questionnaire, IAS = Interaction Anxiousness Scale, LOT = Life Orientation Test, NEO-FFI-S = NEO Five-Factor Inventory-3, OHQ = Oxford Happiness Questionnaire, RCMAS = Revised Children's Manifest Anxiety Scale, RSS = Revised Shyness Scale, S-I = Security-Insecurity, SADS = Social Avoidance and Distress Scale, SRS = Social Reticence Scale, STAI = The State-Trait Anxiety Inventory, STAXI = State-Trait Anger Expression Inventory, TAI = Trait Anxiety Inventory, TAS = Toronto Alexithymia Scale, TRIM = Transgression-related Interpersonal Motivations inventory.

* Not enough information from the source.

[a] Adapted by Alansari (1997).

[b] Adapted by Hadi et al. (2006).

[c] Adapted by Al-Sammak (1994).

[d] The adaptation of Al-Balhan (2006) and Hadi et al. (2006) yielded the same information.

Table 12

Information About Adaptation Procedures Followed in our Retained Studies

Author	Original Measure	Procedures[a]	Sample Size	Reliability Evidence[b]	Validity Evidence[c]
Abdel-khalek & Albana (2014)	TAS	FT, EC	527	α, T-RE	CRV
Abdel-Khalek & Aljawhary (2014)	BFQ-C	FT	374	α, T-RE	CRV
Abdel-Khalek et al. (2003)	OHQ	*Not Clear**	*Not Clear**	α, T-RE	CRV
Alansari (1993)	IAS	FT, BT, FG, EC	345	α, S-Half	CST, CRV
	SRS	FT, BT, FG, EC	345	α, S-Half	CST, CRV
	Shyness Scale	FT, BT, FG, EC	345	α, S-Half	CST, CRV
	SADS	FT, BT, FG, EC	345	α, S-Half	CST, CRV
Alansari (1997)	NEO-FFI-S	FT, EC, PS	3789	α, S-Half	CST, CRV
Alansari (1998)	BDI-IA	BT	1744	α	CST, CRV
Alansari (2002)	BHS	FT, EC, PS	1107	α, S-Half, T-RE	CST, CRV
	DES	FT, BT, PS	4395	α	CST, CRV
	RSS	*Not Clear**	1000	α, S-Half, T-RE	CST, CRV
	LOT	FT, EC, PS	1413	α, S-Half	CST, CRV
	STAI- Form Y	FT, BT, EC	416	α, S-Half	CST, CRV
	STAXI	FT, EC	875	α, S-Half	CST, CRV
	ESQ	FT, FG	500	α, S-Half	CST, CRV
	EPQ	FT, EC	535	α, S-Half	CST, CRV
Al-Balhan (2006)	CDI	FT, BT, EC, FG, PS	2299	α, T-RE	N/A
Al-Sammak (1994)	STAI-State A	FT, BT	150	*Not Clear**	*Not Clear**
	BDI	FT, BT	150	*Not Clear**	*Not Clear**
Al-Sammak (2019)	S-I Test	FT	562	α	N/A
Alsalman & Alansari (2019)	BSSI	FT, EC	5551	α, T-RE	CST, CRV
Hadi et al. (2006)	DTS	BT, EC, PS	111	α	*Not Clear**
	CDI	BT, EC, PS	111	α	*Not Clear**
	RCMAS	BT, EC, PS	111	α	*Not Clear**
	BDI	BT, EC, PS	111	α	*Not Clear**
	TAI	BT, EC, PS	111	α	*Not Clear**
Scull (2015)	EFI	BT	220	α	N/A
	TRIM	BT	220	α	N/A
	DAQ	BT	220	α	N/A

Note. BDI = Beck Depression Inventory, BFQ-C = Big Five Questionnaire – Children, BHS = Beck Hopelessness Scale, BSSI = Beck Scale for Suicide Ideation, CDI = Children's Depression Inventory, DAQ = Displaced Aggression Questionnaire, DES = Differential Emotions Scale, DTS = Davidson Trauma Scale, EFI = Enright Forgiveness Inventory, EPQ = Eysenck Personality Questionnaire, ESQ = Eight State Questionnaire, IAS = Interaction Anxiousness Scale, LOT = Life Orientation Test, NEO-FFI-S = NEO Five-Factor Inventory-3, OHQ = Oxford Happiness Questionnaire, RCMAS = Revised Children's Manifest Anxiety Scale, RSS = Revised Shyness Scale, S-I = Security-Insecurity, SADS = Social Avoidance and Distress Scale, SRS = Social Reticence Scale, STAI = The State-Trait Anxiety Inventory, STAXI = State-Trait Anger Expression Inventory, TAI = Trait Anxiety Inventory, TAS = Toronto Alexithymia Scale, TRIM = Transgression-related Interpersonal Motivations inventory.

* Not enough information from the source.

[a] Procedures: FT = Forward Translation, BT = Back-Translation, EC = Expert Committee, FG = Focus Group, PS = Pilot Study

[b] Reliability approaches: α = Cronbach's Alpha, T-RE = Test-Retest, S-Half = Split-Half Method.

[c] Validity approaches: CRV = Criterion-related validity, CST = Construct validity.

3.4–Results

The general characteristics of measures included in our review are presented in Table 13. The measures were adapted between 1993 and 2019, and 76.67% of them were adapted 10 or more years before. Much attention has been given to measures related to *depression* and *shyness* constructs. Furthermore, Alansari was first author in 51.85% of the measures included in our review. Most measures were published in books (26.67%), peer-reviewed journals (53.33%), or as a part of a dissertation (6.67%) while only 13.33 % of them were unpublished. Lastly and clearly, all of the adapted measures are explicit by nature.

Table 13

General Characteristics of the Measures Obtained by our Scoping Review

Characteristics		Frequency (n=30)	Percentage (%)
Year	2011-2022	7	23.33%
	2000-2010	14	46.67%
	Before 2000	9	30.00 %
Constructs	Anxiety	4	13.33%
	Depression	5	16.67%
	Emotions	2	6.67%
	Personality	3	10.00%
	Shyness	5	16.67%
	Others	11	36.67%
First Author	Alansari	14	46.67%
	Abdel-khalek	3	10.00%
	Al-Sammak	3	10.00%
	Hadi	5	16.67%
	Scull	3	10.00%
	Others	2	6.67%
Publication Type	Book	8	26.67%
	Dissertation	2	6.67%
	Peer-reviewed article	16	53.33%
	Unpublished	4	13.33%
Measure Type	Explicit	30	100%
	Implicit	0	0.00%

Concerning the adaptation procedures followed by the researchers in the located studies with available information, their general characteristics are presented in Table 14. Forward translation, back-translation, and experts' committee were the three most procedures. Focus groups to ensure that participants understand the items were consulted only in four studies. Furthermore, the majority of studies included in our review fail to pilot the measures before applying it for the general use.

Table 14

General Characteristics of the Adaptation Procedures Identified Through our Scoping Review

Characteristics		**Frequency***	**Percentage (%)**
Procedure (n=28)	Forward Translation	19	67.86%
	Back-Translation	19	67.86%
	Expert Committee	17	60.71 %
	Focus Group	4	14.29%
	Pilot Study	10	35.71%
Reliability Evidence (n=28)	Cronbach's Alpha	28	100%
	Split-Half method	12	42.86%
	Test-retest method	7	25.00%
Validity Evidence (n=23)	Criterion-related Validity	18	78.26%
	Construct Validity	15	65.22%
	Not Assessed	5	21.74%

Note. n is the number of measures included in the calculations.
* Article with missing information were dropped from the analysis, therefore, these frequencies are based on articles presenting full information.

To assess reliability, Cronbach's alpha was reported in all studies, while a few used either the split-half method or the test-retest method in addition to Cronbach's alpha. Concerning validity, 78.26% of the studies assessed it through

criterion-related methods, and 65.22% of them assessed construct validity along with it. Only five studies failed to assess the validity, hence, did not report anything in the articles.

3.5–Discussion

The aim of this scoping review was to map the literature toward the PhD thesis and provide an overview of what is currently known about adapted measures in Kuwait, constructs that were given much attention, and whether any issues were identified during the adaptation process. Indeed, this review serves as a systematic way to ensure that the measures we are adapting have not been previously adapted within the Kuwaiti context, hence, ensuring the originality of this PhD project.

3.5.1–What personality-related constructs have been researched in Kuwait, and what measures have been adapted?

The first two questions guiding this scoping review concern the adapted tools to measure personality-related constructs within the Kuwaiti context. The articles included in this scoping review comprise a wide range of sources such as books, peer-reviewed articles, dissertations, and unpublished article. In the identified articles, researchers were interested in adapting measures related to sixteen different constructs. Depression and shyness were given much attention by researchers interested in adapting measures within the Kuwaiti context.

For instance, three different adult depression inventories and two child-related versions were adapted for use in Kuwait. Al-Sammak (1994) drafted the

first adapted BDI within the Kuwaiti context for her PhD dissertation, and cited Beck's work in 1972. The second adapted BDI version concerned a later amended version of the BDI, which is known as BDI-IA (Beck & Steer, 1993), was done by Alansari (1997). Whereas Hadi et al. (2006) used one of the very first inventories to measure depression constructed by Beck and his colleagues (1961) in their study. While for children-specific inventories, two versions of the Children's Depression Inventory (Kovacs, 1978) were adapted within the Kuwaiti context (Al-Balhan, 2006; Hadi et al., 2006).

On the other hand, Alansari worked on adapting five different shyness-related measures. Four of them were adapted as part of his PhD thesis (Alansari, 1993), while one was published on his book about the personality measures in Kuwait (Alansari, 2002). For his PhD thesis, he adapted the Interaction Anxious Scale by Leary (1983), the Social Reticence Scale by Jones and Russell (1982), the Shyness Scale by Cheek and Buss (1981), and the Social Avoidance and Distress Scale by Watson and Friend (1969). While for his book, he adapted the Revised Shyness Scale by Cheek and Melchior (1985).

Noteworthy, all of the articles identified in this scoping review included explicit-nature measures. To our known based on this scoping review, the concept of implicit measures has not been presented to the Kuwaiti community, neither by constructing new implicit association tests, nor by adapting an existing one. Even more clearly, there have been no adaptations of measures of the trait emotional intelligence and belief-importance theory. Therefore, this PhD project

will focus on adapting a relatively new explicit measures in Kuwait such as the Trait Emotional Intelligence Questionnaire – Short Form (Petrides, 2009) and the Belief-Importance Theory Questionnaire (Petrides, 2010). Furthermore, the Big Five implicit association test (Back et al., 2009) will be adapted and presented to the Kuwaiti scientific community.

3.5.2–What are the test adaptation procedures followed by the researchers?

The last question guiding this scoping review deal with the technical part of the adaptation procedures in order to identify the best practices followed by researchers in Kuwait and whether any issues related to a specific design is reported. Five adaptation procedures were identified in the articles. Our scoping review reveals that the popular forward and back-translation designs were the most common adaptation procedures. A few studies used both designs simultaneously, while most used either. No issues were reported by the researchers regarding these designs.

Expert committees were consulted in most of the articles. The role of the expert committee was to lead the translation process and revise all translated versions and to make sure that the items are culturally accepted and understood. Contrary to the proposed ITC (2017) guidelines, none of the articles specified the exact number of members in the expert committee, their specialisation, and their exact role in the committee. Furthermore, no issues regarding using such

practice during the adaptation have been reported by the researchers, neither any problems aroused and resolved by the committee.

Pilot studies and focus groups were given less attention during the adaptation process. In most of the studies where either practice was used, amendments to the translated version of the measure were made as a result. Based on the empirical data gathered after piloting the translated measure, researchers were deleting or amending some items due to the low item-total correlations indices (Alansari, 1997; Alansari, 2002; Al-Balhan, 2006; Hadi et al., 2006). Furthermore, a focus group has been conducted by few studies, where they documented the changes made to the misunderstood items due to cultural inappropriateness or unclear phrasing. Obviously, pilot studies and focus groups are useful practices during the adaptation process as they can reveal more subtle issues of concern that cannot be detected by quantitative procedures.

For our purposes, we will consider all of the practices suggested by the ITC (2017) and document every step taken during the adaptation process in our PhD project. Specifically, we will clarify any ambiguity related to the expert committee selection. Also, we will be piloting the measures after applying any translations or amendments to the measure. Finally, whenever needed, a focus group will be conducted to identify any unseen problems during the adaptation process.

3.5.3–Theoretical Concerns and Gaps

The examination of psychological constructs is crucial for understanding human behavior and mental well-being within specific cultural contexts. This chapter reports the findings of a scoping review conducted to investigate the attention given to the constructs of Depression and Shyness by Kuwaiti researchers. Moreover, it highlights the adaptation of different measures for these constructs in order to facilitate their study within the Kuwaiti population.

The prominence of Depression and Shyness in Kuwaiti society has been well-documented across various demographic groups. Extensive research has consistently indicated the high prevalence of these psychological constructs within the Kuwaiti population. Regarding shyness, the Kuwaiti sample in Altawari (2018) exhibited higher scores than the theoretical mean for shyness. Similarly, Alansari (2001) discovered that approximately 10% of the Kuwaiti sample fell within a distribution of +2 standard deviations from the mean. While regarding depression, Alhabeb (2017) reported that 12% of participants in his Kuwaiti sample exhibited symptoms of depression.

Despite the prevalence of depression and shyness, the lack of well-established measures tailored specifically to the Kuwaiti context has hindered research in different areas of personality. Consequently, widely accepted models such as the trait emotional intelligence model, belimp theory, and implicit personality theory have remained unexplored within Kuwait. The absence of valid

and reliable measures has posed a significant challenge to studying these theories and contributing to their advancement within the Kuwaiti context.

Recognizing the need for valid measures to study the aforementioned theories in Kuwait, we made a strategic decision to adapt existing measures to the Kuwaiti cultural context. Specifically, the Trait Emotional Intelligence Questionnaire - Short Form (TEIQue-SF), belimp inventory, and Implicit Association Test (IAT) were selected for adaptation. These measures were chosen based on their established reliability and validity in assessing related constructs in other cultural contexts. Clearly, the adaptation of these measures allows us to delve deeper into the corresponding theories within the Kuwaiti cultural context. This, in turn, contributes to the theoretical development and empirical understanding from a cultural perspective. In short, we believe that these practical contributions are important to lead to different theoretical contributions from the current dissertation.

Studying Belimp theory in Kuwait is of utmost importance due to its ability to enhance our understanding and prediction of behavior beyond traditional personality inventories. This theory emphasizes the influence of personality traits on the alignment between individuals' beliefs in achieving goals and the importance they assign to them. By exploring Belimp theory in the Kuwaiti context, we can gain valuable insights into how this framework applies to individuals in this specific cultural setting, ultimately improving our ability to predict behavior and enhance our overall understanding of human psychology.

Studying trait EI in Kuwait holds great significance as it has the potential to enhance emotional well-being and productivity among individuals, ultimately benefiting organizations as well. While the concept of EI is not new in Kuwait, previous studies predominantly focused on two different models: the ability EI model and the mixed-model. Therefore, it becomes crucial to specifically investigate trait EI, considering its importance in promoting emotional well-being and the lack of solid measures that have led to inconclusive findings regarding its overall state in Kuwait. By delving into trait EI, we can bridge this research gap, gain a deeper understanding of its impact on individuals in Kuwait, and contribute to the development of effective strategies to foster emotional intelligence in this context.

The study of implicit personality in Kuwait holds significant importance, especially since it has not been explored in this context before. Implicit personality refers to unconscious or automatic cognitive processes that shape individuals' personalities and investigating it in Kuwait can provide valuable insights into the cultural and psychological dynamics unique to this region. By conducting the first study on implicit personality in Kuwait, we have the opportunity to uncover new knowledge and contribute to the existing literature. This can enhance our understanding of how implicit processes influence personality formation and contribute to individuals' behavior, attitudes, and decision-making in the Kuwaiti cultural context. Moreover, studying implicit personality in Kuwait can shed light on the universality or cultural specificity of

implicit processes and help us better comprehend the underlying mechanisms that link culture and personality traits. Ultimately, this exploration will not only broaden our understanding of implicit personality theory but also pave the way for future research in Kuwait and the Middle East.

Chapter 4: Adapting and Exploring the Psychometric Properties of the Kuwaiti Trait Emotional Intelligence Questionnaire – Short Form

4.1–Abstract

This chapter aims to cross-culturally adapt and examine the psychometric properties of the Kuwaiti-Arabic Trait Emotional Intelligence – Short Form (TEIQue-SF) as an explicit personality measure through Structural Equation Modelling (SEM). The adapted measure was administered to 1458 university students (Study 1) and 314 professionals in Kuwait (Study 2). Reliability estimates for all TEIQue-SF variables were within the acceptable range, with the exception of certain factors as expected by the literature. In Study 1, SEM results suggested that the bi-factor ESEM model fit the data for the TEIQue-SF. Evidence for criterion validity was obtained through relationships between the TEIQue-SF with the Big Five variables (Study 1) and job-related variables (Study 2). Thus, retaining the Kuwaiti-Arabic TEIQue-SF and consider it as a reliable and valid measure to study trait EI with the Kuwaiti population. Finally, limitations and recommendations were discussed throughout the chapter.

4.2 – Introduction

In this chapter, we aim to adapt and validate the Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF) in Kuwaiti Arabic for use in general population. Adapting this measure in Kuwait is important because it can provide insight into the emotional competencies of individuals in the country, which can inform decision making in different areas, as well as help to promote emotional well-being and productivity in individuals and organizations. An expert committee was responsible for translating the measure and preparing it for the pilot study. Two pilot samples were recruited comprising 200 participants overall, where preliminary reliability indices were computed before using the measure in the validation samples. Subsequently, the final Kuwaiti Arabic TEIQue-SF version was applied to two Kuwaiti samples: students (n=1458) and professionals (n=314). Even though the TEIQue is very widely studied around the world, Kuwait has not been part of this research. This is why we are interested in obtaining evidence for a) reliability scores, b) factorial structure, c) criterion-related validity, and d) possible relationships between trait EI variables and different sociodemographic variables such as age, citizenship status, gender, marital status, and university majors, as shown in section 2.5.8.

Our investigation in this chapter lays the foundation for subsequent chapters. Accordingly, we investigate the factorial structure of the adapted TEIQue-SF on a Kuwaiti sample to ensure it is consistent with the original findings from the UK. We also provide evidence of the reliability and validity of

scores obtained by our adapted TEIQue-SF. Lastly, we show the results obtained by examining the relationship between the TEIQue-SF variables and other key sociodemographic variables.

4.3–Methods

4.3.1–Cultural Adaptation and Pilot Sampling

4.3.1.1–Design and procedure. The ITC (2017) test adaptation guidelines have been considered to adapt the TEIQue-SF culturally. Each guideline is associated with at least one satisfactory checklist proposed by Hernández et al. (2020), and we consider these checklists in this chapter.

First, the measure has been identified through materials published online. In addition, the author's (Petrides, 2009) permission was granted before proceeding with adaptation to make sure whether the measure is currently being considered for adaptation in Kuwait.

Second, an expert committee was formed (Table 15) that comprises one bilingual psychometrics professor (EC1), two bilingual psychometrics graduate students (EC2 and EC3), one bilingual applied psychology graduate student (EC4), and one bilingual person who is not familiar with the content (EC5). The committee members' selection is based on Hernández et al.'s (2020) recommendations (see criteria assessment TD1-1).

Table 15

Expert Committee Members

Member	Gender	Profession	Familiar with Culture	Familiar with Construct	Bilingual	Psychometrician	Role
EC1	Female	Professor	✓	✓	✓	✓	FR
EC2	Male	Graduate Student	✓	✓	✓	✓	FT
EC3	Female	Graduate Student	✓		✓	✓	BT
EC4	Female	Graduate Student	✓	✓	✓		FT
EC5	Female	Teacher	✓		✓		BT

Note. FT= Forward Translation, BT= Back-Translation, FR = Final and Full Revision

The translation process was conducted in three stages. In the first stage, the TEIQue-SF has been forward translated into Arabic aligned with the Kuwaiti culture by EC2 and EC4, resulting in two translated versions. The two versions were almost identical except for item 17, "*I'm normally able to get into someone's shoes and experience their emotions*". The two committee members responsible for the forward translation came up with two different translations for this item, leading to two different meanings. The discrepancy forced us to contact the original author to double-check the meaning of this item in lay language. The original author indicated that "*get into someone's shoes*" means being able to see the situation from someone's else perspective. Therefore, the two members agreed to amend this item to reflect this meaning. After that, the researcher collected the two forms and synthesised a single Kuwaiti Arabic version for the next stage.

In the second stage, the synthesised version is sent to EC3 and EC5 for the back-translation into the English process. The two back-translators came up with almost two identical English forms. Item 17 returned as "*I can put myself into others position and feel their emotions*" after the back-translation process. Again, the researcher collected the two English forms and synthesised a single form of the English version for the final stage.

In the final stage, EC1 accepted the translation, and the committee considered it appropriate in terms of carrying the same meaning. Finally, the measure has been approved by the committee to be piloted.

The TEIQue was piloted two times to collect sufficient data to enable small-scale scale and item analysis. This step is necessary to ensure the psychometric quality of psychological measures. During the pilot, participants were asked to fill a feedback form whenever they had any comments on items or questions.

After piloting the TEIQue-SF for the first time, the reliability analysis showed an unacceptable alpha coefficient for the Emotionality subscale (see 4.4.1-Descriptive Statistics and Reliability Analysis). Specifically, the researcher identified items 17 and 23 to be problematic and sent them back to the expert committee for revision. The expert committee revisited the translation of the two items and decided to rephrase them and send it back to the focus group and a second pilot.

In the focus group, all of the participants (n=10) were able to understand the meaning of all items in the TEIQue-SF. In addition, no comments were received regarding the clarity of any item. Furthermore, the second pilot study results were acceptable. Therefore, the last version of the TEIQue-SF was retained for use in Kuwaiti pilot sample.

4.3.1.2–Participants. The first pilot sample of professional adults comprises 79 participants. The second pilot sample of university students comprises 121 participants. Both sample sizes are complied with the suggestions from the measure's piloting literature (see *Perspectives From the Literature* in Johanson & Brooks, 2009).

Both samples were invited to voluntary participate in the pilot study through online link. The link included information about the pilot study and given instructions on how to respond or withdraw from the study at any point. Consent to participate was obtained from participants and no further personal information were asked to ensure the anonymity and confidentiality of their responses. Taken altogether, we believe that our pilot samples are knowledgeable audience who can help us to assess the readability and applicability of the pilot Kuwaiti TEIQue-SF.

4.3.1.3–Measures. We used the last version of the pilot Kuwaiti-Arabic TEIQue-SF which will later evolve into the final adapted Kuwaiti-Arabic TEIQue-SF. This measure comprises thirty statements responded to a 7-point Likert-scale, ranging from completely disagree to completely agree. The original

TEIQue version was developed in English and compring 153 items and measuring 15-facets and four factors: Well-being, Self-control, Emotionality, and Sociability (Petrides, 2009). For the short form, two items from each of the 15 facets have been included for a total of 30 items. All TEIQue instruments are available, free of charge, for academic research purposes from www.psychometriclab.com. The Kuwaiti-Arabic TEIQue-SF is available in Appendix A.

4.3.1.4–Data analysis plan. We performed descriptive analysis of the subscales. Then, Cronbach's alpha coefficient was calculated to assess the internal consistency of the measures. Pearson correlation coefficients were computed whenever the correlation was concerned. All of the statistical analyses were carried out through *IBM SPSS Statistics for Macintosh, version 27.0* (IBM Corp., 2020).

4.3.2–Kuwaiti students' sample (Study 1)

4.3.2.1–Design and procedure. We used a convenience sample design and approached participants via an anonymous Qualtrics link (online). Several faculty members within Kuwaiti higher education institutions were contacted individually to help disseminate the Qualtrics link. We gave them permission to choose the best way to implement the measures with their students without providing any access to the responses. Participants did not give any personal self-identifying information. Therefore, we can assure the anonymity and confidentiality of the participants' data. Anyways, participants were informed that

they had the right to withdraw from the study at any point by simply closing the window tab on their computers.

By clicking on the link, participants were introduced to the study's aims and goals. Then, they were asked to confirm that they were 18 years and older and consent to participate in this study voluntarily. Subsequently, they were asked to consent to voluntarily participate in the study and complete the measures included in this study.

This study was approved by the University College London-Departmental Ethics Committee (CEHP/2021/586).

4.3.2.4–Participants. The first study sample included 1458 university students in Kuwait with a mean age of 22.34 years (SD = 7.62 years). Almost 75% of the sample were female students, which reflects the female-male students' ratio at Kuwait University. Eighty nine percent were Kuwaitis and the others were non Kuwaitis without asking them for their nationality for anonymity purposes. Fifty three percent were in Art majors and 47% in Science majors. The characteristics of our sample can be found in Table 16. We did not identify any missing values in our dataset, and therefore, all participants were included in our study for further analysis.

Table 16

The Characteristics of Study 1 of Chapter 4 Sample (N=1458)

Variable		n	%
Nationality			
	Kuwaiti	1301	9.05%
	Non-Kuwaiti	132	89.23%
	PNS	25	1.71%
Gender			
	Female	1110	76.13%
	Male	336	23.05%
	PNS	12	.82%
Marital Status			
	Currently married	235	16.12%
	Currently unmarried	1192	81.67%
	PNS	31	2.13%
Last Degree Obtained			
	Highschool or below	1124	77.09%
	Post School Diploma	99	6.80%
	Bachelor	232	15.91%
	Masters & PhD	3	.21%
Household Income			
	Less than 500 KWD	59	4.05%
	Between 501-1000KWD	203	13.92%
	Between 1001-1500 KWD	205	20.92%
	Between 1501-2000 KWD	247	16.94%
	More than 2000 KWD	310	21.26%
	PNS	334	22.91%
Major			
	Art & Humanities	771	52.88%
	Science & Engneering	687	47.12%

Note. PNE = Prefer not to say, KWD = Kuwaiti Dinar

4.3.2.3–Measures.

4.3.2.3.1–The Kuwaiti Arabic TEIQue-SF. We used the Kuwaiti Arabic TEIQue-SF that was developed and utilised in the pilot study.

4.3.2.3.2–The Kuwaiti Arabic NEO-FFI. The NEO-FFI is the short form of the NEO-PI developed by McCrae and Costa. The inventory comprises 60 items

providing scores on the Big Five factors: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C). One limitation is that it does not yield scores at the facet level as the NEO-PI. However, we used it in our study due to circumstances relating to our project (esp., limited time). We used Alansari's (1997) Kuwaiti-Arabic adaptation, which shows robust psychometric properties in Kuwaiti samples (e.g., Alansari & Alali, 2021).

4.3.2.4–Data analysis plan. We obtained the descriptive statistics for all measures using the *skimr* (Waring et al., 2021) and *e1071* (Meyer et al., 2021) packages in *R, version 4.0.5* (RStudio Team, 2021). We also used R to compute Cronbach's α (Cronbach, 1951) via the *ltm* package (Rizopoulos, 2006) and the *psych* package (Revelle, 2021) to compute McDonald's ω (McDonald, 2013). Finally, we used *MplusAutomation* R package (Hallquist & Wiley, 2018) to prepare and export our data for analysis in Mplus.

To assess factorial structure, we relied on the exploratory structural equation modelling (ESEM) approach. We started with the simple first-order ESEM model for each measure to obtain factor loadings for further modelling. Subsequently, we tested different ESEM-within-CFA models (Morin et al., 2013) based on the results from the first-order model. All analyses were conducted using *Mplus, version 8.8* (Muthén & Muthén, 1998-2017), and the corresponding parameters were estimated with the robust maximum likelihood estimator (MLR) to deal with deviations from normality.

Additionally, we computed zero-order correlations between the TEIQue-SF variables and the Big Five. Along with that, we regressed the global trait EI on the Big Five factors to determine the amount of global trait EI scores' variance explained by the Big Five. Further, we modelled the interrelationships between the two explicit constructs (i.e., TEIQue-SF and NEO-FFI) through SEM based on the relationships reported in Petrides et al. (2010). Our aim of this analysis is to assess the criterion validity of our adapted TEIQue-SF.

Independents samples t-tests and ANOVAs and their corresponding assumptions were assessed using SPSS, to examine the TEIQue-SF means differences across different sociodemographic groups. Outliers will be assessed through the inspection of boxplots. Due to the large sample size in our study (i.e., larger than 50), we will assess the normality of our study's variables through normal Q-Q plot along with skewness and kurtosis values. This is because normality tests such as Shapiro-Wilk test tend to flag minor deviations from normality as statistically significant (i.e., not normally distributed).

4.3.3–Kuwaiti professionals' sample (Study 2)

4.3.3.1–Design and procedure. We used non-proportional quota sampling method and approached several Kuwaiti organisations (governmental and private sectors) to collect data from their employees. Participants were invited to provide their voluntary consent and then complete the measures. Participants did not provide any personal information that allow researchers or organisations to identify them. Data collection was both online and via paper and

pencil. All participations were voluntary, and no compensation were offered to both participants and organisations.

4.3.3.2–Participants. The second study sample included 314 professionals in Kuwait with a mean age of 33.62 years (SD = 12.24 years). The sample comprised 174 males and 135 females, while 5 participants preferred not to reveal their gender. Two hundred ninety-two participants were Kuwaitis; the rest were non-Kuwaitis, mainly from other Arab-region countries. The sample also comprises 154 married participants, 126 single participants, and 26 divorced participants, while the rest preferred not to reveal their current marital status.

The following professions were represented in our sample: Bankers (n=36), Engineers (n=72), Healthcare providers (n=33), Lawyers (n=35), Military (n=33), Policemen (n=39), and Teachers (n=66). Gender and age information for each profession are reported in Table 17.

Table 17

Age and Gender Information for Each Profession Represented in our Sample for Study 2 of Chapter 4 (N=314)

Profession	Gender			Age (Years)
	Males	Females	PNS	Mean (SD)
Bankers (n=36)	21	15	0	31.89 (17.39)
Engineers (n=72)	31	38	3	33.26 (10.99)
Healthcare providers (n=33)	15	17	1	36.85 (7.99)
Lawyers (n=35)	16	19	0	32.89 (9.55)
Military (n=33)	33	0	0	35.12 (11.84)
Policemen (n=39)	35	3	1	34.36 (15.74)
Teachers (n=66)	23	43	0	32.55 (11.12)
Overall sample (n=314)	174	135	5	33.62 (12.24)

Note. PNS = Prefer not to say, SD = Standard deviation

4.3.3.3–Measures.

4.3.3.3.1–The Kuwaiti Arabic TEIQue-SF. We used the Kuwaiti Arabic TEIQue-SF that was developed and utilised in the pilot study and Study 1.

4.3.3.3.2–Job Performance. This was measured with a single self-report question as in Petrides et al. (2022). Participants were asked explicitly to evaluate how good they were in their job using a single item: “How do you evaluate yourself in doing your job out of 100?”.

4.3.3.3.3–Minnesota Satisfaction Questionnaire (MSQ) – Short Form. The MSQ is a 20-item inventory developed by Weiss et al. (1967). It measures job satisfaction based on a 5-point Likert response scale, ranging from “very dissatisfied” to “very satisfied”. Al-Mutairi et al. (2017) used the MSQ with a Kuwaiti sample and reported a coefficient alpha of .93 in their study.

4.3.3.3.4–Organisational Commitment Questionnaire (OCQ). The OCQ is a 15-item inventory measuring employee organisational commitment. It was developed by Mowday et al. (1979). The items are responded to a 7-point Likert scale, ranging from “strongly disagree” to “strongly agree”. Al-Ajmi (2006) used the inventory in Kuwait, reporting a coefficient alpha of .85 in his study.

4.3.3.4–Data analysis plan. Descriptive statistics and reliability analysis were performed as we did in Study 1.

Further, we discussed earlier how trait EI and job attitudes affect job performance. We also discussed how trait EI and job attitudes were related. Accordingly, we proposed a mediation model to look at the effect of global trait EI

on job performance, and whether job attitudes are going to affect this relationship. The model was tested through Structural Equation Modelling (SEM) using *Mplus, version 8.8* (Muthén & Muthén, 1998-2017). Model parameters were estimated with the robust maximum likelihood estimator (MLR) to deal with deviations from normality. This will offer evidence for the criterion validity of the TEIQue-SF.

We also examined the incremental validity of trait EI over job attitude variables in predicting job performance across different professions. Specifically, job performance will be regressed on job satisfaction and organisational commitment (Step 1), with the global trait EI score added subsequently to the model (Step 2).

One-way ANOVA and MANOVA was used to compare the trait EI profile (i.e., global trait EI and the four factors) for each profession. Accordingly, a post-hoc analysis was carried out using Tukey HSD post hoc tests (if the assumption of homogeneity of variance is met) or Games-Howell post-hoc tests (if the assumption is violated).

We also re-examined the relationships between TEIQue-SF variables and other sociodemographic variables as we did in Study 1. We followed the same rules to identify any outliers and to assess the normality.

4.4–Results

4.4.1–Pilot sample results

4.4.1.1–Descriptive statistics and reliability analysis. Descriptive statistics and Cronbach's alpha coefficients obtained from the first and second pilot studies are presented in Table 18. Alpha coefficients ranged between .49 to .69 for the subscales and were .84 for the overall measure in the first pilot sample. While in the second pilot and after rephrasing the items, the coefficients jumped to range between .51 and .74 for the subscales and become .87 for the overall measure.

Table 18

Descriptive Statistics and Cronbach's Alpha Coefficients for TEIQue-SF ($N_{Pilot\ Study\ 1}$ = 79, $N_{Pilot\ Study\ 2}$ = 121)

	Trait EI Variable	Min	Max	M	SD	Skew	Kurt	α
Pilot Study 1 (n=79)	Well-being	2.00	7.00	5.50	1.03	-1.06	.93	.69
	Self-control	1.00	6.50	4.14	1.14	-.32	.09	.56
	Emotionality	2.38	6.38	4.66	.91	-.17	-.50	.49
	Sociability	1.17	6.67	4.65	1.18	-.71	-.08	.66
	Global trait EI	2.63	6.13	4.73	.80	-.34	-.45	.84
Pilot Study 2 (n=121)	Well-being	2.00	7.00	5.36	1.13	-.99	.79	.74
	Self-control	1.00	6.50	4.11	1.13	-.29	-.05	.59
	Emotionality	2.38	6.38	4.58	.90	.05	-.51	.51
	Sociability	1.17	7.00	4.54	1.21	-.47	-.43	.69
	Global trait EI	2.10	6.60	4.60	.86	-.35	.13	.87

Note. Min = minimum, Max = maximum, M = mean, SD = standard deviation, Skew = skewness, Kurt = kurtosis, α = Cronbach's alpha coefficient.

4.4.2–Results in the students' sample (Study 1)

4.4.2.1–Descriptive statistics. Descriptive statistics for all variables are shown in Table 19 (N = 1458). All skewness and kurtosis values were within the

acceptable ranges (-3.00 to +3.00) and (-10.00 to +10.00), respectively (Brown, 2015).

Table 19

Descriptive Statistics for TEIQue-SF and NEO-FFI Variables in Study 1 of Chapter 4 (N=1458)

		Overall sample (N = 1458)				Male (N = 336)			Female (N = 1110)		
		Range[a]	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt
TEIQue-SF		[1.00–7.00]									
	Global	2.47–6.80	4.65 (.77)	.26	-.29	4.75 (.82)	.34	-.56	4.61 (.76)	.21	-.25
	Well-being	1.00–7.00	5.26 (1.12)	-.38	-.42	5.26 (1.07)	-.17	-.57	5.26 (1.14)	-.44	-.40
	Self-control	1.00–7.00	4.24 (.98)	.14	.47	4.45 (.97)	.32	.28	4.18 (.98)	.09	.49
	Emotionality	1.75–7.00	4.51 (.87)	.27	-.02	4.54 (.93)	.28	-.04	4.49 (.85)	.28	-.03
	Sociability	1.33–7.00	4.63 (1.10)	.08	-.13	4.76 (.98)	.15	-.16	4.59 (1.02)	.07	-.14
NEO-FFI		[12.00-60.00]									
	Neuroticism	14.00–60.00	34.00 (5.99)	.45	1.88	33.40 (7.32)	.79	1.87	34.20 (5.53)	.27	1.43
	Extraversion	16.00–60.00	40.20 (5.13)	.09	2.00	41.30 (5.39)	.55	1.76	39.90 (5.01)	-.11	1.93
	Openness	15.00–60.00	40.30 (5.33)	-.04	2.06	41.40 (5.87)	.42	1.53	40.00 (5.13)	-.32	2.03
	Agreeableness	15.00–60.00	39.90 (5.42)	.18	1.72	40.20 (5.81)	.85	1.26	39.80 (5.32)	-.09	1.77
	Conscientiousness	14.00–60.00	42.50 (5.25)	-.44	2.55	42.70 (5.16)	.40	1.76	42.50 (5.29)	-.67	2.70

Note. Min = minimum, Max = maximum, M = mean, SD = standard deviation, Skew = skewness, Kurt = kurtosis.

a. Numbers between squared brackets are theoretical ranges.

4.4.2.2–Factor analysis of the TEIQue-SF. *We contrasted four different ESEM models to evaluate the factorial structure of the TEIQue-SF.*

Model 0: Four First-Order ESEM

Model 1: Hierarchical ESEM (H-ESEM) within CFA

Model 2: Bi-Factor ESEM

Model 3: Bi-Factor ESEM within CFA

Table 20 presents the model fit statistics for each model along with the number of free parameters. As can be seen in that table, model fit values were generally acceptable for all models. Taking fit indices and the number of free parameters for each model into account, we decided to retain Model 2 (shown in Figure 7). The standardised factor loadings for each item for Model 2 are

presented in Table 21. Most of the items showed significant loadings on their keyed factor with some exceptions in the Emotionality factor and global trait EI. Additionally, the table indicates a possible issue with the Emotionality factor, in which only one item loaded significantly on it.

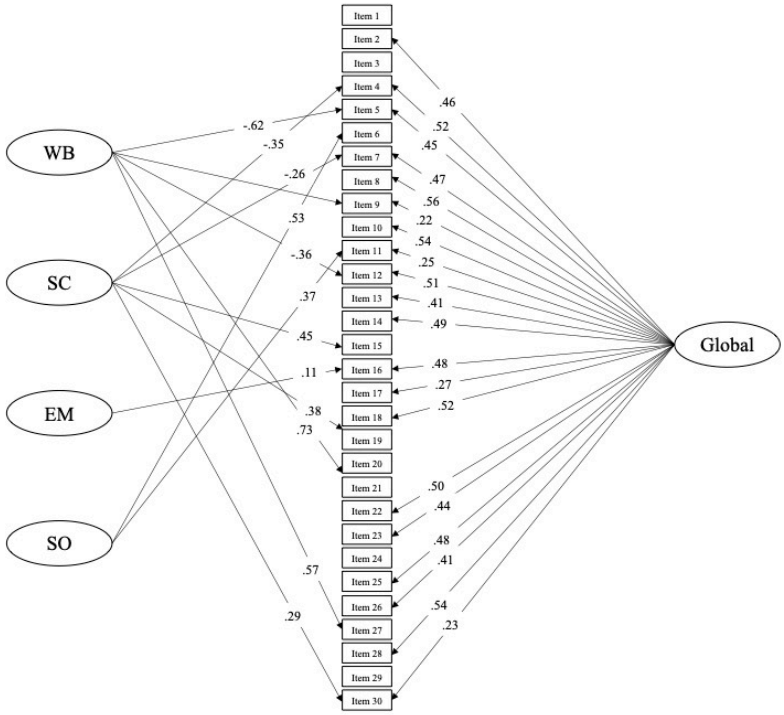
Table 20

Fit Indices for the Proposed Models

Model	Type	CFI	TLI	RMSEA		SRMR	Free Parameters
Model 0a	Four First-Order ESEM	.902	.868	.041	[.038, .044]	.032	174
Model 1a	H-ESEM within CFA	.903	.871	.041	[.038, .043]	.033	168
Model 2a	Bi-Factor ESEM	.915	.875	.040	[.037, .044]	.028	200
Model 3a	Bi-Factor ESEM within CFA	.913	.875	.040	[.037, .044]	.035	194

Figure 7

Bi-Factor ESEM Model for the Kuwaiti-Arabic TEIQue-SF (Model 2a)



Note. global = global trait EI, so = Sociability, em = Emotionality, sc = Self-control, wb = Well-being. Only significant paths are shown in the diagram.

Table 21

TEIQue-SF (Model 2a) Standardised Factor Loadings

Item	Global	Well-being	Self-control	Emotionality	Sociability
5	**.45**	**-.62**			
20	.03	**.73**			
9	**.22**	**.35**			
24	.22	.31			
12	**.51**	**-.36**			
27	.19	**.57**			
4	**.52**		**-.35**		
19	.17		**.38**		
7	**.47**		-.26		
22	**.50**		-.02		
15	.13		**.45**		
30	**.23**		**.29**		
1	.08			-.25	
16	**.48**			**.11**	
2	**.46**			-.25	
17	**.27**			.38	
8	**.56**			.11	
23	**.44**			.17	
13	**.41**			-.35	
28	**.54**			-.03	
6	.08				**.53**
21	.12				.18
10	**.54**				-.05
25	**.48**				-.09
11	**.25**				**.37**
26	**.41**				-.22
3	.15				
14	**.49**				
18	**.52**				
29	.18				

Note. Bold values are significant at $p < .05$.

4.4.2.3–Reliability analysis of the TEIQue-SF. Table 22 shows the gender-based reliability estimates for TEIQue-SF. The global trait EI had

satisfactory reliability (α = .83, ω = .86). The corresponding, ω_h value .37, meaning that 37% of the data's variance was accounted for the general factor (global trait EI). At the factor level of trait EI, Cronbach's alpha values ranged from .43 to .71, with Well-being consistently showing the highest reliability.

Table 22

Gender-Based Reliability Indices for TEIQue-SF and NEO-FFI Variables in Study 1 of Chapter 4 (N=1458)

Variable		Overall sample (N = 1458)	Males (N = 336)	Females (N = 1110)
		Cronbach's α	Cronbach's α	Cronbach's α
TEIQue-SF				
	Global Trait EI	.83	.85	.82
	Well-being	.71	.68	.72
	Self-control	.43	.46	.41
	Emotionality	.44	.53	.41
	Sociability	.52	.49	.53
NEO-FFI				
	Neuroticism	.77	.76	.75
	Extraversion	.66	.61	.67
	Openness	.31	.16	.33
	Agreeableness	.50	.55	.49
	Conscientiousness	.81	.81	.81

4.4.2.4–The relationship between trait EI and the Big Five. The zero-order correlations between trait EI and the Big Five are presented in Table 23. The table includes results from both gender, which allows for efficient comparisons, and subsequently assessing the consistency in our results.

Table 23

Trait EI Zero-Order Correlations with the Big Five and sociodemographic variables (Study 1 of Chapter 4; N=1458)

	Global trait EI			**Well-being**			**Self-control**			**Emotionality**			**Sociability**		
	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M
Age	.05	.04	.09	.06*	.06	.07	.04	.03	.07	.05	.04	.08	.01	-.01	.06
Neuroticism	-.40***	-.37***	-.48***	-.21***	-.18***	-.32***	-.31***	-.27***	-.41***	-.32***	-.27***	-.43**	-.34***	-.32***	-.40***
Extraversion	.18***	.18***	.16**	.23***	.25***	.18***	.09***	.08*	.07	.09**	.10***	.03	.11***	.10**	.11
Openness	.17***	.17***	.17**	.22***	.23***	.20***	.09***	.07*	.12*	.05	.05	.03	.10***	.09**	.14*
Agreeableness	-.01	.00	-.03	.07**	.09***	.03	-.05	-.04	-.09	-.08**	-.08*	-.09	.04	.05	-.02
Conscientiousness	.24***	.25***	.21***	.31***	.32***	.28***	.13***	.13***	.12*	.11***	.12***	.07	.17***	.17***	.14*

Note. Overall = Overall sample (n=1458); M = Male sample (n=336); F = Female sample (n=1110); EI = emotional intelligence; * $p < .05$, ** $p < .01$, *** $p < .001$

As can be seen, most correlations are statistically significant. Neuroticism was negatively correlated with all TEIQue-SF variables (viz., global trait EI and the four factors) across the overall sample and per each gender. In fact, it showed the greatest correlation with the TEIQue-SF variables compared to the other Big Five variables. Extraversion, Openness, and Conscientiousness also showed a consistent positively significant correlations with the TEIQue-SF variables. Noteworthy, Agreeableness showed the greatest number of nonsignificant correlations with the TEIQue-SF variables among the other Big Five factors.

A multiple regression with enter method was used to predict global trait EI scores from the Big Five factors. The model explained a statistically significant 30.2% of variance in global trait EI scores, $F(5, 1216) = 105.29$, $p < .001$, $R^2 = .30$, $R^2_{adjusted} = .30$. All of the Big Five factors were significant predictors of global trait EI, except Agreeableness. The multiple regression results can be found in Table 24.

Table 24

Regressions of the global trait EI on the Big Five (Study 1 of Chapter 4; N=1458)

Dependent Variable	*R*	R^2	F (*df*)	NEO-FFI	β	t
Global trait EI	.550	.302	105.29 (5, 1216)	N	-.07	19.21*
				E	.02	4.40
				O	.02	3.84
				A	.00	.54
				C	.03	6.17

Note. N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness.
* $p < .001$.

Further structural equation model tested the relationships between trait EI and the Big Five. The model converged, however is results in a poor fit (CFI = .64, RMSEA = .16 [90% CI: .15 - .17], SRMR = .13).

4.4.2.5–The relationship between trait EI and sociodemographic variables. We examined the relationship between trait EI and different sociodemographic variables (e.g., age, citizenship status, gender, marital status, and university majors). In the following, we will present the results with respect to each variable.

4.4.2.5.1–Age. As can be seen in Table 23, the correlation between TEIQue-SF variables and age was not significant for the overall sample and across the two genders. The weak correlation between the Well-being factor of trait EI and age on the overall sample was the only significant correlation.

4.4.2.5.2–Citizenship status. There were no outliers in the data for all TEIQue-SF variables across the two citizenship status groups (Kuwaitis and Non-Kuwaitis), as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across the two groups through normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores for Kuwaitis and Non-Kuwaitis, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were

differences in TEIQue-SF variables between Kuwaitis and Non-Kuwaitis. On global trait EI, the differences between Kuwaitis (M = 4.65, SD = .77) and Non-Kuwaitis (M = 4.59, SD = .82) were not statistically significant, $t(1198) = .77$, $p = .44$, $d = .08$.

On the trait EI factors level, the differences in Well-being scores between Kuwaitis (M = 5.27, SD = 1.13) and Non-Kuwaitis (M = 5.29, SD = 1.15) were not statistically significant, $t(1372) = .19$, $p = .85$, $d = .02$. The differences in Self-control scores between Kuwaitis (M = 4.23, SD = .98) and Non-Kuwaitis (M = 4.29, SD = 1.00) were not statistically significant, $t(1361) = .66$, $p = .51$, $d = .06$. The differences in Emotionality scores between Kuwaitis (M = 4.51, SD = .87) and Non-Kuwaitis (M = 4.44, SD = .83) were not statistically significant, $t(1359) = .85$, $p = .39$, $d = .08$. The differences in Sociability scores between Kuwaitis (M = 4.65, SD = 1.00) and Non-Kuwaitis (M = 4.43, SD = 1.04) were the only statistically significant differences among the other factors, $t(1370) = 2.35$, $p < .05$, $d = .22$.

4.4.2.5.3–Gender. There were no outliers in the data for all TEIQue-SF variables across the two genders, as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across the two groups through normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores (except for global trait EI and Emotionality) for both males and females, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between males and females. On global trait EI, the differences between males ($M = 4.75$, $SD = .82$) and females ($M = 4.61$, $SD = .76$) were statistically significant, $t(455.98) = 2.55$, $p < .05$, $d = .18$.

On the trait EI factors level, the differences in Well-being scores between males ($M = 5.26$, $SD = 1.07$) and females ($M = 5.26$, $SD = 1.14$) were not statistically significant, $t(1385) = .10$, $p = .92$, $d = .01$. The differences in Self-control scores between males ($M = 4.45$, $SD = .97$) and females ($M = 4.18$, $SD = .98$) were statistically significant, $t(1375) = 4.48$, $p < .05$, $d = .29$. The differences in Emotionality scores between males ($M = 4.54$, $SD = .93$) and females ($M = 4.49$, $SD = .85$) were not statistically significant, $t(493.75) = .83$, $p = .41$, $d = .06$. The differences in Sociability scores between males ($M = 4.76$, $SD = .98$) and females ($M = 4.59$, $SD = 1.02$) were statistically significant, $t(1383) = 2.69$, $p < .05$, $d = .17$.

4.4.2.5.4–Marital status. There were no outliers in the data for all TEIQue-SF variables across the two groups (Married and single), as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across the two groups through normal Q-Q plot along with skewness and kurtosis

values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores for both married and single groups, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between married and single groups. On global trait EI, the differences between married (M = 4.64, SD = .79) and single (M = 4.65, SD = .77) were not statistically significant, $t(1220) = .17$, $p = .86$, $d = .01$.

On the trait EI factors level, the differences in Well-being scores between married (M = 5.35, SD = 1.15) and single (M = 5.25, SD = 1.12) were not statistically significant, $t(1397) = 1.23$, $p = .22$, $d = .09$. The differences in Self-control scores between married (M = 4.25, SD = .94) and single (M = 4.24, SD = .99) were not statistically significant, $t(1386) = .08$, $p = .94$, $d = .01$. The differences in Emotionality scores between married (M = 4.55, SD = .84) and single (M = 4.50, SD = .87) were not statistically significant, $t(1381) = .71$, $p = .48$, $d = .05$. The differences in Sociability scores between married (M = 4.53, SD = .94) and single (M = 4.65, SD = 1.02) were not statistically significant, $t(1395) = 1.74$, $p = .08$, $d = .13$.

4.4.2.5.4–University majors. There were no outliers in the data for all TEIQue-SF variables across the two majors (Art and science), as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across

the two groups through normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores (Except for Well-being and Sociability) for both university major groups, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between Art and Science majors. On global trait EI, the differences between Art majors (M = 4.67, SD = .79) and Science majors (M = 4.61, SD = .75) were not statistically significant, $t(1220) = 1.56$, $p = .12$, $d = .09$.

On the trait EI factors level, the differences in Well-being scores between Art majors (M = 5.28, SD = 1.18) and Science majors (M = 5.25, SD = 1.06) were not statistically significant, $t(1396.91) = .58$, $p = .56$, $d = .03$. The differences in Self-control scores between Art majors (M = 4.28, SD = .98) and Science majors (M = 4.20, SD = .99) were not statistically significant, $t(1386) = 1.62$, $p = .11$, d = .09. The differences in Emotionality scores between Art majors (M = 4.52, SD = .89) and Science majors (M = 4.49, SD = .85) were not statistically significant, $t(1381) = .70$, $p = .48$, $d = .04$. The differences in Sociability scores between Art majors (M = 4.68, SD =1.04) and Science majors (M = 4.58, SD = .98) were not statistically significant, $t(1390.89) = 1.80$, $p = .07$, $d = .10$.

4.4.3–Results in the professionals' sample (Study 2)

4.4.3.1–Descriptive statistics and reliability analysis. Descriptive statistics for all variables are shown in Table 25 (N = 314). All skewness and kurtosis values were within the acceptable ranges (-3.00 to +3.00) and (-10.00 to +10.00), respectively (Brown, 2015).

Table 25

Descriptive Statistics for TEIQue-SF, MSQ, and OCQ Across Each Profession in Study 2 of Chapter 4 (N=314)

Profession	Global trait EI				MSQ				OCQ			
	Range[a]	M (SD)	Skew	Kurt	Range[b]	M (SD)	Skew	Kurt	Range[c]	M (SD)	Skew	Kurt
Bankers (n=36)	3.80-6.67	5.11 (.66)	.13	-.23	48.00-99.00	76.83 (13.26)	-.56	-.28	42.00-99.00	66.53 (11.88)	.02	.83
Engineers (n=72)	3.67-7.00	5.10 (.83)	.04	-.79	23.00-97.00	67.25 (14.79)	-.72	.95	43.00-101.00	63.78 (10.90)	.81	1.01
Healthcare providers (n=33)	3.90-6.47	5.14 (.62)	.04	-.12	26.00-92.00	69.45 (15.58)	-1.02	.64	15.00-87.00	62.91 (12.33)	-1.69	6.30
Lawyers (n=35)	3.97-6.77	5.48 (.66)	-.09	-.55	49.00-100.00	74.86 (12.74)	.03	-.42	44.00-84.00	65.31 (9.37)	-.11	-.24
Military (n=33)	3.63-6.53	4.55 (.80)	1.07	-.06	59.00-88.00	71.24 (8.75)	.48	-.93	53.00-88.00	65.03 (7.81)	.76	.83
Policemen (n=39)	2.40-6.43	5.19 (.88)	-.79	1.13	51.00-97.00	76.77 (10.97)	-.55	.19	50.00-102.00	66.69 (10.06)	1.14	2.87
Teachers (n=66)	3.50-6.77	5.20 (.81)	-.03	-.94	38.00-100.00	69.23 (14.87)	.17	-.72	45.00-93.00	61.86 (10.25)	.81	.97

Note. EI = Emotional Intelligence, MSQ = Minnesota Satisfaction Questionnaire, OCQ = Organizational Commitment Questionnaire, M = Mean, SD = Standard deviation, Skew = Skewness, Kurt = Kurtosis

[a] The theoretical range is 1.00 – 7.00.

[b] The theoretical range is 20.00 – 100.00.

[c] The theoretical range is 15.00 – 105.00

Table 26 shows the gender-based reliability estimates for TEIQue-SF. For the TEIQue-SF, global trait EI had satisfactory reliability (α = .88, ω = .87). The corresponding, ω_h value .56, meaning that 56% of the data's variance was accounted for the general factor (global trait EI). At the factor level of trait EI, Cronbach's alpha values ranged from .53 to .74, with Well-being consistently showing the highest reliability.

Table 26

Gender-Based Reliability Indices for TEIQue-SF Variables in Study 2 of Chapter 4 (N=314)

		Overall sample (N = 314)	Males (N = 174)	Females (N = 135)
TEIQue-SF				
	Global Trait EI	.88	.90	.85
	Well-being	.74	.74	.72
	Self-control	.54	.55	.53
	Emotionality	.58	.59	.58
	Sociability	.69	.71	.65
MSQ		.90	.89	.91
OCQ		.87	.85	.89

4.4.3.2–The relationship between trait EI and Job-related variables.

Overall sample and gender-based correlations are presented in Table 27. Pearson correlations between the three variables were all statistically significant as following: TEIQue-SF and job performance (*r* = .38), *TEIQue*-SF and MSQ (*r* = .29), TEIQue-SF and OCQ (*r* = .15), and MSQ and OCQ (*r* = .49). The significant correlations between TEIQue-SF and the three job-related measures (Job performance, MSQ, and OSQ) supports the criterion validity of the TEIQue-SF in the Kuwaiti professionals' sample.

Table 27

Trait EI Zero-Order Correlations with the job-related variables and sociodemographic variables (Study 2 of Chapter 4; N=314)

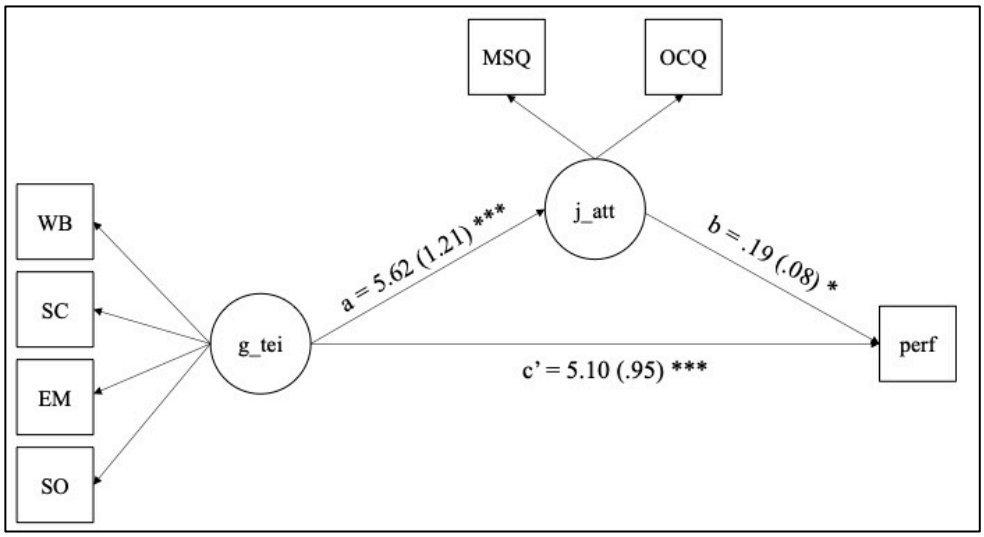
	Global trait EI			**Well-being**			**Self-control**			**Emotionality**			**Sociability**		
	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M
Age	.08	.22*	.03	.11	.13	.13	.13*	.24**	.07	.11	.23**	.07	-.06	.07	-.12
Job performance	.38***	.28**	.44***	.38***	.22**	.50***	.23***	.15	.29***	.30***	.23**	.34***	.26***	.17	.34***
Job satisfaction	.29***	.31***	.29***	.29***	.29***	.32***	.18***	.19*	.18*	.17***	.19***	.17*	.28*	.25*	.30***
Organisational commitment	.15**	.23**	.09	.26***	.30***	.24**	.04	.10	-.02	-.01	.05	-.06	.16**	.25**	.11

Note. Overall = Overall sample (n=314); M = Male sample (n=174); F = Female sample (n=135); EI = emotional intelligence; * $p < .05$, ** $p < .01$, *** $p < .001$

Our mediation model proposed that job attitudes will mediate the relationship between trait EI and job performance. Model fit values were acceptable for the proposed model (Figure 8), CFI = .94, RMSEA = .09 [90% CI: .06 - .12], SRMR = .05.

Figure 8

The Mediation Model



Note. The number before the brackets is the estimated effect (associated standard error), g_tei = Global trait EI, j_att = Job attitudes, perf = Job Performance, MSQ = Job satisfaction score, OCQ = Organizational commitment score, WB = Well-being, SC = Self-control, EM = Emotionality, SO = Sociability.

a: Effect of trait EI on job attitudes.
b: Effect of job attitudes on job performance.
c': Direct effect of trait EI on job performance.
Indirect effect of trait EI on job performance = a x b = 5.62 * .19 = 1.07.
* $p < .05$; ** $p < .01$; *** $p < .001$

The SEM results indicated that job attitudes significantly predict job performance, $\beta = .19$, $SE = .08$, $p < .05$, accounting for approximately 11.2% of the variance, $R^2 = .112$; trait EI significantly predicted both job attitudes, $\beta = 5.62$,

SE = 1.21, $p < .001$, as well as job performance, $\beta = 5.10$, *SE* = .95, $p < .001$. The latter constitutes the direct effect of trait EI on job performance in our model. The indirect effect, tested using bootstrapped standard errors, was also significant, $\beta = 1.07$, *SE* = .45, $p < .05$. These findings suggest that job attitudes partially mediated the relationship between trait EI and job performance. The total effect of trait EI on job performance was 6.17.

4.4.3.3–Incremental validity of trait EI. Hierarchical regression analysis summaries are shown in Table 28. In this analysis, job satisfaction and organisational commitment were entered together at step 1, while trait EI was entered on its own at step 2. We now briefly present the results separately for each profession.

Table 28

Hierarchical Multiple Linear Regression Results (Study 2 of Chapter 4; N=314)

	Bankers		Engineers		Healthcare Providers		Lawyers		Military		Policemen		Teachers	
Step 1	$F(2, 33) = 3.29$, $R^2 = .166$, adj. $R^2 = .116$		$F(2, 67) = 3.93$*, $R^2 = .105$, adj. $R^2 = .078$		$F(2, 30) = .23$, $R^2 = .015$, adj. $R^2 = -0.05$		$F(2, 32) = 1.11$, $R^2 = .065$, adj. $R^2 = .007$		$F(2, 30) = 5.53$*, $R^2 = .269$, adj. $R^2 = .221$		$F(2, 35) = 2.64$, $R^2 = .131$, adj. $R^2 = .082$		$F(2, 63) = 11.92$*, $R^2 = .275$, adj. $R^2 = .252$	
Step 2	$F(3, 32) = 2.76$, $R^2 = .205$, adj. $R^2 = .131$		$F(3, 66) = 5.67$*, $R^2 = .205$, adj. $R^2 = .169$		$F(3, 29) = .92$, $R^2 = .087$, adj. $R^2 = -0.008$		$F(3, 31) = 1.10$, $R^2 = .096$, adj. $R^2 = .009$		$F(3, 29) = 4.01$*, $R^2 = .293$, adj. $R^2 = .220$		$F(3, 35) = 4.23$, $R^2 = .272$*, adj. $R^2 = .207$		$F(3, 62) = 8.95$, $R^2 = .302$, adj. $R^2 = .268$	
ΔR^2	0.039		.100*		0.071		0.031		0.024		.140*		0.028	
Predictor (Step 1)	**β**	**t**	**β**	**t**	**β**	**t**	**β**	**t**	**β**	**t**	**β**	**t**	**β**	**t**
MSQ	.09	.40	.28	2.09*	.14	.65	.28	1.44	.56	3.32*	.35	2.13*	.21	1.73
OCQ	.35	1.62	.08	.62	-.11	-.51	-.06	-.31	-.18	-1.06	.02	.14	.38	3.10*
(Step 2)														
MSQ	-.40	-.16	.25	1.97	.21	1.01	.20	.97	.37	1.47	.23	1.40	.12	.91
OCQ	.41	1.87	.05	.36	-.18	-.85	-.09	-.46	-.14	-.79	.08	.53	.38	3.09*
global trait EI	.22	1.26	.32*	2.88*	.28	1.50	.20	1.04	.23	.99	.39	2.56*	.19	1.57

Note. β = Standardized Beta estimate, MSQ = Job satisfaction score, OCQ = Organizational commitment score, EI = Emotional Intelligence.

* $p < .05$.

At step 1 for Bankers, the model predicted 16.6% of the variance in job performance ($F_{(2, 33)} = 3.29$, $p = .05$). Both job attitude variables entered in step 1 were not significant predictor of job performance. Trait EI predicted 3.90% of unique variance in job performance after controlling for job attitude variables in step 2 ($F_{Change\ (1, 32)} = 1.59$, $p = .22$). However, trait EI was not a significant predictor of job performance.

For Engineers, the model predicted 10.5% of the variance in job performance at step 1 ($F_{(2, 67)} = 3.93$, $p > .05$), MSQ was found to be a significant positive predictor of job performance ($\beta_{MSQ} = .28$, $t = 2.09$, $p < .05$). At step 2, trait EI was found to be the only significant positive predictor of job performance ($\beta_{trait\ EI} = .32$, $t = 2.88$, $p < .05$). Trait EI predicted a significant 10.0% of unique variance in job performance after controlling for job attitude variables ($F_{Change\ (1, 66)} = 8.28$, $p < .05$).

For Healthcare Providers, the model predicted 1.5% of the variance in job performance at step 1 ($F_{(2, 30)} = .23$, $p = .79$). Both job attitude variables entered in step 1 were not significant predictor of job performance. Trait EI predicted 7.1% of unique variance in job performance after controlling for job attitude variables in step 2 ($F_{Change\ (1, 29)} = 2.26$, $p = .14$). However, trait EI was not a significant predictor of job performance.

For Lawyers, the model predicted 6.5% of the variance in job performance at step 1 ($F_{(2, 32)} = 1.11$, $p = .34$). Both job attitude variables entered in step 1 were not significant predictor of job performance. Trait EI predicted 3.1% of

unique variance in job performance after controlling for job attitude variables in step 2 ($F_{Change\ (1, 31)} = 1.07$, $p = .31$). However, trait EI was not a significant predictor of job performance.

For Military, the model predicted 26.9% of the variance in job performance at step 1 ($F_{(2, 30)} = 5.53$, $p < .05$), MSQ was found to be a significant positive predictor of job performance ($\beta_{MSQ} = .56$, $t = 3.32$, $p < .05$). At step 2, trait EI was not a significant predictor of job performance, after controlling for job attitude variables. Trait EI only predicted 2.40% of unique variance in job performance after controlling for job attitude variables ($F_{Change\ (1, 29)} = .98$, $p = .33$).

For Policemen, the model predicted 13.1% of the variance in job performance at step 1 ($F_{(2, 35)} = 2.64$, $p = .09$), MSQ was found to be a significant positive predictor of job performance ($\beta_{MSQ} = .35$, $t = 2.13$, $p < .05$). At step 2, trait EI was found to be a significant positive predictor of job performance, over and above job attitude variables ($\beta_{trait\ EI} = .39$, $t = 2.56$, $p < .05$). Trait EI predicted a significant 14.0% of unique variance in job performance after controlling for job attitude variables ($F_{Change\ (1, 34)} = 6.55$, $p < .05$).

For Teachers, the model predicted 27.5% of the variance in job performance at step 1 ($F_{(2, 63)} = 11.92$, $p < .05$), OCQ was found to be a significant positive predictor of job performance ($\beta_{OCQ} = .38$, $t = 3.10$, $p < .05$). At step 2, trait EI was not a significant predictor of job performance, and OCQ remain a significant predictor of job performance ($\beta_{OCQ} = .38$, $t = 3.09$, $p < .05$).

Trait EI predicted 2.8% of unique variance in job performance after controlling for job attitude variables ($F_{Change\ (1,\ 62)} = 2.45$, $p = .12$).

4.4.3.4–Trait EI profiles across professions in Kuwait. ANOVA and MANOVA are robust and sample size is sufficiently large. The analyses were carried out with the seven professions as levels of the independent variable and global and four trait EI factors scores as the dependent variable for ANOVA and MANOVA, respectively.

Levene's tests of equality of variances for the global trait EI score and the four trait EI factor was nonsignificant, suggesting that the homogeneity of variance assumption was met in all cases.

The main effect on global trait EI was statistically significant ($F(6, 307) = 4.47$, $p < .001$, $\eta^2 = .080$). Tukey HSD post-hoc analysis revealed that Military scored significantly lower than all other professions.

There was a significant multivariate main effect of professions on the four trait EI factors (namely, Well-being, Self-control, Sociability, and Emotionality), $F_{(24,\ 1228)} = 2.25$, $p < 0.05$, $\eta_p^2 = 0.04$. Follow-up ANOVAs revealed significant differences on three of the four trait EI factors: Wellbeing, $F_{(6,307)} = 3.95$, $p < 0.001$, $\eta_p^2 = 0.07$; Sociability, $F_{(6,307)} = 4.01$, $p < 0.001$, $\eta_p^2 = 0.07$; and Emotionality, $F_{(6,307)} = 4.97$, $p < 0.001$, $\eta_p^2 = 0.09$. While Self-control scores were not statistically different across professions, $F(6, 307) = 1.91$, $p = .08$.

Tukey's post-hoc tests indicated that Military, overall, scored significantly lower than all other professions on three trait EI factors (viz., Well-being,

Sociability, and Emotionality). Notably, Military scored lower than other professions on the fourth trait EI factor (i.e., Self-control), although there was no main effect of professions on Self-control. Furthermore, Lawyers scored significantly higher Sociability scores than Engineers. All other differences were nonsignificant between professions.

4.4.3.5–The relationship between trait EI and sociodemographic variables. We examined the relationship between trait EI and different sociodemographic variables (e.g., age, citizenship status, gender, and marital status). In the following, we will present the results with respect to each variable.

4.4.3.4.1–Age. As can be seen in Table 27, the correlations between TEIQue-SF variables and age were, generally, not significant for the overall sample and across the two genders. Only one significant correlation was found between the Self-control factor of trait EI and age in the overall sample. We also found three significant correlations in the females' sample between the global trait EI, and Self-control and Emotionality factors of trait EI with age. However, all these significant correlations were weak.

4.4.3.4.2–Citizenship status. There were no outliers in the data for all TEIQue-SF variables across the two citizenship status groups (Kuwaitis and Non-Kuwaitis), as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across the two groups through normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF

data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores for Kuwaitis and Non-Kuwaitis, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between Kuwaitis and Non-Kuwaitis. On global trait EI, the differences between Kuwaitis ($M = 5.13$, $SD = .80$) and Non-Kuwaitis ($M = 5.03$, $SD = .82$) were not statistically significant, $t(312) = .59$, $p = .56$, $d = .13$.

On the trait EI factors level, the differences in Well-being scores between Kuwaitis ($M = 5.61$, $SD = 1.00$) and Non-Kuwaitis ($M = 5.72$, $SD = .98$) were not statistically significant, $t(312) = .52$, $p = .61$, $d = .12$. The differences in Self-control scores between Kuwaitis ($M = 4.84$, $SD = .93$) and Non-Kuwaitis ($M = 4.69$, $SD = 1.16$) were not statistically significant, $t(312) = .73$, $p = .47$, $d = .16$. The differences in Emotionality scores between Kuwaitis ($M = 5.08$, $SD = .89$) and Non-Kuwaitis ($M = 4.89$, $SD = .98$) were not statistically significant, $t(312) = .99$, $p = .32$, $d = .22$. The differences in Sociability scores between Kuwaitis ($M = 5.02$, $SD = 1.08$) and Non-Kuwaitis ($M = 4.82$, $SD = 1.07$) were not statistically significant differences, $t(312) = .86$, $p = .39$, $d = .19$.

4.4.3.4.3–Gender. There were no outliers in the data for all TEIQue-SF variables across the two genders, as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores across the two groups through

normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores for both males and females, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between males and females. On global trait EI, the differences between males ($M = 5.13$, $SD = .83$) and females ($M = 5.14$, $SD = .75$) were not statistically significant, $t(307) = .06$, $p = .95$, $d = .01$.

On the trait EI factors level, the differences in Well-being scores between males ($M = 5.58$, $SD = .98$) and females ($M = 5.69$, $SD = 1.00$) were not statistically significant, $t(307) = .94$, $p = .35$, $d = .11$. The differences in Self-control scores between males ($M = 4.88$, $SD = .94$) and females ($M = 4.79$, $SD = .97$) were not statistically significant, $t(307) = .82$, $p = .41$, $d = .10$. The differences in Emotionality scores between males ($M = 5.04$, $SD = .89$) and females ($M = 5.12$, $SD = .91$) were not statistically significant, $t(307) = .79$, $p = .43$, $d = .09$. The differences in Sociability scores between males ($M = 5.02$, $SD = 1.10$) and females ($M = 5.04$, $SD = 1.05$) were not statistically significant, $t(307) = .17$, $p = .86$, $d = .02$.

4.4.3.4.4–Marital status. There were no outliers in the data for all TEIQue-SF variables across the two groups (Married and single), as assessed by inspection of a boxplot. We assessed the normality of TEIQue-SF scores

across the two groups through normal Q-Q plot along with skewness and kurtosis values. Thus, we believe that our TEIQue-SF data is not severally deviated from normality, and we will carry out the independent samples t-test.

There was homogeneity of variances for TEIQue-SF scores for both married and single groups, as assessed by Levene's test for equality of variances. Multiple independent-samples t-test were run to determine if there were differences in TEIQue-SF variables between married and single groups. On global trait EI, the differences between married (M = 5.16, SD = .82) and single (M = 5.08, SD = .78) were not statistically significant, $t(312) = .88$, $p = .38$, $d = .10$.

On the trait EI factors level, the differences in Well-being scores between married (M = 5.69, SD = .99) and single (M = 5.54, SD = .99) were not statistically significant, $t(312) = 1.42$, $p = .16$, $d = .16$. The differences in Self-control scores between married (M = 4.90, SD = .97) and single (M = 4.77, SD = .93) were not statistically significant, $t(312) = 1.15$, $p = .25$, $d = .13$. The differences in Emotionality scores between married (M = 5.11, SD = .85) and single (M = 5.03, SD = .93) were not statistically significant, $t(312) = .82$, $p = .41$, $d = .09$. The differences in Sociability scores between married (M = 4.98, SD = 1.07) and single (M = 5.03, SD = 1.10) were not statistically significant, $t(312) = .40$, $p = .69$, $d = .05$.

4.5–Discussion

4.5.1–Study 1 Discussion

The aim of Study 1 was to explore the psychometric properties of the Kuwaiti-Arabic TEIQue-SF in a university student sample. Firstly, we assessed the factorial structure of the TEIQue-SF through SEM. Further, we provided evidence for the reliability and validity of the TEIQue-SF scores. Finally, we examined the relationship between the TEIQue-SF variables and several sociodemographic variables.

4.5.1.1–The factorial structure of TEIQue-SF. We examined the factorial structure of the TEIQue-SF through ESEM. This approach integrates exploratory (EFA) and confirmatory (CFA) factor analysis such that some factors are specified according to the former and others according to the latter (see Asparouhov & Muthén, 2009 for details). ESEM introduces technical advantages over EFA and CFA to overcome certain of their limitations (Brown, 2015). For instance, it is the most appropriate approach to analyse the factorial structure of multidimensional measures in large samples, such as our own (Marsh et al., 2010).

For the Kuwaiti-Arabic TEIQue-SF, the bi-factor ESEM model showed a better fit than alternatives (including the hierarchical model proposed in Petrides, 2009). In fact, this result from the Kuwaiti adaptation echoed earlier findings in Chile (Pérez-Díaz & Petrides, 2021) and Brazil (Perazzo et al., 2020). Hair et al. (2010) argued that a good model would be expected to have a significant χ^2

value, CFI > .92, SRMR < .08, and RMSEA < .07, based on the characteristics of our study (sample size larger than 250 and 15 observed variables). Thus, the model fit statistics obtained in our study fall within the expected model fit statistics for a good model.

Although most items loaded significantly on global trait EI, it is necessary to mention that few loadings were negative on the trait EI four-factor level. This is not surprising because negative loadings appeared in the first attempt of bi-factor modelling to TEIQue-SF data as reported by Pérez-Díaz and Petrides (2021). Even beyond the trait EI personality construct, negative factor loadings appeared when bi-factor modelling was used with other personality-related constructs such as Burnout (Szigeti et al., 2017), Emotional distress (Hyland et al., 2013), Irritability (Burke et al., 2014), and Positive and Negative Affect (Leue & Beauducel, 2011). A potential reason for this irregular factor loading could be due the fact that fitting a bi-factor model means allowing item to load directly both on a global factor as well as one the factors. It is very challenging to interpret these negative because there is neither statistical (Heinrich et al., 2021) nor theoretical (Eid et al., 2017) reasons for that.

However, negative factor loadings in bi-factor models can occur for a number of reasons. For example, they may indicate a negative relationship between an item and the common factor (e.g., global trait EI), which could be a result of a floor effect (i.e., low-performing individuals do not perform well on the

item). In this case, the negative loading could reflect that the item is not a good measure of global trait EI for low-performing individuals.

Furthermore, factor-loadings suggested a potential issue with the Emotionality factor of trait EI, as most of the proposed items did not load significantly on it. However, the TEIQue-SF was not designed to be analysed on the factor-level, yet we thought about presenting preliminary results with Kuwaiti samples. Thus, the results obtained from this study will not be considered as conclusive, and we encourage future researchers to consider studying this factor using the full form of the TEIQue with Kuwaiti samples.

4.5.1.2–The reliability of TEIQue-SF scores. Reliability analysis for the TEIQue-SF showed acceptable internal consistency for the global trait EI score in the overall sample as well as for males and females, separately. There were some less-than-desirable internal consistency estimates (e.g., for Self-control and Emotionality), but this is a standard finding with the short form of the TEIQue, which was originally designed to provide a global trait EI score only (Petrides, 2009). The result was consistent with other adaptations, where factor reliability was comparatively lower than for global trait EI (Abe et al., 2012; Deniz et al., 2013; Jacobs et al., 2015; Stamatopoulou et al., 2016; Feher et al., 2019; Hjalmarsson & Dåderman, 2022; Kryukova & Shestova, 2020; Pérez-Díaz & Petrides, 2021).

4.5.1.3–The relationship between trait EI and the Big Five. We presented the zero-order correlations between the TEIQue-SF variables and the

Big Five. Generally, for the overall sample and both gender groups, all of the Big Five variables were significantly correlated to the TEIQue-SF variables, except for Agreeableness.

In line with previous studies, the Big Five factor of Neuroticism, Extraversion, and Conscientiousness showed the strongest correlation with the TEIQue-SF variables (Freudenthaler et al., 2008; Pérez-González & Sanchez-Ruiz, 2014; Petrides et al., 2010; Robinson et al., 2020; Siegling et al., 2015; Van der Linden et al., 2012; Vernon et al., 2008). As expected, Neuroticism showed the strongest correlation among the other Big Five factors with the TEIQue-SF variables in our study, followed by Conscientiousness, Extraversion, Openness, and Agreeableness, respectively. This was interpreted as evidence for the criterion validity of scores obtained from our adapted measure.

We expected that, at least, 50% of the global trait EI variance will be explainable by the Big Five factors. Although the Big Five factors explained a significant amount of global trait EI variance in our study (30.2%), this was below the expected value of 50%.

Two potential reasons could explain the aforementioned findings. The first reason is related to the short version of the TEIQue we administered in this study. The short form of the TEIQue consists of fewer items than the original form, and therefore, offers less coverage to the sampling domain of trait EI. Accordingly, using the short form will lead to excluding several items that theoretically overlap with the Big Five factors. The second reason is due to the

low reliability indices from the Big Five factors of Agreeableness and Openness. This was not surprising at all, as the Kuwaiti adaptation of the NEO-FFI had showed similarly lower alphas for these two factors (Alansari, 1997). Low reliability can attenuate the correlation between two variables (Henson, 2001; Muchinsky, 1996; Onwuegbuzie et al., 2005).

4.5.1.4–The relationship between trait EI and sociodemographic variables. As TEIQue-related literature is expanding internationally, we aimed to contribute to it by presenting the relationship between TEIQue-SF variables and key sociodemographic variables in a Kuwaiti sample.

Age was not correlated with the global trait EI in our Kuwaiti sample. This finding is in line with the recent findings merging from four countries in Pérez-Díaz et al. (2021). The relationship with the Well-being factor of trait EI was the only significant one, however the magnitude of this correlation was very weak (r = .06). It is necessary to mention that our sample in Study 1 mainly consists of university students, and with that being said, this correlation can be restricted by the age range in our study. Further studies should consider a wider range of age in the sample to understand this relationship.

Second, considering citizenship status, we examined the TEIQue-SF variables differences among Kuwaitis and Non-Kuwaitis living in Kuwait. The only significant differences were found in the Sociability factor of trait EI, favoring Kuwaitis. Although the effect size was small, the result was not surprising. As explained before, Sociability factor of trait EI emphasizes social interactions with

the community. Thus, Kuwaitis will find themselves more confident to communicate with others within the community, while non-Kuwaitis may find themselves more reserved and shyer to avoid any issues while living in the country. The results in our study contradict those found in Abe et al. (2013) in a Japanese sample, as they found that non-citizens outperformed their citizens counterparts. Although both cultures are considered collectivist, the sociability factor can be viewed differently in the two countries. In Kuwait, they prioritize group harmony and interdependence, while in Japan, they strongly emphasise group harmony and conformity. Also, Kuwaitis may exhibit more expressive and emotionally open communication, fostering greater social connections. In contrast, Japanese culture values indirect and non-verbal communication, which may lead to lower self-reported sociability. It is important to note that more research is needed in this area to fully understand the potential impact of citizenship status on trait EI, in different cultures.

Third, we considered gender differences in trait EI. The claim that “EQ is female” was not borne out by our data, as males scored significantly higher than females on global trait EI. Also, as expected, males scored significantly higher than females on both Self-control and Sociability factors of trait EI. Males might be encouraged to engage in more social interactions and develop larger networks, which could contribute to higher sociability scores. Females, on the other hand, may be expected to prioritize family and interpersonal relationships within smaller circles, potentially affecting their self-reported sociability scores.

Effect sizes for all significant differences were relatively small (i.e., below .30). The differences found in our study are not conclusive and could be due to the constitution of our sample, and therefore, future researchers should consider investigating these differences with different Kuwaiti samples. It is also important to consider the possibility of response bias when comparing self-reported data. Social desirability biases may influence how men and women in Kuwait respond to the TEIQue-SF. This bias could impact the scores obtained, potentially leading to variations between genders.

We expected that females in our sample will score higher than males in the Emotionality factor of trait EI as previously found in Canada, Italy, and United States (Chirumbolo et al., 2019; McKinley et al., 2014; Siegling et al., 2012). However, this was not the case in the Kuwaiti sample, which was unexpected because there is a common belief in Kuwait that females are better at perceiving and expressing their emotions to sustain relationships with important others. Kuwaiti culture, like many other cultures, may have specific gender norms and expectations regarding emotional expression. In Kuwait, societal norms and values related to gender may lead to females feeling less comfortable or less encouraged to express their emotions openly, which could impact their self-reported emotionality scores. In contrast, in countries where gender equality and emotional expression are more accepted, females may feel more comfortable expressing their emotions, leading to different results. This can explain why

females in Kuwait scored lower than males compared to their counterparts in Canada, Italy, and the United States.

Fourth, we considered trait EI differences as a function of marital status. We examined differences in TEIQue-SF scores between married and single participants. None of the differences were significant in our Kuwaiti sample, which was consistent with UK findings (Pérez-Díaz et al., 2021). In fact, this can imply that trait EI does not play a big role in one's marital status, regardless of the culture.

In conclusion, this psychometric study with the adapted TEIQue-SF in a Kuwaiti sample yielded satisfactory results. The Kuwaiti-Arabic TEIQue-SF was shown to be reliable and valid. Consequently, we believe that researchers can utilize this adaptation as a vehicle to study trait EI in diverse settings in Kuwait, including but not limited to, clinical, educational, and organisational.

4.5.2–Study 2 Discussion

The aim of Study 2 was to assess the psychometric properties of the Kuwaiti-Arabic TEIQue-SF in samples of Kuwaiti professionals. Firstly, we sought to examine the reliability of scores in additional samples. Then, we aimed to provide further evidence on the validity of scores obtained from the Kuwaiti-Arabic TEIQue-SF through assessing its relationship with job-related variables. Furthermore, we compared the trait EI profiles across several professions in Kuwait. Finally, we examined the relationship between the TEIQue-SF variables and several sociodemographic variables as in Study 1.

4.5.2.1–Reliability of TEIQue-SF scores. The results obtained by the reliability analysis of TEIQue-SF in this study mirrored those in Study 1. In more details, the internal consistencies for the global trait EI score in the overall sample as well as for males and females, separately, were acceptable. The less-than-desirable internal consistency estimates were found in the Self-control and Emotionality factors of trait EI as those in Study 1. However, this is a typical finding on the factor-level of trait EI as explained in Study 1.

4.5.2.2–The relationship between trait EI and job-related variables. We presented the zero-order correlations between the TEIQue-SF variables and the three job-related variables: job performance, job satisfaction, and organisational commitment. As expected from earlier meta-analytic studies (e.g., Miao et al., 2016; O'Boyle et al., 2011), trait EI was significantly correlated with all job-related variables included in our study, thus providing additional support for the criterion validity of the scores obtained with our adapted TEIQue-SF.

The causal relationships between the key variables in our study were presented earlier in the literature review (see section 2.5.9). Based on meta-analytic studies, the literature showed that trait EI was a significant predictor of job performance (O'Boyle et al., 2011) and job attitudes, including job satisfaction and organisational commitment (Miao et al., 2016). Riketta (2008) concluded that job attitudes affected job performance. Accordingly, we built our mediation model based on the previous findings, in which we wanted to examine whether the trait EI effect on job performance will be mediated by job attitudes. We did not find

any supporting literature for the possibility that job attitudes affect trait EI, and therefore we did not test an alternative model that trait EI will mediate the well-established relationship between job attitudes and job performance.

Our SEM results showed that job attitudes, defined by the two indicators of job satisfaction and organisational commitment, partially mediated the relationship between trait EI and job performance. This indicates that trait EI substantially affects job performance, even after adding a job-related variable (e.g., job attitudes) to the model.

Our finding accords with the earlier investigation by Li and colleagues (2018), who reported that job satisfaction partially mediated the relationship between trait EI and job performance on a large sample of teachers in China. The key difference between our study and their study is the role of job satisfaction in the mediation model. In their study, they treated job satisfaction as a key variable in the model (i.e., a mediator variable), while in our study, job satisfaction was modelled together with organisational commitment as an indicator of a general factor of job attitudes. Even though the two studies reached the same conclusions, we believe that further confirmations in longitudinal designs are desirable.

4.5.2.3–Incremental validity of trait EI. Another aim of Study 2 was to assess the incremental validity of trait EI (measured by the Kuwaiti-Arabic TEIQue-SF) in predicting job performance over and above job-related variables. This is one of a small number of studies to assess the incremental validity of the

TEIQue in predicting job performance across different professions (e.g., Petrides et al., 2022).

Our results showed that global trait EI incrementally predicted job performance over job attitudes in Policemen and Engineers. In contrast, no such effects were observed in other professions (e.g., Bankers, Healthcare providers, Lawyers, Military, and Teachers). However, this result should not be taken as conclusive owing to the relatively small sample sizes for this kind of analysis.

A limitation in our research design was the reliance on a single item to measure job performance as a criterion variable. On one hand, Fuchs and Diamantopoulos (2009) suggested using a single-item scale if: a) the construct is referring to a concept that received a global consensus on what does it mean (i.e., concrete construct), b) if the population is diverse, and 3) if the sample size is relatively small. On the other hand, Credé et al. (2012) argued that using abbreviated measures (e.g., 1-item) will affect our estimation of the relationship between personality traits with other behavioural constructs. Accordingly, the relationship between trait EI and job performance may be greater than suggested in our study. Taking into account both views, we used a single-item scale for job performance because we believe that: 1) the concept is concrete; 2) our sampling population is highly diverse (e.g., several professions); and 3) the sample size is small for such a design. Future research could rectify these limitations through the use of longer measures or objective job performance criteria with larger samples.

Another limitation of our study is the use of self-reported measures. One problem with this type of measure is related to the participant's responses in which they respond in a socially acceptable way (i.e., social desirability bias) or in a certain way regardless of the question (i.e., response bias). Another problem is related to the clarity of the items to the participants, which can lead to different interpretations of the questions. However, we tried to minimize these biases by including well-established measures in Kuwait.

4.5.2.4–Trait EI profiles across professions in Kuwait. We also compared the trait EI profiles (global and four factor scores) across different professions in Kuwait. Our analysis suggested that the Military sample had lower scores on global trait EI and on three of four factors (Self-control being the exception where scores were numerically but not statistically lower). Due to the serious consequences of potentially emotionally driven decision-making within the military sector, it is concerning that members of the military profession in our study had lower trait EI scores. Unfortunately, several reports from Kuwait have reported criminal and violent incidents involving military personnel (e.g., an army person shot and killed his colleague in an army camp; Ibrahim, 2022).

In fact, the Kuwaiti military participants in our study scored lower than their counterparts in the United States (Bond, 2016; Placek et al., 2019 Walters, 2018), the United Kingdom (MacEwan & Gibson, 2022; Petrides et al., 2022), and France (Bourgeon et al., 2015). This result may be because psychological and personality-related tests are considered in either selection processes or after

employment in the United States (e.g., Global Assessment Tool), in the United Kingdom (e.g., Threshold Assessment Grid), and in France (e.g., Psychotechnical tests).

These findings are important for the Military sector in Kuwait as its employees may benefit from trait EI training programs, as previous research has shown that trait EI can be improved through training (for details, Nelis et al., 2009; Petrides et al., 2016). In fact, it is helpful to optimize trait EI in all employees, as it affects their general well-being, health, social relationships, and work performance (Mavroveli et al., 2007; Mikolajczak et al., 2009; Li et al., 2018; Sarrionandia & Mikolajczak, 2020). For these reasons, we considered adapting the TEIQue-SF to serve as a reliable and valid measure to study trait EI in Kuwait.

Lawyers scored significantly higher than engineers on the Sociability factor and numerically higher than all other professions. However, we believe that the result of our study is not surprising. This is because the Sociability factor emphasises social relationships and social influence in the workplace in this case. Petrides (2009) indicated that higher scores on the Sociability factor mean that the individual has good listening skills and can communicate with others. We believe that these two characteristics are important for Lawyers as their work is based on interactions with others (Gerdy, 2013). While for engineers, the nature of their profession may prevent them from these interactions, as they mostly deal with numbers and machines.

The results in Study 2, as well as the wider literature, showed that trait EI factors have a substantive effect on other job-related variables. Therefore, we believe that it is an important to consider it in most professions. For example, military should have higher Self-control scores, as it is important in this line of work to able to regulate external pressures and stress (Dugger et al., 2022). What is more, the trait EI profiles in certain professions may indirectly affect other individuals. For instance, teachers' trait EI affects students' academic performance (Chamizo-Nieto et al., 2021; Pérez-Díaz et al., 2021). Consequently, we call on employers to pay more attention to their employees' trait EI and to offer the appropriate training for the best outcomes.

To our knowledge, psychological or personality testing are not considered for prospective soldiers by the Kuwaiti military (or any other governmental sector). Even more, their admission requirements focus on physical fitness and health, but not on their mental health as assessed by psychological and personality assessments. Even after graduating from the Military Academy in Kuwait, military leaders do not consider any psychological or emotional training for their soldiers. As reported by the Kuwait News Agency (Aldeqbasi, 2019), the focus is exclusively on physical and military-related training, such as Special Weapons and Tactics (SWAT) training. Unfortunately, this is true in other sectors, as well. For instance, the Ministry of Education in Kuwait offers several teacher training courses beginning each academic year. However, these courses are mainly focusing on teaching instructions and methods training.

Study 2 also explored the trait EI profiles of several professions such as policemen, military, teachers, healthcare providers, bankers, engineers, and lawyers in Kuwait. Trait EI scores in certain professions (e.g., Military) were notably lower than others indicating a need for employee trait EI training because higher trait EI scores affect several important job-related variables, such as job performance and job attitudes. One potential reason for the low trait EI scores in certain professions is that individuals' emotions are not acknowledged and treated with respect.

According to Smollan and Sayers (2009), employees reported a higher organisational commitment and more positive reactions toward their day-to-day job events when their emotions were respected by the organisation. Consequently, we encourage employers to focus not only on the job-related qualifications and degrees of their prospective employees but also on their personality traits and, more importantly, on their trait EI. This is not surprising because Sackett et al. (2021) showed that trait EI was the first non-job-related variable (i.e., personality-related) predictor for job performance.

Notwithstanding the aforementioned limitations stated in the relevant sections (e.g., 4.5.2.2 and 4.5.2.3), we believe that this study makes an important contribution, as it is one of the first attempts to study trait EI across different professions in a country that has not been adequately represented in the global trait EI literature. This will not only encourage Kuwaiti researchers to explore these trait EI profiles of professionals in Kuwait but also allow for future cross-

cultural studies. It presents the only empirical investigation into the mediating role of job attitudes in the relationship between trait EI and job performance, in which we showed that trait EI still has a substantial effect on job performance even after presenting another well-established job-related variables into the path model. The present study is the only empirical investigation into the mediating role of job attitudes in the relationship between trait EI and job performance. Although the results are not definitive due to the small sample size, we also investigated the incremental validity of trait EI in predicting job performance over and above job attitude variables in several jobs, thus providing an additional validity support of the results obtained by the Kuwaiti-Arabic TEIQue-SF.

Lastly, this study throws up many questions that need further investigation. First, researchers should consider a longitudinal design to test our proposed mediation model. Second, the incremental validity of TEIQue-SF should be assessed using a more comprehensive job-related measure. Third, future researchers may consider the effects of trait EI training on both trait EI profiles and job performance.

4.5.2.5– The relationship between trait EI and sociodemographic variables. We revisited the relationship between TEIQue-SF variables and sociodemographic variables first examined in Study 1. In short, most of the findings were consistent with those reported in Study 1. We will discuss the present findings in relation to those reported in Study 1, although we have to mention the sample of this study was more heterogenous than Study 1's sample,

thus resulting in many confounding variables (e.g., different socioeconomic status and educational level).

Generally, age was not significantly correlated with TEIQue-SF variables in our sample of professionals and the exceptions were weak. In Study 1, we thought that the sample's age restricted any correlation between age and the TEIQue-SF variables. In this study, the sample comprised a wider age range, but there was still a general absence of age effects.

For citizenship status, the TEIQue-SF variables were not significantly different among Kuwaiti and non-Kuwaiti participants. This is not surprising bearing the results obtained from Study 1 in mind.

For gender differences, our present findings did not meet the expectations from the literature and Study 1. This is not surprising because the sample in Study 2 was heterogenous, and the datasets from various professions were very unbalanced with respect to gender. When one group is underrepresented, it can create a skewed sample, resulting in incorrect conclusions or interpretations of the data. Accordingly, we will discuss the following findings with caution.

We found that none of the differences were significant, and in some cases, females scored numerically higher than males, not like Study 1. This discrepancy between the results of the two studies can be because applying the same measure to different samples can lead to different results. For example, the results from Petrides (2009) and Sánchez-Ruiz et al. (2010) concerning the gender differences in UK sample reached to the same results in our studies

included in this chapter. Accordingly, the results obtained from this study cannot be seen as conclusive and generalisable, yet. We encourage future researchers to look carefully into the role of gender in trait EI with different, more representative, and larger Kuwaiti sample.

Lastly for marital status, our findings supported the earlier findings in Study 1 with none of the differences between the groups tested reaching significance. Studies have shown that married individuals tend to score higher on measures of trait EI, compared to their unmarried counterparts (Pérez-Díaz et al., 2021; Stamatopoulou et al., 2016). This is thought to be due to the increased emotional and social demands that come with being in a committed relationship, which may require higher levels of emotional regulation and interpersonal skills. However, we believe the contradictory findings in Kuwait may be due to the cultural effect. It can also be due to the fact that we did not have balanced groups between married and unmarried groups in our sample. In conclusion, while there is some evidence to suggest that trait EI may differ as a function of marital status, the relationship is complex and requires further investigation.

4.5.3–General Discussion

The overall aim of this chapter was to adapt and validate the Kuwaiti-Arabic TEIQue-SF for use in Kuwaiti samples.

We started this chapter by following the ITC (2017) guidelines to culturally adapt the TEIQue-SF as a first step to validate the measure within Kuwait. Throughout the process of following these guidelines, amendments were made

to certain items as discussed earlier to ensure that the final adapted version is adequate for use with Kuwaiti samples. It is important to mention that following the ITC (2017) did not only allow us to successfully adapt the TEIQue-SF into Kuwaiti-Arabic, but also showed the importance of following comprehensive, well-documented adaptation guidelines. We encourage researchers to implement such comprehensive guidelines for their future measure's cultural adaptation studies and avoid the reliance on a singular step comprising translations alone.

As discussed in Study 1, we assessed the factorial structure of the TEIQue-SF in a Kuwaiti sample, and the results were promising. We did not attempt to assess the factorial structure of the TEIQue-SF in Study 2, because the sample comprised participants from several professions. There was no point in re-assessing the factorial structure of the instrument on this sample because research has shown that trait EI is non-invariant across different professions (Pérez-Díaz et al., 2021; Pérez-Díaz et al., 2022). Otherwise, both studies included in this chapter also offered evidence for the TEIQue-SF scores' internal consistency and validity.

Furthermore, we presented the relationship between TEIQue-SF variables and key sociodemographic variables in both studies. The findings contribute not only to Kuwaiti Psychology by presenting results obtained from Kuwaiti samples, but also to the international literature on trait EI, as these findings can be used for cross-cultural comparisons.

Although the aforementioned findings sound promising, we have to acknowledge the limitations of the sampling methods used in this chapter. These sampling methods (i.e., convenience and non-proportional quota sampling methods) limit the generalisability of our findings in the Kuwaiti population (Fricker, 2008). Nevertheless, we still believe that the consistency of our results, especially as regards of the reliability of scores obtained from the two studies, can be seen as an indicator of the measure's appropriateness for use in Kuwaiti samples. However, we encourage future researchers to apply this measure in different settings (e.g., clinical) using different Kuwaiti samples to contribute more broadly to the trait EI literature in Kuwait.

In conclusion, we believe that this chapter makes a contribution by developing and securitizing the psychometric properties of a new and important personality-related measure in the Kuwaiti context. More specifically, it offers an adaptation of one of the leading and most widely used measures of emotional intelligence (TEIQue-SF). We consider this adaptation of the TEIQue-SF as a suitable, reliable, and a valid measure to study trait EI in Kuwait. We also hope that it will inspire, encourage, and support a new wave of scientific and practical psychometric applications across all applied settings (esp. clinical, educational, and occupational) in Kuwait, specifically, and the Middle-Eastern region, more generally.

4.5.4–Theoretical Contributions

The theoretical contributions of the studies included in this chapter are manifold. Studying trait EI in Kuwait using the TEIQue-SF for the first time offers valuable enhancements to our understanding of this construct within a distinct cultural context and contributes to the exploration of its universality. The concept of universality in trait personality theory posits that certain psychological traits are present across different cultures, highlighting the commonalities in human nature (McCrae & Costa, 1997; Triandis, 1994; Triandis & Suh, 2002). Trait EI has been extensively studied in Western cultural contexts, predominantly using self-report measures (Petrides, 2009). However, there is a need to investigate the universality of trait EI by examining its manifestation in non-Western cultures (Gökçen et al., 2014), such as Kuwait, which was established in this chapter. This is important because cultural variations can influence the understanding, expression, and evaluation of emotional intelligence (Matsumoto & Hwang, 2013). By exploring trait EI in Kuwait, we can determine the extent to which the existing models and measures of trait EI hold true across cultures.

4.5.4.1–Hofstede's Cultural Dimensions and Trait EI. Miao et al. (2020) discussed how trait EI differs as a function of Hofstede's four cultural dimensions in their meta-analytic study. In cultures characterised by high power distance, where hierarchical order and unequal power distribution are accepted, individuals in subordinate positions may find value in utilising their trait EI to perceive and regulate the emotions of those in power. This ability to navigate power dynamics

and conform to authority may contribute to positive emotional appraisals and potentially reduce negative behaviors.

In individualistic cultures, where personal goals take precedence over collective goals, individuals with high trait EI may perceive less need to perceive and respond to others' emotional needs. The emphasis on self-interest maximisation in individualistic cultures may lead to a weaker association between trait EI and the consideration of others' emotions.

In masculine cultures, which prioritise competition and assertiveness, the relationship between trait EI and emotional outcomes may be less pronounced. The cultural preference for assertiveness and aggressiveness may undermine the perceived value and relevance of trait EI in these cultures, potentially diminishing its impact.

In cultures high in uncertainty avoidance, where ambiguity is less tolerated, individuals with high trait EI may be more likely to accurately perceive and regulate their own emotions. The need for clear emotion expression and regulation in these cultures may enhance the activation and utilisation of trait EI.

Kuwait can be analysed through the lens of Hofstede's four cultural dimensions (Hofstede et al., 2010), shedding light on how trait EI may differ between cultures. These scores can be accessed through the country comparison tool: https://www.hofstede-insights.com/country-comparison-tool, which are based on the findings in Almutairi et al. (2020).

Firstly, in terms of power distance, Kuwait exhibits a relatively high score (90 out of 100), indicating a hierarchical society where authority figures are respected, and power is distributed unequally. This cultural norm can influence the development of trait EI as individuals may be more inclined to defer to authority figures and may have a lower sense of agency in expressing their emotions. In contrast, Western cultures generally have lower power distance, encouraging individuals to express their emotions more freely and assertively (Hofstede, 2001).

Furthermore, Kuwait displays a collectivist orientation, as evidenced by its low score in the Individualism dimension (25 out of 100). This signifies a strong emphasis on group harmony and collective interests over individual needs. In collectivist cultures, the regulation of emotions for the benefit of the group is prioritized, which may impact the development and expression of trait EI. Conversely, Western cultures tend to prioritize individualism, allowing for more personal expression of emotions and a focus on individual well-being (Matsumoto & Hwang, 2013).

In terms of masculinity, Kuwait scores relatively low (40 out of 100), reflecting a society that values equality, solidarity, and well-being. In cultures with lower masculinity scores, individuals may be more inclined to develop interpersonal sensitivity, empathy, and the ability to understand and regulate their own and others' emotions. This cultural context may foster the cultivation of trait EI skills, such as perceiving and managing emotions effectively, as well as valuing

harmonious relationships and supportive behaviors. On the other hand, Western cultures, which can vary in their masculinity scores, may place more emphasis on individual emotional expression and interpersonal sensitivity, potentially shaping trait EI in different ways (House et al., 2004).

Lastly, Kuwait has a relatively high score in uncertainty avoidance (80 out of 100), indicating a preference for rules, structure, and a desire to minimize ambiguity and uncertainty. This cultural orientation can impact the development of trait EI by potentially valuing emotional stability and predictability. In contrast, Western cultures with lower uncertainty avoidance may encourage a more open and adaptive approach to emotions, potentially influencing the expression and regulation of trait EI (Matsumoto & Hwang, 2013).

As discussed in Study 2 of this chapter, there is a prevailing tendency in Kuwaiti culture that places less emphasis on openly expressing emotions, especially in public settings (Al-Eidan, 2019a,b). This cultural norm can have a profound influence on individuals' ability to recognise and understand emotions accurately, consequently affecting their trait EI scores. Accordingly, our findings revealed that certain groups in Kuwait, such as the Military group, exhibited lower trait EI scores compared to their peers in other Western countries, in which emotions were more acknowledged.

4.5.4.2–Enhancing our Understanding of Trait EI through Bi-Factor ESEM Modelling. Furthermore, by examining the theoretical frameworks and measurement models developed in Western cultures and assessing their validity

in a non-Western context, we gain a deeper understanding of the universality of trait EI. Our study specifically contributes to this understanding by retaining the bi-factor model of TEIQue-SF, which aligns with the findings from a study conducted in Chile (Pérez-Díaz & Petrides, 2021). It is important to note that our study represents only the second attempt to assess the factorial structure of TEIQue-SF using ESEM approach with a bi-factor interpretation. Using this approach to analyse the factorial structure of the TEIQue-SF provides a more comprehensive understanding of the trait EI theory compared to other simple factor analysis approaches. While traditional factor analysis methods typically aim to identify a single general factor and several specific factors, the bi-factor ESEM model allows for the examination of both the general factor and specific factors simultaneously.

In the context of trait EI, the general factor represents the shared variance among all the items in the TEIQue-SF scale, capturing the overall trait EI construct or global trait EI. This general factor reflects the broad perceptions related to emotional recognition, understanding, regulation, and management. By identifying and quantifying the general factor, the bi-factor ESEM model enables researchers to evaluate the overall level of trait EI in individuals, along with their perception across the four-trait EI factors.

This statistical approach helps us to deeply understand the trait EI theory by providing insights into the multidimensional nature of EI. It recognises that EI is not a singular construct but consists of various interconnected components. By

accounting for both the general factor and specific factors, the bi-factor ESEM model allows for a more accurate representation of the complex structure of trait EI, offering a deeper understanding of its underlying dimensions and their relationships. This contribution extends beyond being merely a statistical or practical advancement by enhancing our understanding of trait EI theory and providing valuable insights into the interpretation of the results (DeMars, 2013).

Finally, the retention of the bi-factor ESEM model enhances our understanding of the relative importance of the general factor (i.e., global trait EI). and specific factors (i.e., Trait EI factors of self-control, sociability, emotionality, and well-being) in predicting various outcomes. By examining the factor loadings and their associations with different criteria or variables of interest, we can determine the unique contributions of the general factor and specific factors in explaining specific outcomes, such as job performance. This contributes to a more comprehensive understanding of how different factors of trait EI impact various domains of functioning.

4.5.4.3–The Impact of Trait EI on Job Performance. Another significant contribution of this chapter to the theory of trait EI is the confirmation of its role in predicting job performance. Our findings consistently demonstrated that trait EI significantly predicts job performance, even after controlling for other strong job-related variables, such as job attitudes defined by job satisfaction and organizational commitment. The relationship between trait EI and job performance was only partially mediated by these job attitudes, indicating that

trait EI remains a substantial and independent predictor of job performance. The mechanism underlying this relationship will be discussed in the following lines.

Firstly, trait EI encompasses the individual's perceptions to recognize, understand, and regulate emotions, both in oneself and in others. This emotional awareness and regulation are crucial in interpersonal interactions, teamwork, and effective communication in the workplace. Employees high in trait EI are more likely to exhibit empathy, demonstrate effective conflict resolution skills, and navigate social dynamics, which ultimately contribute to their job performance (Carmeli, 2003; Fernandez, 2007; Martos et al., 2013).

Secondly, trait EI plays a vital role in managing stress and adapting to changing work environments. High levels of trait EI enable individuals to cope with workplace challenges, handle setbacks, and maintain resilience in the face of adversity. This ability to effectively manage stress and adapt to new circumstances enhances job performance, as it allows employees to maintain productivity and perform optimally even in high-pressure situations (Nikolaou & Tsaousis, 2002; Ogińska-Bulik, 2005; Pandey et al., 2023; Petrides & Furnham, 2006; Thomas et al., 2018).

Furthermore, trait EI contributes to the development of positive interpersonal relationships and effective leadership skills. Employees high in trait EI are more likely to display positive social behaviors, build rapport with colleagues, and foster a supportive work environment. These interpersonal skills facilitate collaboration, cooperation, and teamwork, which are essential for achieving

organizational goals and enhancing overall job performance (Humphrey, 2013; Parker et al., 2020; Prati et al., 2003; Siegling, Nielsen, et al., 2014).

Lastly, trait EI is associated with increased self-motivation and self-regulation. Individuals with high trait EI are more likely to set challenging goals, persist in the face of obstacles, and exhibit self-discipline and self-motivation. These qualities contribute to improved performance and productivity, as employees with high trait EI are driven to achieve their objectives and maintain a strong work ethic (Nouri & Dehghani, 2019; Tukiman Hendrawijaya et al., 2018).

Chapter 5: Adapting and Exploring the Psychometric Properties of the Kuwaiti Belimp Inventory

5.1–Abstract

Belief-importance (belimp) theory posits that personality traits affect the individual tendency to perceive convergences and divergences between their belief that they can achieve goals and the importance that they place on those goals. The present chapter presents results from two studies aiming to adapt the main belimp inventory into Arabic and test the underlying theory in Kuwait. One thousand four hundred fifty-eight individuals participated in the study and were allocated according to their scores into one of the four belimp quadrants: Apathy, Depression, Hubris, and Motivation. A new model to test the belimp theory was proposed comprising 3 general life domains labelled Being, Belonging, and Becoming. Results from the reliability and factor analyses suggested that our proposed model was acceptable. Findings in our study, emerging from three broad domain clusters, supported the belimp plane postulations and previous findings with British samples. Thus, providing a solid support to the belimp theory in a different country and culture.

5.2–Introduction

The overall aim of this chapter is to adapt the belimp inventory as a vehicle to test the belimp theory. The theory itself is still novel and has not yet been presented to any Kuwaiti samples. Although, it is an important theory because it can help individuals, organizations, and societies to better understand and predict human behavior and make more informed decisions. Accordingly, we adapted the belimp inventory following the same guidelines and procedures we followed in Chapter 4 for adapting the Kuwaiti-Arabic Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF).

In this chapter, we present the psychometric properties of the adapted belimp inventory for each belimp dimension. Also, we present evidence of the reliability and validity of scores obtained with the inventory.

Further, we present the results obtained by testing central hypotheses of belimp theory across the life domain clusters of Being, Belonging, and Becoming, respectively. Following previous work (Petrides, 2010; Petrides, 2011b; Petrides & Frederickson, 2011; Petrides & Furnham, 2015), we advanced and tested the following hypotheses:

H1: The *Hubris* quadrant will have the highest score on global trait EI
H2: The *Motivation* quadrant will have the highest score on Big Five conscientiousness
H3: The *Motivation* quadrant will have the highest score on the Self-control factor of trait EI
H4: The *Depression* quadrant will have the highest score on Big Five neuroticism
H5: The *Depression* quadrant will have the lowest score on global trait EI
H6: The *Apathy* quadrant will have the lowest score on Big Five extraversion
H7: The *Apathy* quadrant will have the lowest score on the Sociability factor of trait EI.

These hypotheses do not indicate that the target quadrant (e.g., Hubris in H1 and Motivation in H2) will score statistically higher than the other three quadrants. In fact, if a hypothesis is completely supported, the target quadrant is expected to have a numerically higher (or lower) score than the other three quadrants. While if it is partially supported, then it is expected to score higher (or lower) than at least two other quadrants.

5.3–Methods

5.3.1–Cultural adaptation and pilot sampling

5.3.1.1–Design and procedure. Overall, we consulted the same expert committee members and followed the same adaptation procedure for the purposes of adapting the English TEIQue-SF (See 4.3.1.1 Design and procedure for details). The belimp inventory was adapted into Kuwaiti-Arabic and the adapted version was considered ready for piloting.

After piloting the measure, several comments were received by the participants. The first comment was about the option "*other*" when asking about gender as only two legal genders are allowed in Kuwait. The second comment was about the meaning and the clarity of the item "*be physically independent*" under the health-related goals. The third comment was about the spirituality-related goals as the participants viewed these goals as if they were religious-related goals. Finally, we noted that two open-ended demographic questions related to nationality and religion yielded more than one expression for the same answer. For instance, the following answers were given to indicate the Kuwaiti

nationality by participants: *Kuwaiti, Kuwait, State of Kuwait, and from Kuwait*. These were discussed by the committee and proper amendments were made to the pilot version.

5.3.1.2–Participants. The pilot sample of professional adults comprises 138 participants.

5.3.1.3–Measures.

5.3.1.3.1–Belimp Inventory. The inventory assesses 15 life domains with five questions concerning the belief that certain goals can be attained in a specific life domain and five matching questions concerning the importance of these goals to the individual. Participants responded on a scale ranging from 0% (absolutely unimportant or minimum confidence) to 100% (absolutely important or maximum confidence).

5.3.1.4–Data Analysis Plan

We performed descriptive analysis for each life domain among the two belimp coordinates. Also, we computed Cronbach's alpha to assess the internal consistency of the results obtained by the adapted belimp inventory. The analyses were carried out through *IBM SPSS Statistics for Macintosh, version 27.0* (IBM Corp., 2020).

5.3.2–Main study

5.3.2.1–Design and procedure. We followed the same design and procedure of Study 1 of Chapter 4.

5.3.2.2–Participants. We used the same sample as in Study 1 of Chapter 4.

5.3.2.3–Measures.

5.3.2.3.1–Belimp Inventory. We used the Kuwaiti-Arabic belimp inventory that was developed and utilised in the pilot study.

5.3.2.3.2–Kuwaiti-Arabic TEIQue-SF. We used the same measure as adapted in Chapter 4.

5.3.2.3.3–Kuwaiti-Arabic NEO-FFI. We used the Kuwaiti adapted version by Alansari (1997) as we did in Study 1 of Chapter 4.

5.3.2.4–Data Analysis Plan

We conducted CFA with ML estimator and modification indices (M.I.) to validate the proposed clustered life domain model discussed earlier. CFA was performed using the Lavaan package (Rosseel, 2012) in R. Model fit statistics will be obtained to evaluate the model goodness according to Hair et al. (2010).

Subsequently, 15-specific life domains' scores were averaged to compute scores for our three proposed general life domains of Being, Belonging, and Becoming on both belimp dimensions (i.e., 6 average scores: 3 on the belief dimension and 3 on the importance dimension).

We calculated Cronbach's alphas (Cronbach, 1951) for each of the 30 belimp subscales (i.e., the belief and importance dimensions for the 15-life domains). The indices were computed using the *ltm* package (Rizopoulos, 2006) in *R, version 4.0.5* (RStudio Team, 2021). We also used the *psych* package

(Revelle, 2021) to compute McDonald's omega ω (McDonald, 2013) for assessing and interpreting the internal consistency of our proposed multidimensional model comprising belief and importance ratings on Being, Becoming, and Belonging. The corresponding omega hierarchical (ω_h) was also computed to know the proportion of scale variance that is due to the general factor (i.e., general life domain).

Further, four groups (viz., Apathy, Depression, Hubris, and Motivation) were derived by combining high and low scores on both belimp dimensions using mean splits as Petrides (2011b). Skewness values ranged between -2.35 and -.42, and kurtosis values ranged between .05 and 2.79 with the exception of 8.33 on the importance dimension of the Becoming domain cluster. All hypotheses were tested through the Analysis of Variance (ANOVA) approach, followed by Tukey post hoc tests.

5.4–Results

5.4.1–Pilot sample results

The reliability was assessed through computing Cronbach's alpha coefficient for the importance and the belief dimensions for each of the 15-life domains included in the Belmip questionnaire. Cronbach's alpha coefficients ranged between .52 and .93 for the 30-subscales. The descriptive statistics for these subscales and Cronbach's alpha coefficients are presented in Table 29. These coefficients sounded satisfactory from this pilot based on Taber (2018). The analysis showed that the importance of the age-related goals has the lowest

internal consistency coefficient of .52. While the coefficient of .93 was the highest for both the leisure and spiritual-related goals believes.

Table 29

Descriptive Statistics and Cronbach's Alpha Coefficients for Belimp Questionnaire in the Pilot Study (N=138)

Belimp Measure	Min	Max	M	SD	Skew	Kurt	α
Financial Importance	240	500	419.50	67.10	-.74	-.15	.57
Financial Belief	160	500	399.05	94.80	-.78	-.38	.87
Family Importance	0	500	444.00	91.94	-2.99	10.96	.90
Family Belief	100	500	432.39	92.80	-1.82	3.16	.89
Health Importance	220	500	445.73	69.09	-1.78	2.77	.78
Health Belief	140	500	412.70	85.69	-1.03	.74	.83
Leisure Importance	170	500	417.39	84.01	-1.12	.45	.79
Leisure Belief	0	500	320.83	139.17	-.40	-.68	.93
Appearance Importance	150	500	387.23	99.42	-.50	-.97	.75
Appearance Belief	70	500	417.57	87.07	-1.21	1.54	.82
Friend Importance	0	500	394.12	103.00	-1.38	1.91	.86
Friend Belief	96	500	387.47	105.63	-1.09	.36	.87
Age Importance	300	500	435.08	62.07	-.64	-.78	.52
Age Belief	190	500	396.63	80.82	-.46	-.44	.72
Spiritual Importance	0	500	398.21	130.89	-1.58	1.85	.89
Spiritual Belief	0	500	354.20	150.63	-1.13	.26	.93
Relationship Importance	0	500	375.07	118.13	-1.47	1.71	.78
Relationship Belief	0	500	356.18	125.05	-1.23	1.05	.82
Legacy Importance	0	500	453.06	82.63	-2.88	10.08	.81
Legacy Belief	0	500	399.94	108.42	-1.42	2.25	.85
Happiness Importance	0	500	456.89	71.24	-3.60	17.63	.82
Happiness Belief	0	500	416.32	99.95	-1.42	2.12	.84
Motivation Importance	0	500	447.03	89.52	-2.84	9.57	.89
Motivation Belief	5	500	415.21	102.82	-1.55	2.26	.88
Habit Importance	14	500	463.58	66.43	-3.26	15.96	.89
Habit Belief	0	500	386.60	129.49	-1.33	1.24	.92
Social Importance	0	500	268.01	138.79	0.00	-.78	.86
Social Belief	0	500	309.89	130.33	-.60	-.17	.85
Success Importance	7	500	467.02	63.80	-3.74	21.17	.83
Success Belief	5	500	432.66	88.60	-1.69	3.57	.91

Note. Min = minimum, Max = maximum, M = mean, SD = standard deviation, Skew = skewness, Kurt = kurtosis, α = Cronbach's alpha.

5.4.2–Main study results

Descriptive statistics for each life domain on the belief and importance dimensions are depicted in Tables 30 and 31. As can be observed in both tables, there is slight negative skewness in almost all belief ratings.

Table 30

Descriptive Statistics for the Life Domain Clusters on the Belief Dimension (N=1458)

		Overall sample (N = 1458)					
		Range[a]	**M (%)**	**SD**	**Skew**	**Kurt**	**α**
		[0–100]					
Being		0-100	80.0	13.8	-.63	.52	.89
	Aging	0-100	82.2	18.3	-1.24	1.97	.75
	Financial	0-100	81.3	18.4	-1.13	1.44	.82
	Health	0-100	86.6	15.8	-1.66	3.94	.81
	Leisure	0-100	76.1	22.8	-.95	.42	.86
	Spirituality	0-100	73.9	27.2	-1.04	.35	.90
Belonging		0-100	77.6	14.9	-.66	.54	.89
	Appearance	0-100	83.0	19.3	-1.25	1.25	.79
	Family	0-100	89.1	15.5	-2.43	8.01	.77
	Friends	0-100	79.7	21.0	-1.27	1.64	.82
	Relationships	0-100	72.9	26.2	-1.04	.48	.81
	Social	0-100	63.4	27.0	-.42	-.64	.82
Becoming		0-100	85.9	15.1	-1.46	2.77	.95
	Habit	0-100	86.2	18.7	-1.79	3.72	.88
	Happiness	0-100	86.9	17.2	-1.92	4.79	.83
	Legacy	0-100	78.8	24.5	-1.21	.88	.83
	Motivation	0-100	88.0	16.9	-2.07	5.77	.89
	Success	0-100	89.4	16.2	-2.10	5.59	.91

[a] The theoretical ranges are between the square brackets.

Table 31

Descriptive Statistics for the Life Domain Clusters on the Importance Dimension (N=1458)

		Overall sample (N = 1458)					
		Range[a]	**M (%)**	**SD**	**Skew**	**Kurt**	**α**
		[0–100]					
Being		38.7 -100	85.9	10.8	-.85	.68	.84
	Aging	0-100	87.4	15.2	-1.68	4.07	.63
	Financial	0-100	89.9	14.2	-2.19	6.81	.74
	Health	0-100	89.8	12.9	-1.55	2.91	.71
	Leisure	1.6-100	83.9	17.0	-1.17	1.17	.72
	Spirituality	0-100	78.7	26.1	-1.38	1.22	.89
Belonging		19.6-100	75.5	14.8	-.42	.04	.87
	Appearance	0-100	77.5	21.8	-.77	-.39	.78
	Family	0-100	90.8	13.7	-2.73	10.75	.73
	Friends	0-100	81.2	20.7	-1.37	1.83	.81
	Relationships	0-100	74.4	25.0	-1.16	.88	.77
	Social	0-100	53.6	28.6	.02	-.92	.83
Becoming		8-100	91.5	10.7	-2.34	8.28	.92
	Habit	0-100	93.3	13.2	-3.37	15.03	.83
	Happiness	0-100	92.3	11.6	-2.76	11.96	.67
	Legacy	0-100	85.7	20.7	-1.96	4.06	.67
	Motivation	0-100	92.8	12.7	-2.98	12.77	.85
	Success	0-100	93.2	13.6	-3.23	13.39	.87

[a] The theoretical ranges are between the square brackets.

However, on the importance dimension, the skewness values for the life domains of habit and success fall outside of the acceptable ranges. Ditto, the kurtosis values for the life domains of family, motivation, habit, success, and happiness.

5.4.2.1–Factor analysis of belimp inventory. We tested our proposed model for each belimp dimension by conducting a CFA using ML estimator, where three first-order latent constructs (viz., Being, Belonging, and Becoming) were pooled in one measurement model. To improve the measurement model,

modification indices (M.I.) were applied to identify the correlated items and correspondingly amend the proposed model to improve it.

Before applying M.I. for the *belief* dimension, we assessed the model without M.I. and the fit indices were as follows: χ^2 = 607.92 (*df* = 83, *p* < .001), CFI = .93, RMSEA = .06 [90% CI: .06 - .07], and SRMR = .04.

As we did for the *belief* dimension, we ran the CFA analysis before applying M.I. for the *importance* dimension and the fit indices are as follows: χ^2 = 782.46 (*df* = 83, *p* < .001), CFI = .88, RMSEA = .07 [90% CI: .07 - .08], and SRMR = .06.

Modification indices suggested the existence of correlated errors. However, we took into consideration both statistical and, more importantly, theoretical rationale to include the suggested correlated errors based on Hair's et al. (2010) recommendations. Thus, four more correlated errors were added to the CFA model for both belimp dimensions: between family and friends, between appearance and habits, between appearance and motivation, and, last, between habits and motivation.

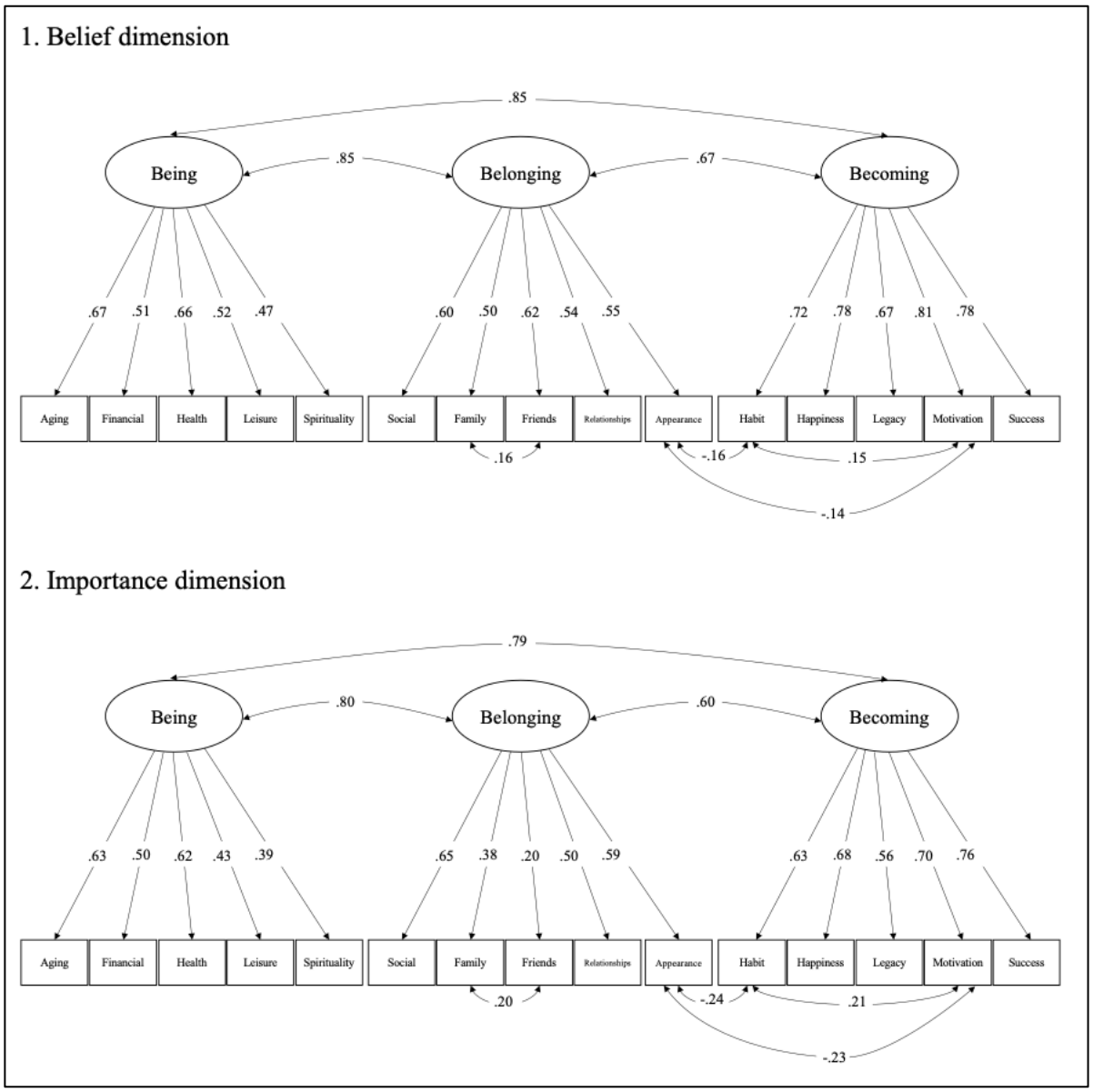
The final pooled-CFA model with M.I. for the *belief* dimension is presented in Figure 9. Model fit indices for the proposed model improved as follows: χ^2 = 526.14 (*df* = 83, *p* < .001), CFI = .94, RMSEA = .061 [90% CI: .056 - .066], and SRMR = .042.

The final pooled-CFA model with M.I. for the *importance* dimension is presented in Figure 9. Model fit indices for the proposed model improved as

following: χ^2 = 603.17 (*df* = 83, *p* < .001), CFI = .91, RMSEA = .066 [90% CI: .061 - .071], and SRMR = .053.

Figure 9

CFA Model with Correlated Errors Corresponding to the Two Belimp Dimensions



A *good* model as argued by Hair et al. (2010) would be expected to have a significant χ^2 value, CFI > .92, SRMR < .08, and RMSEA < .07, based on the

characteristics of our study (sample size larger than 250 and 15 observed variables). Thus, our result, in general, falls within the expected good model fit values as indicated above. Taking all together, we believe that both CFA models are acceptable.

5.4.2.2–The internal consistency of belimp scores. On the life domains clusters (i.e., Being, Belonging, and Becoming) level, reliability analysis revealed that the average scores for each general life domain on both belimp dimensions were acceptably reliable: ω = .93 for belief -Being (ω_h = .66), ω = .93 for belief-Belonging (ω_h = .61), ω = .97 for belief-Becoming (ω_h = .83), ω = .89 for importance-Being (ω_h = .53), ω = .92 for importance-Belonging (ω_h = .55), and ω = .95 for importance-Becoming (ω_h = .76).

Internal consistencies for the 15 life-domains ranged from .75 to .91 on the belief dimension, and from .63 to .89 on the importance dimension. Full details can be found in Tables 30 and 31.

5.4.2.3–ANOVA. We will present the one-way ANOVA results for each life domain cluster in the following lines.

5.4.2.3.1–Domain cluster of Being. Seven one-way ANOVAs were performed to test the study hypotheses with reference to the domain cluster of Being. Table 32 presents the details for these comparisons.

Table 32

Descriptive Statistics and One-way ANOVA results for the domain cluster of Being (N=1458)

Variable	Hubris (H) n=120	Motivation (M) n=515	Depression (D) n=178	Apathy (A) n=409	F	Tukey post-hoc test	Hypothesis supported?
Global trait EI	4.71 (.72)	4.73 (.79)	4.57 (.81)	4.55 (.74)	5.31**	h > a, d; a < d	Partially (H1); Partially (H5)
Emotionality	4.56 (.86)	4.58 (.91)	4.49 (.95)	4.47 (.83)	1.28		
Self-control	4.28 (.89)	4.37 (1.04)	4.12 (1.04)	4.16 (.96)	6.35***	m > a**, d, h**	Yes (H3)
Sociability	4.66 (.95)	4.77 (1.01)	4.53 (1.11)	4.56 (1.01)	5.35**	a < h, m**	Partially (H7)
Well-being	5.50 (1.05)	5.38 (1.16)	5.27 (1.07)	5.21 (1.12)	4.94**		
Agreeableness	40.01 (6.01)	40.36 (5.72)	40.06 (4.70)	39.37 (5.07)	3.55*		
Conscientiousness	43.02 (5.25)	43.49 (5.39)	42.18 (4.43)	41.61 (4.90)	12.60***	m > a***, d*, h	Yes (H2)
Extraversion	40.73 (5.80)	41.10 (5.57)	40.01 (3.95)	39.29 (4.50)	13.32***	a < d, h*, m***	Yes (H6)
Neuroticism	34.66 (6.31)	33.70 (6.69)	34.45 (4.99)	33.67 (5.38)	1.41	d > a, m	Partially (H4)
Openness	40.30 (5.52)	41.07 (5.47)	40.22 (4.31)	39.42 (5.06)	12.03***		

Note. Means and (standard deviations); * $p < .05$; ** $p < .01$; *** $p < .001$; Degrees of freedom for all ANOVAs were 3 for the numerator and ranged between 1218 and 1454 for the denominator, depending on the missing data; EI = emotional intelligence.

Out of the seven hypotheses considering the domain cluster of Being, three were fully supported by the data, and four partially. Specifically, the Hubris quadrant had the second highest score on global trait EI, thus providing partial support for H1. The Motivation quadrant had the highest score on conscientiousness and the self-control factor of trait EI, thus supporting H2 and H3. The Depression quadrant had the second highest score on neuroticism and second lowest score on global trait EI, thus providing partial support for H4 and H5. The Apathy quadrant had the lowest score on extraversion and second

lowest score on the sociability factor, thus providing full support for H6 and partial support for H7. Several post-hoc comparisons between the four quadrants reached statistical significance levels as shown in Table 32.

5.4.2.3.2–Domain cluster of Belonging. Seven one-way ANOVAs were performed to test the study hypotheses with reference to the domain cluster of *Belonging*. Table 33 presents the details for these comparisons.

Table 33

Descriptive Statistics and One-way ANOVA results for the domain cluster of Belonging (N=1458)

Variable	Hubris (H) n=117	Motivation (M) n=550	Depression (D) n=100	Apathy (A) n=455	F	Tukey post-hoc test	Hypothesis supported?
Global trait EI	4.80 (.73)	4.70 (.79)	4.53 (.75)	4.57 (.75)	4.47**	h > a*, d, m; d < a, m	Yes (H1); Yes (H5)
Emotionality	4.77 (.83)	4.57 (.92)	4.44 (.86)	4.43 (.85)	5.15**		
Self-control	4.28 (1.11)	4.28 (1.00)	4.02 (.92)	4.26 (1.00)	3.18*	m > a, d*; m = h	Yes (H3)
Sociability	4.94 (.93)	4.73 (.99)	4.45 (1.09)	4.53 (1.05)	9.80***	a < h***, m**	Partially (H7)
Well-being	5.47 (1.00)	5.33 (1.15)	5.32 (1.09)	5.27 (1.14)	1.66		
Agreeableness	40.44 (4.53)	40.41 (5.68)	40.00 (5.20)	39.26 (5.27)	5.01**		
Conscientiousness	42.79 (4.49)	43.21 (5.40)	41.95 (4.83)	42.02 (4.99)	5.12**	m > a***, d, h	Yes (H2)
Extraversion	38.51 (4.29)	41.48 (5.45)	40.90 (4.77)	39.19 (4.53)	28.36***	a < d**, m***	Partially (H6)
Neuroticism	32.38 (4.55)	34.07 (6.70)	34.89 (6.23)	33.86 (5.31)	2.94*	d > a, h*, m	Yes (H4)
Openness	39.90 (3.97)	41.07 (5.41)	39.81 (5.88)	39.63 (5.03)	9.04***		

Note. Means and (standard deviations); * $p < .05$; ** $p < .01$; *** $p < .001$; Degrees of freedom for all ANOVAs were 3 for the numerator and ranged between 1218 and 1454 for the denominator, depending on the missing data; EI = emotional intelligence.

Out of the seven hypotheses considering the domain cluster of Belonging, five were fully supported by the data, and two partially supported. Specifically,

the Hubris quadrant had the highest score on global trait EI, thus providing support for H1. The Motivation quadrant had the highest score on conscientiousness and the self-control factor of trait EI, thus supporting H2 and H3. The Depression quadrant had the highest score on neuroticism and lowest score on global trait EI, thus providing support for H4 and H5. The Apathy quadrant had the second lowest score on extraversion and second lowest score on the sociability factor, thus providing partial support for H6 and H7. Most post-hoc comparisons between the four quadrants reached statistical significance levels as shown in Table 33.

5.4.2.3.2–Domain cluster of Becoming. Seven one-way ANOVAs were performed to test the study hypotheses with reference to the domain cluster of Becoming. Table 34 presents the details for these comparisons.

Table 34

Descriptive Statistics and One-way ANOVA results for the domain cluster of Becoming (N=1458)

Variable	Hubris (H) n=92	Motivation (M) n=633	Depression (D) n=142	Apathy (A) n=355	F	Tukey post-hoc test	Hypothesis supported?
Global trait EI	4.74 (.74)	4.76 (.79)	4.65 (.73)	4.41 (.72)	16.90***	h > a, d**; d > a**	Partially (H1); Partially (H5)
Emotionality	4.62 (.84)	4.59 (.90)	4.58 (.87)	4.38 (.85)	4.67**		
Self-control	4.40 (.98)	4.39 (1.03)	4.13 (1.04)	4.02 (.90)	11.40***	m > a***, d*	Partially (H3)
Sociability	4.62 (.86)	4.81 (1.01)	4.60 (1.04)	4.40 (1.03)	12.93***	a < d, h, m***	Yes (H7)
Well-being	5.50 (1.14)	5.44 (1.16)	5.40 (.97)	5.03 (1.07)	12.90***		
Agreeableness	39.16 (5.42)	40.24 (5.77)	39.91 (4.68)	39.65 (4.99)	1.91		
Conscientiousness	42.71 (5.35)	43.54 (5.33)	42.37 (3.87)	41.07 (4.83)	22.22***	m > a***, d, h	Yes (H2)
Extraversion	39.03 (4.40)	41.27 (5.52)	39.99 (4.11)	39.02 (4.44)	22.34***	a < d*, h, m***	Yes (H6)
Neuroticism	33.36 (5.55)	33.74 (6.73)	33.78 (4.64)	34.36 (5.18)	1.68	d > h, m	Partially (H4)
Openness	40.21 (4.75)	41.22 (5.56)	40.26 (4.45)	38.77 (4.64)	22.91***		

Note. Means and (standard deviations); * $p < .05$; ** $p < .01$; *** $p < .001$; Degrees of freedom for all ANOVAs were 3 for the numerator and ranged between 1218 and 1454 for the denominator, depending on the missing data; EI = emotional intelligence.

Out of the seven hypotheses considering the domain cluster of Becoming, three were fully supported by the data, and four were partially. Specifically, the Hubris quadrant had the second highest score on global trait EI, thus providing partial support for H1. The Motivation quadrant had the highest score on conscientiousness and second highest score on the self-control factor of trait EI, thus supporting H2 and partially supporting H3. The Depression quadrant had the second highest score on neuroticism and second lowest score on global trait EI, thus providing partial support for H4 and H5. The Apathy quadrant had the

lowest score on extraversion and the sociability factor of trait EI, thus providing support for H6 and H7. Most post-hoc comparisons between the four quadrants reached statistical significance levels as shown in Table 34.

5.5–Discussion

The present study feeds into the existing literature of belimp theory in three unique ways. Firstly, it is the first to include a non-British sample, as in previous published studies (Petrides, 2010, 2011b; Petrides & Frederickson, 2011; Petrides & Furnham, 2015). Second, it is the first attempt to perform CFA on belimp data with 15 life domains. Third, it is the first attempt to test belimp theory with the broad domain clusters of Being, Belonging, and Becoming.

5.5.1–Psychometric properties of the belimp inventory

5.5.1.1–Life domain clusters. We proposed a general life domain model to study the belimp theory after reviewing the relevant literature (e.g., Cummins, 2005; King et al., 2000; Raphael et al., 1996; Raphael et al., 2001). This is because having many life domains in one study (e.g., 15 in our study) is not practical for performing complex analyses, such as structural equation modelling, required to dig deeper into the belimp theory. For example, if we treated each life domain separately in this paper, it would result in testing 105 hypotheses in total. Another reason is related to the findings in Petrides and Furnham (2015), in which more hypotheses were fully supported when a global classification was derived from four life domains: Appearance, Family, Finance, and Friends. Thus, we believe that deriving general clusters based on multiple life domains will help

us to: 1) perform complex analyses with belimp data such as CFA; and 2) test central belimp theory tenets with fewer hypotheses.

Consequently, we came up with three broad domain clusters comprising five life domains each. This resultant model is roughly aligned with Raphael et al.'s (1996) classifications. For example, the domain cluster of Being included the specific life domains of aging, finances, health, leisure, and spirituality in our model, which correspond to Raphael's et al. (1996) physical being, psychological being, and spiritual being.

5.5.1.2–CFA for our proposed model. We started our model assessment for both belimp dimensions by running CFA accounting for M.I. in order to improve our proposed model theoretically, and not only improving the fit values statistically. Theoretically, we only retained correlated errors suggested by M.I. if an appropriate literature supports it for both belimp dimensions. Thus, we added to the first correlated error between family and friends as previous studies highlighted the role of family and friends, together, on one's life (Buck & Smith, 2014; Yubero et al., 2018). The second correlated error was between appearance and habits. This is because several studies found that there is a relationship between one's appearance and different types of habits, such as eating habits (Heiman & Olenik-Shemesh, 2019) and exercise habits (Littrell, 2017). The third correlated error was between appearance and motivation, as some research found that appearance and motives are negatively related (Mroz et al., 2018). The last correlated error was between habits and motivation which

was based on the findings of some studies (e.g., Gardner & Lally, 2012; Hopkins et al., 2022), as they suggested that motivation increases the likelihood of activity becoming habitual.

Subsequently, fit indices results showed that the two models of both belimp dimensions improved after adding the aforementioned correlated errors. In fact, the pooled CFA after accounting for M.I. for the Belief dimension met Hair et al.'s (2010) expectations for such research characteristics. The results were not markedly different for the Importance dimension except that the CFI value of .91 was .01 below Hair et al.'s (2010) expected value of .92. However, we still argue that the two models were acceptable, given the fact that this is the first attempt to apply CFA on belimp data. Nonetheless, we encourage researchers to consider testing the model with different samples and in different countries in their future studies.

5.5.1.3–The internal consistency of belimp scores. We attempted to assess the psychometric properties of the inventory with a reference to each of the 15 life domains, as well as our domain clusters of Being, Belonging, and Becoming.

After examining the factorial structure of our proposed model, we assessed the internal consistency of the belimp scores for each life domain on both belimp dimensions. Alphas for the 15 life domains were computed and were generally acceptable as can be seen in Tables 30 and 31.

McDonald's omega was computed to assess the internal consistency of belimp scores obtained from the three clustered domains (e.g., Being, Belonging, and Becoming). This was because the method of computing alpha values tends to either underestimate (Cronbach, 1951; Schmitt, 1996) or overestimate (Reise et al., 2013) the reliability of scores obtained by multidimensional measures. Revelle and Zinbarg (2008) showed that omega was more accurate than other reliability indices (e.g., Cronbach's alpha) in estimating the reliability of scores obtained from multidimensional measures.

Accordingly, the results in our study showed that the reliability estimates based on omega values for the three clustered life domains on both belimp dimensions were highly acceptable. In fact, hierarchical omega values showed that the proportion of scale variance that is accounted for each cluster on both dimensions were high. For the Belief dimension, the proportions of 66%, 61%, and 83%, of the scale variance were accounted in the cluster domains of Being, Belonging, and Becoming, respectively, while for the Importance dimension, the proportions were 53%, 55%, and 76%, for Being, Belonging, and Becoming, respectively.

5.5.2–Testing belimp theory

We aimed to test belimp theory with reference to major personality traits (e.g., Big Five and trait EI). To this end, we advanced a series of hypotheses that we could not practically test with a large number of life domains for several reasons. For example, performing ANOVAs with 15 life domains as the

dependent variables would result in testing 105 hypotheses (7 per life domain). This can lead not only to testing a large number of hypotheses but also to presenting inconsistent and inaccurate results.

In fact, belimp theory suggests that the individual's position on conditional belimp planes (i.e., based on different life domains) can be different from their position on the master belimp plane (i.e., the global classification derived from pulling data from multiple life domains). Petrides and Furnham (2015) found that the relationship between the four quadrants and their corresponding personality traits is strengthened when the data are pulled from several different domains into a global one.

Of the 21 hypotheses based on the three domain clusters, 11 were fully and 10 were partially supported by our data. Overall, our results are in line with belimp theory, which posits higher confirmation rates for data that are pooled over multiple domains as was also observed in Petrides and Furnham (2015).

As in Petrides and Furnham (2015), our results showed that 4 out of the 10 partially supported hypotheses were related to global trait EI. This is not surprising since global trait EI is a very general personality trait and empirical studies (e.g., Paunonen & Ashton, 2001) found that personality facets perform better than general personality constructs in predicting behaviour (which is what belimp process offers). As a specific example within belimp theory, Petrides and Furnham (2015) argued that the Hubris quadrant would be more closely related to the narrow construct of narcissism than to broad construct of global trait EI.

Several studies within the organisational settings suggested that the personality trait of Narcissism is a key characteristic in Hubristic people (Hiller & Hambrick, 2005; Tracy & Robins, 2007). In fact, Picone et al. (2014) argued that Narcissism can be viewed as a contributory factor in the development of Hubristic personality. Even more, Hubris syndrome shares many features with narcissistic personality disorder as shown in Asad and Sadler-Smith (2020), and Owen and Davidson (2009). Therefore, it seems that a construct other than trait EI and rather narrower in scope may provide a better conceptual and empirical fit for the first quadrant of the belimp plane.

Although this study offers some uniqueness in testing belimp theory, yet we appreciate its limitations. First, this study comprises only Kuwaiti students' sample, which is relatively homogeneous in terms of their backgrounds and experiences in life. We encourage future researchers to test belimp theory with non-students' samples. Second, this study was done in Kuwait, which limited our understanding of the belimp theory across different region of the world. This is because belimp theory is affected by personality traits which are perceived differently across different cultures and countries. Lastly, as shown in our study, it is not easy to distinguish between Hubris and Motivation quadrants using self-report measures. Therefore, performance-based outcomes should be considered in distinguishing the two quadrants as Petrides and Frederickson (2011). We encourage future researchers to test belimp theory with non-self-report measures.

5.5.3–Belimp theory in Kuwait

To our knowledge, this study is the first to introduce the belimp theory to an Arabic sample, and specifically, Kuwaiti. It is important to introduce this theory to the field of Psychology in Kuwait because it would provide us with significant efficacy in predicting behaviour more than any other personality inventories. Therefore, behaviour modification strategies could be used with individuals to manipulate to either increase desirable behaviours or decrease undesirable ones.

Although our study was not exempt from limitations, the findings, emerging from three broad domain clusters, supported the belimp plane postulations and previous findings with British samples: a) trait EI is the key trait underlying the Hubris quadrant (Petrides, 2010, and two life domains out of three in 2011b; the Global life domain in Petrides and Furnham, 2015), b) Conscientiousness is the key trait underlying the Motivation quadrant (the Global life domain in Petrides & Furnham, 2015), c) Introversion is the key trait underlying the Apathy quadrant (Petrides, 2010), and d) Neuroticism is the key trait underlying the Depression quadrant (Petrides, 2010; Petrides & Furnham, 2015). Taking altogether, our findings offer further support to the belimp theory in another country (not like previous studies focusing on UK samples only) with a different cultural background. This is, however, a call for international researchers to expand the belimp theory literature in different countries and cultures.

5.5.4–Theoretical Contributions

5.5.4.1–The Role of Domain Clusters in Studying Belimp Theory. The findings from this chapter contribute to the theoretical understanding and application of the Belimp theory in several ways. Firstly, the inclusion of Confirmatory Factor Analysis (CFA) provides valuable insights into the measurement model of the Belimp theory, ensuring its validity and improving the theoretical alignment with empirical data. Moreover, the use of domain clusters in studying Belimp theory offers several advantages over analysing each domain separately. By clustering related life domains together based on their conceptual similarities, researchers can capture a broader perspective of individuals' beliefs and importance ratings across different aspects of their lives. This approach reduces complexity by simplifying the analysis process and allows for a more focused examination of the underlying constructs.

As shown in section 5.5.1.1, analysing each domain separately would require conducting multiple analyses and testing numerous hypotheses, which can be time-consuming and may lead to inconsistent or inconclusive results. That said, domain clusters provide a practical approach to studying Belimp theory, as it allows researchers to investigate a smaller number of hypotheses while still capturing the essential dimensions of individuals' beliefs and importance they set on certain goals. This approach becomes particularly valuable when conducting more complex analyses, such as structural equation modeling, which require a manageable number of variables for meaningful interpretation.

Additionally, treating each domain independently may overlook the interconnections and interdependencies that exist among different aspects of individuals' lives. Belimp theory suggests that these interrelationships play a crucial role in shaping individuals' beliefs and importance, and studying domain clusters allows for a more holistic understanding of these dynamics. Thus, the idea of domain clusters aligns with the theoretical framework of Belimp theory, as it emphasizes the central themes and dimensions that influence individuals' beliefs and importance ratings. By examining broader domain clusters, researchers can identify common patterns and associations across multiple domains, providing a comprehensive view of individuals' belief systems and their implications for behavior and well-being.

Overall, the use of domain clusters in studying Belimp theory facilitates a more comprehensive and practical approach by reducing complexity, enabling focused analysis, and capturing the interdependencies among different aspects of individuals' lives. Reducing statistical complexity can greatly benefit the field of psychology and personality research by enabling focused analysis. In the study of personality traits, researchers often employ techniques like factor analysis to simplify complex trait models such as the Five-Factor Model (a.k.a., the Big Five Personality; Costa & McCrae, 2008). By identifying the fundamental dimensions of personality, researchers can gain a clearer understanding of how traits relate to various outcomes. When confronted with complex datasets, the presence of numerous variables and interactions can obscure meaningful patterns and

relationships. By reducing statistical complexity, researchers can streamline their analyses, emphasizing the most relevant variables and reducing noise (Briggs & Cheek, 1986; Norris et al., 2014; Streiner, 1994).

Moreover, the emergence of the proposed life domains within their designated and proposed domain clusters in the Kuwaiti data provides interesting insights into their interrelationships. The clustering of aspects related to Being, Belonging, and Becoming together suggests a holistic perspective on individuals' lives, where these domains interact and influence one another. This finding aligns with previous research highlighting the interconnectedness of various life domains. For example, Gana et al. (2013) found that well-being in one life domain, such as social relationships, positively influenced well-being in other domains, such as work and health. The interplay among the proposed life domains in Kuwaiti individuals may be influenced by cultural factors, as culture shapes individuals' values, beliefs, and behaviors.

5.5.4.2–Hofstede's Cultural Dimensions and Belimp Theory. Considering Hofstede's four cultural dimensions (Hofstede et al., 2010), the emergence of the proposed life domain clusters in Kuwait can be interpreted in light of these dimensions (The cultural dimensions in Kuwait are described in section 4.5.4). For instance, the high power distance in Kuwait, indicating a hierarchical society, may influence the importance placed on the Belonging domain, where individuals strive for fitting into their social and community contexts. Similarly, the relatively high uncertainty avoidance in Kuwait may

contribute to a focus on the Being domain, as individuals seek stability and security in their physical, psychological, and spiritual aspects. The influence of cultural dimensions on the emergence and prominence of specific life domains provides insights into the cultural context's impact on individuals' perceptions and priorities.

While the present study provides valuable insights into the proposed life domain clusters in Kuwait, the question arises as to whether the same model would emerge in Western cultures or other cultural contexts. It is important to consider the cultural variations in values, norms, and social structures that may influence individuals' beliefs and importance regarding different life domains (Chen et al., 2006; Elizur et al., 2008), and the domain clusters of Being, Belonging, and Becoming, that were proposed in this chapter are not exempt. Therefore, it is plausible that the composition and clustering of life domains may vary in Western cultures or other cultural contexts due to differences in cultural values, individualistic versus collectivistic orientations, and social norms. Accordingly, future researchers should focus on studies that explore how domain clusters manifest in different cultures. This line of inquiry can shed light on the cultural factors that shape individuals' beliefs and importance.

Comparing domain clusters between Kuwait and a Western culture is important because it can shed light on the cultural variations in the prioritisation and interrelationships of different life domains. Understanding these differences can have implications for various aspects, such as well-being, individual

adjustment, and cultural norms. For example, a study by Diener et al. (1995) compared life satisfaction between individuals from Western cultures (including the United States, Western Europe, and Australia) and individuals from non-Western cultures (including Kuwait). The findings revealed cultural variations in the factors that contribute to life satisfaction. While individuals from Western cultures placed more emphasis on individual achievement and personal goals, individuals from non-Western cultures, including Kuwait, emphasized the importance of social relationships, family harmony, and collective well-being.

Additionally, cross-cultural research can help elucidate the cultural processes that underlie the formation and expression of beliefs. Cultural psychologists have emphasized the influence of cultural worldviews, social norms, and cultural practices in shaping individuals' cognitive processes and belief systems (Oyserman et al., 2002; Zheng et al., 2021). By exploring the cultural contexts in which Belimp theory operates, researchers can gain a deeper understanding of the underlying mechanisms and processes that link culture, beliefs, importance ratings, and personality traits.

Furthermore, cross-cultural replication studies can provide evidence for the robustness, generalizability, and universality of Belimp theory. Replicating the domain clusters found in Kuwait within different cultural contexts would strengthen the theoretical foundations of Belimp theory and support its validity across diverse populations. It would also highlight the importance of considering

cultural variations when applying and interpreting Belimp theory in different settings.

5.5.4.3–Role of Personality Traits in Belimp Theory's Plane and Quadrants. Another contribution from this chapter is that it provides substantial support for the theoretical foundations of Belimp theory, demonstrating the associations between specific personality traits and Belimp quadrants. These findings align with previous research conducted by Petrides (2010) and Petrides and Furnham (2015), which established connections between personality traits and Belimp quadrants. For instance, the study confirms the association of conscientiousness with the Motivation quadrant, introversion with the Apathy quadrant, and neuroticism with the Depression quadrant. This convergence with prior research done in western cultures reinforces the robustness of Belimp theory in different culture like Kuwait.

The emergence of similar findings in Kuwait, despite its cultural differences, can be attributed to several factors. Firstly, it is important to recognise that certain personality traits and their associations with specific Belimp quadrants may have universal applicability across cultures. Some personality traits, such as conscientiousness, introversion, and neuroticism, have been found to have consistent relationships with various psychological constructs across different cultural contexts (McCrae & Costa, 1997; Schmitt et al., 2007).

Additionally, while cultural factors can influence individuals' behaviors and expressions, the underlying psychological mechanisms and associations

between personality traits and Belimp quadrants may transcend cultural boundaries. For example, the association between conscientiousness and the Motivation quadrant can be explained by the trait's link to goal-directed behavior, self-discipline, and striving for achievement (Roberts et al., 2007). Another example is neuroticism's association with the Depression quadrant can be understood through its connection to emotional instability, negative affectivity, and vulnerability to experiencing negative emotions (Watson & Clark, 1984).

However, the study included in this chapter also reveals limited support for certain hypotheses, particularly concerning the relationship between the Hubris quadrant and global trait EI, which has important implications for refining Belimp theory. It suggests that the construct of global trait EI might not be the sole determinant of the Hubris quadrant, challenging the previous emphasis on its significance (Petrides, 2010; Petrides & Furnham, 2015). This finding prompts researchers to explore alternative explanations and potential moderators that could contribute to a more comprehensive understanding of the Hubris quadrant within Belimp theory.

One possible explanation for the weaker relationship between the Hubris quadrant and global trait EI could be the influence of other personality traits or individual differences that interact with or mediate the relationship. For example, previous studies have identified narcissism as a relevant and related construct to Hubris (Hiller & Hambrick, 2005; Tracy & Robins, 2007). It is possible that narcissism plays a role in shaping the beliefs and importance associated with

hubristic personalities. Therefore, future research could investigate the interplay between global trait EI, narcissism, and the Hubris quadrant to better understand the underlying dynamics.

Moreover, exploring contextual factors and situational influences on the Hubris quadrant could contribute to the refinement of Belimp theory. Contextual variables, such as leadership positions, power dynamics, or social environments, may interact with personality traits and trait EI to shape the expression of hubristic beliefs and importance. Investigating these factors and their interplay with the Hubris quadrant can provide a more nuanced understanding of how the context interacts with individual characteristics to influence beliefs and importance.

Lastly, conducting longitudinal studies and examining the developmental trajectory of the Hubris quadrant can shed light on its stability or potential changes over time. Longitudinal designs would allow researchers to investigate whether the relationships between personality traits, trait emotional intelligence, and the Hubris quadrant vary across different life stages or in response to significant life events. This approach can help identify potential moderators or mediators that contribute to the observed relationships and refine the conceptualization of the Hubris quadrant within Belimp theory.

Chapter 6: Introducing Implicit Association Tests of Personality to Kuwait

6.1–Abstract

The main aim of this chapter is to introduce an implicit personality assessment method (e.g., implicit association test) to Kuwait. We adapted an existing personality-related implicit association test (IAT; Big Five IAT), while also constructed the first trait EI IAT based on Petrides' (2009) four-factor model. We investigated the psychometric properties of the implicit association test through assessing the reliability of scores and also their relationship with their corresponding explicit measures. The measures were administered to 1458 university students in Kuwait. The zero-order correlations showed that the explicit and implicit measurement approaches led to non-converging constructs in the case of both trait EI and the Big Five. Lastly, we believe that we were successfully able to introduce the concept of personality-related implicit association tests to the Kuwaiti sample. Subsequently, the IATs presented in our study will allow researchers to study a relatively new personality field, that is the implicit personality.

6.2–Introduction

Almost twenty years ago, the concept of implicit personality was introduced in psychology by Greenwald and Farnham (2000). However, the concept has not yet received much attention in Arab countries like Kuwait. In fact, to our knowledge, there has only been a single implicit personality study in an Arabic country (Gadelrab, 2018). It investigated aggressive behaviour through the Conditional Reasoning Test, in Egyptian samples. Unsurprisingly, the measures used to assess the implicit personality have not yet been introduced to any Kuwaiti sample as we showed earlier (See Table 11 in Chapter 2).

In this chapter, we introduce a novel approach to assess implicit personality through implicit association test (IAT) in Kuwaiti Arabic for use in general population. Specifically, we are interested in a) adapting the Big Five IAT and b) constructing the trait EI IAT. For the Big Five IAT, we adapt the English Big Five IAT developed by Back et al.'s (2009) into Kuwaiti-Arabic. For the trait EI IAT, we follow the IAT construction guidelines presented in Chapter 2, similar to Back's et al. (2009) methodology to construct a personality-related IAT.

We assess the reliability of scores obtained by our personality IATs through methods used extensively in the IAT literature (e.g., split half and Cronbach's alpha). We also examine the relationship between explicit and implicit data in order to look at whether Nosek and Smyth's (2007) view that implicit and explicit personality are two different constructs is supported by the Kuwaiti data. Accordingly, we advanced and tested the following hypotheses:

H1: There will be low correlations between trait EI scores obtained by the explicit (TEIQue-SF) and implicit (trait EI IAT) measures.

H2: There will be low correlations between the Big Five scores obtained by the explicit (NEO-FFI) and implicit (Big Five IAT) measures.

Lastly, we discuss the findings of the first IAT implementation in Kuwait. Also, we discuss the limitations and strength of our design, in which future researchers can benefit from them.

6.3–Methods

6.3.1–Cultural Adaptation and Pilot Sampling

6.3.1.1–Design and procedure. Overall, we consulted the same expert committee members and followed the same adaptation procedure for the purposes of adapting the English Big Five IAT (See 4.3.1.1 Design and procedure for details). We also consulted them to create the list of appropriate stimuli for the trait EI concept. A general agreement on the applicability of the two IATs was granted by the expert committee, and accordingly, the two IATs were developed using Qualtrics for pilot testing.

For the Big Five IAT, the stimuli were obtained from the English Big Five IAT version by Back and his colleagues (2009). After that, two committee members translated these stimuli into simple Arabic. The two forms were not identical in terms of identifying the same stimuli in Arabic by the two forward translators. However, this is due to the existence of several synonyms for every word in Arabic. Therefore, these discrepancies were resolved by choosing the

most appropriate and cultural-reflective stimuli. Subsequently, a synthesised form was sent to the back-translating team, who, in return, constructed two English forms of the stimuli. The researcher compared the two forms, and the same issue of multiple synonyms, but in English, appeared. The two back-translators followed the same procedures followed by the forward translators in identifying the most appropriate stimuli considering the two versions. All materials were then reviewed by EC1 and approved for piloting without any amends.

After piloting the Big Five IAT for the first time, the Agreeableness subtest showed an unacceptable reliability estimate of .42 through the split-half method. We contacted the committee to revise the stimuli, and the same translation procedure was followed again. In the forward translation stage, the committee members decided to use a different synonym of every problematic stimulus within this subtest. After that, the back-translation and the final revision procedures were followed. The committee approved the final version of this subtest and suggested performing a focus group before piloting the subtest again. The participants in the focus group were able correctly to categorise each stimulus under the purposed category without any mistakes. Therefore, we decided to proceed with the revised version of this subtest for the second pilot of the Agreeableness subtest within the Big Five IAT. Accordingly, the final version of the Big Five IAT comprised 5 sub-IATs corresponding to the five factors of: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness.

We also constructed the first trait EI IAT draft following the guidelines by Lane and colleagues (2007). We created a list of stimuli through identifying the appropriate Arabic synonyms that can be classified under each trait EI factor. The list of stimuli was accepted by the expert committee. Thus, four different sub-IATs were constructed corresponding to the four-factor trait EI model proposed by Petrides (2009): Well-being, Self-control, Emotionality, and Sociability. The four trait EI sub-IATs were developed using Qualtrics to pilot it.

After piloting the trait EI IAT, we looked at the reliability estimates obtained through split-half and Cronbach's alpha methods. The estimates suggested a possible issue with the Emotionality factor of trait EI, as we will show later. Therefore, we decided to revise the list of stimuli following the same procedures explained above for the Agreeableness sub-IAT.

6.3.1.2–Participants. The first pilot sample of university students comprises 57 participants completed the trait EI IAT. The second pilot sample of university students comprises 64 participants completed the Big Five IAT. The third pilot sample of university students comprises 34 participants completed the revised Agreeableness sub-IAT. Sample sizes are complied with the suggestions from the measure's piloting literature (see *Perspectives From the Literature* in Johanson & Brooks, 2009).

6.3.1.3–Measures.

6.3.1.3.1–Trait EI IAT. The TEI IAT is a four-IAT subtests reflecting the four factors model proposed by Petrides, 2009). The first subtest comprises five

separate categorisation tasks, represented by seven blocks. In the other subtests, the first block is eliminated as the task was already done in the first subtest. An illustration of these blocks is presented in Figure 4 using one of the sub-IATs from our study. The IAT is developed following the guidelines by Lane and colleagues (2007).

In general, for each block, a mutually exclusive stimulus that belongs to either a left or a right side of the concept will appear in the middle of the participant's screen. The task asks the participant to classify each stimulus by pressing two pre-specified keys (a left and a right key) on his keyboard. During this classification task, the response time to each stimulus is recorded for further analysis. The list of stimulus and categories used in our study can be found in Appendix B.

6.3.1.3.2–Big Five IAT. We used the last version of the pilot Kuwaiti-Arabic Big Five IAT which will later evolve into the final adapted Kuwaiti-Arabic Big Five IAT. The Big Five IAT is a five-IAT subtests reflecting the big five personality dimensions proposed by Costa and McCrae (2008). The English stimulus were obtained from the English Big Five IAT version by Back and his colleagues (2009) and the full list of stimulus and categories can be found in Appendix C. As we did in the trait EI IAT, only the first subtest included the first block of *me* + *others* categorisation task.

6.3.1.4–Data analysis plan. Descriptive statistics and reliability estimates were calculated using *R, version 4.0.5* (RStudio Team, 2021). The *iatgen*

package (Carpenter et al., 2019) has been used to perform all analyses. Participants were considered *button mashers* and dropped from the final analysis if they had too many fast responses (i.e., more than 10% of their responses were below 300 ms). Very slow participants (i.e., trials greater than 10,000 milliseconds) also dropped from the final analysis as discussed in section 2.7.5.

The reliability estimates were computed through two different methods widely used in the IAT research field. The first method is based on scoring the IAT separately based on odd and even trials and compute split-half reliability with Spearman-Brown correction (De Houwer & De Bruycker, 2007). The second method is based on creating pairs of reaction times from compatible/incompatible blocks, calculating their differences, and apply them to Cronbach's alpha analysis (Schnabel et al., 2008).

6.3.2–Main study

6.3.2.1–Participants. We used the same sample as in Study 1 of Chapter 4.

6.3.2.2–Measures.

6.3.2.2.1–Trait EI IAT. We used the Kuwaiti Arabic Trait EI IAT that was developed and utilised in the pilot study.

6.3.2.2.2–Big Five IAT. We used the Kuwaiti Arabic Big Five IAT that was adapted and utilised in the pilot study.

6.3.2.2.3–Kuwaiti-Arabic TEIQue-SF. We used the same measure as adapted in Chapter 4.

6.3.2.2.4–Kuwaiti-Arabic NEO-FFI. We used the Kuwaiti adapted version by Alansari (1997) as we did in Study 1 of Chapter 4.

6.3.2.3–Data analysis plan. Given the nature of the implicit data, we followed the same statistical analysis plan as in the pilot study (see 6.3.1.4) to obtain descriptive statistics and reliability estimates of the IAT scores.

Additionally, we modelled the interrelationships between the two explicit-implicit constructs (i.e., trait EI and Big Five) through SEM following Nosek and Smyth (2007) methodology.

6.4–Results

6.4.1–Pilot samples results

6.4.1.1–Descriptive statistics and reliability analysis. Three pilot studies were conducted to look at the descriptive statistics and reliability estimates of the scores obtained by the trait EI and the Big Five IATs.

The first pilot study comprised 57 participants who completed the trait EI IAT. The results can be found in Table 35.

Table 35

Descriptive Statistics and Cronbach's Alpha Coefficients for the Pilot sub-IATs ($N_{Pilot\ Study\ 1}$ = 57, $N_{Pilot\ Study\ 2}$ = 64, $N_{Pilot\ Study\ 3}$ = 34)

Subtest		N	Button Mashers [a]	Error Rate	Split-half	α
First Attribute	Second Attribute					
Pilot Sample 1: Trait EI IAT (n=57)						
Sociability	Bashfulness	57	0	.11	.79	.70
Self-control	Unrestrainedness	55	2	.08	.61	.66
Emotionality	Logicality	55	5	.09	.43	.57
Well-being	Misery	55	4	.08	.53	.70
Pilot Sample 2: Big Five IAT (n=64)						
Fearlessness	Neuroticism	64	4	.09	.82	.79
Extraversion	Introversion	60	5	.09	.71	.78
Openness	Reticence	54	4	.07	.71	.61
Agreeableness	Reluctance	52	7	.08	.42	.81
Conscientiousness	Unscrupulous	51	7	.08	.63	.66
Pilot Sample 3: Revised IATs[b] (n=34)						
Agreeableness	Reluctance	34	0	.11	.83	.74
Emotionality	Logicality	30	2	.11	.64	.63

Note. N = Number of participants completed the test, Split-half = reliability estimate through split-half method, α = Cronbach's alpha coefficient.

a. Number of fast participants (Dropped from the analysis).
b. Participants only completed the Agreeableness factor of the Big Five sub-IAT and the Emotionality factor of trait EI sub-IAT.

The second pilot study comprised 64 participants who completed the Big Five IAT. The results can be found in Table 35. The number of participants who completed the test dropped from 64 participants who completed the first subtest to 51 participants who completed the last subtest. Also, the number of button mashers increased as participants approached the end of the overall test. The reliability estimates through the split-half method ranged between .42 and .82. In comparison, the estimates through Cronbach's alpha ranged between .61 and .81.

The third pilot study comprised 34 participants who only completed the revised Agreeableness factor of the Big Five sub-IAT and Emotionality factor of trait EI sub-IAT. The results can be found in Table 35. Thirty-four participants completed the two revised sub-IAT. The reliability estimate using the split-half and Cronbach's alpha methods jumped to .83 and .74, respectively, for the Agreeableness sub-IAT. The reliability estimates using the same two methods were .64, and .63, respectively, for the Emotionality sub-IAT. In both cases, the reliability estimates were higher in the revised version.

6.4.2–Main study results

6.4.2.1–Descriptive statistics and reliability analysis. Descriptive statistics for all variables are shown in Table 36 (N = 1458). All skewness and kurtosis values were within the acceptable ranges (-3.00 to +3.00) and (-10.00 to +10.00), respectively (Brown, 2015). IAT-related information can be found in Table 37.

Table 36

Descriptive Statistics for Trait EI IAT and the Big Five IAT Variables in the Main Study of Chapter 6 (N=1458)

		Overall sample (N = 1458)				Male (N = 336)			Female (N = 1110)		
		Range[a]	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt
Trait EI IAT		[-2.00–2.00]									
	Well-being	-.97–1.06	.22 (.32)	-.26	.13	.28 (.33)	-.52	.96	.21 (.31)	-.20	-.06
	Self-control	-.60–1.16	.23 (.30)	-.09	-.34	.25 (.33)	.23	-.57	.23 (.29)	-.20	-.32
	Emotionality	-.89–1.04	.11 (.30)	-.02	.18	.06 (.33)	.05	-.13	.11 (.29)	-.03	.19
	Sociability	-.88–.93	.05 (.31)	-.11	-.17	.15 (.33)	-.30	-.26	.02 (.30)	-.11	-.14
Big Five IAT		[-2.00–2.00]									
	Neuroticism	-1.09–1.31	.27 (.33)	-.21	.09	.26 (.36)	-.19	.18	.27 (.32)	-.22	.02
	Extraversion	-1.45–1.38	-.05 (.43)	.07	-.28	.04 (.44)	-.07	-.21	-.07 (.42)	.11	-.29
	Openness	-.83–1.14	.17 (.34)	-.07	-.33	.22 (.35)	-.11	-.49	.16 (.33)	-.07	-.29
	Agreeableness	-.79–1.22	.32 (.32)	-.26	.00	.38 (.35)	-.31	-.18	.31 (.31)	-.28	.04
	Conscientiousness	-.99–1.21	.30 (.33)	-.19	-.02	.35 (.33)	.06	-.47	.29 (.33)	-.27	.02

Note. Min = minimum, Max = maximum, M = mean, SD = standard deviation, Skew = skewness, Kurt = kurtosis.

a. Numbers between squared brackets are theoretical ranges.

Table 37

The IAT-Related Information for Each Sub-IAT (N=1458)

Subtest		N	Button Mashers [a]	Error Rate
First Attribute	Second Attribute			
Big Five IAT				
Fearlessness	Neuroticism	1740	275	.12
Extraversion	Introversion	1671	346	.10
Openness	Reticence	1622	401	.09
Agreeableness	Reluctance	1571	424	.09
Conscientiousness	Unscrupulous	1517	466	.09
Trait EI IAT				
Sociability	Bashfulness	1457	505	.10
Self-control	Unrestrainedness	1421	552	.10
Emotionality	Logicality	1388	563	.09
Well-being	Misery	1357	565	.08

a. Number of fast participants (Dropped from the analysis).

Gender-based reliability estimates for implicit measures (trait EI IAT and Big Five IAT) are shown in Table 38. Overall, the implicit measures showed higher reliability estimates compared to their explicit counterparts in Study 1 of Chapter 4. Notably, the discrepancies in the estimates between the two methods (Cronbach's alpha v Split-half method) were minimal for all IATs in the overall sample and in each gender group.

Table 38

Gender-Based Reliability Indices for Trait EI IAT and the Big Five IAT Variables in the Main Study of Chapter 6 (N=1458)

		Overall sample (N = 1458)		Males (N = 336)		Females (N = 1110)	
		Split-Half	Cronbach's α	Split-Half	Cronbach's α	Split-Half	Cronbach's α
Trait EI IAT							
	Well-being	.70	.68	.74	.70	.68	.67
	Self-control	.65	.69	.72	.69	.62	.68
	Emotionality	.66	.64	.73	.70	.63	.63
	Sociability	.67	.72	.70	.72	.66	.71
Big Five IAT							
	Neuroticism	.73	.74	.80	.77	.71	.74
	Extraversion	.82	.85	.84	.85	.82	.85
	Openness	.75	.73	.79	.79	.75	.72
	Agreeableness	.70	.71	.78	.76	.69	.68
	Conscientiousness	.69	.71	.72	.71	.71	.72

6.4.2.2–The relationship between explicit-implicit constructs. The zero-order correlations between the explicit-implicit constructs are shown in Table 39. For the trait EI factors, they ranged from -.01 to .11 (overall sample), -.02 to .16 (males), and .01 to .10 (females). Thus, the results showed that our two hypotheses were borne out by our data.

Table 39

Gender-Based Correlations between Implicit and Explicit Constructs (N=1458)

		Overall sample (N = 1458)	Males (N = 336)	Females (N = 1110)
Trait EI				
	Well-being	.11**	.16	.09*
	Self-control	.10**	.09	.10**
	Emotionality	-.01	-.08	.01
	Sociability	.03	-.02	.02
Big Five				
	Neuroticism	.05	.17**	.02
	Extraversion	.10***	.17**	.07*
	Openness	-.07*	-.09	-.08*
	Agreeableness	-.03	-.06	-.02
	Conscientiousness	.08*	.09	.08*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Similarly, low values were observed for the Big Five factors. These correlations ranged from - .03 to .10 (overall sample), -.06 to .17 (males), and -.02 to .08 (females).

6.5–Discussion

In this chapter we aimed to introduce the implicit personality concept to the Kuwaiti psychology field accompanied by adapting and constructing their measurement method. In the literature review chapter, we distinguished between the concepts of explicit and implicit personality through their measurement methods. For instance, explicit personality is assessed through self-report measures by asking the participants to directly choosing a response from a given

scale. While implicit personality is assessed indirectly using certain type of tests like the IAT.

Accordingly, we adapted one IAT to assess the Big Five factors indirectly (i.e., implicitly) in a Kuwaiti sample. In more details, we adapted the five sub-IATs corresponding to the five-factor model of personality proposed by Costa and McCrae (2008). The stimuli we used in this test were obtained from Back et al. (2009).

We did not only adapt their stimuli to assess the Big Five using IATs, but we also considered their methodology along with Lane's et al. (2007) guidelines to construct the first trait EI IAT in the literature as shown in the present chapter. Through these adapted and newly designed measures, we successfully measured the implicit constructs to test the hypotheses we advanced earlier.

6.5.1–The internal consistency of the IAT scores

Reliability analysis using two different methods (Cronbach's alpha and split-half) yielded satisfactory estimates. Although the results from the two methods converged, we believe that the very meaning of internal consistency is questionable within the IAT context. This is because these estimates within the IAT context refer to whether responses time between trials are consistent or not, rather than whether the actual D-scores are consistent (Carpenter et al., 2019).

Our results showed that, in general, reliability estimates for implicit measures were higher than for explicit measures. This is at odds with other research showing that explicit measures of personality tend to have higher

reliabilities than implicit measures (e.g., Grumm & van Collani, 2007; McDaniel at al., 2009; Schmukle & Egloff, 2005). It is hard to tell that this unusual result is due to a specific reason. However, the cross-cultural dimension of our study is a potential confounding factor as shown in previous studies (Triandis & Suh, 2002) and further work will be necessary on this point. Also, as mentioned in Chapter 4, the TEIQue-SF was not intended to be analysed on the factor level. Because of that, low internal consistencies were expected for the explicit factors of trait EI. Even more and as we will show in Chapter 7, the concept of internal consistency within the implicit-personality context is also questionable, and the subjective meaning of it is still ambiguous in the IAT literature.

6.5.2–The relationship between explicit-implicit constructs

We also examined the relationships between the explicit and implicit measures of trait EI and the Big Five, separately, through zero-order correlations. The results supported our earlier hypotheses that we will find weak correlations between the scores obtained by explicit and implicit measures for both the Big Five factors and the four trait EI factors. These results are consistent with Lane et al. (2007) who reported similarly low correlations between explicit and implicit personality measurements across numerous constructs. It appears that these two methodologies tap into two distinct aspects of personality. Thus, they can be seen as complementary methods offering a full understanding of both personality aspects (explicit and implicit) rather than two alternative methodologies for assessing a single aspect of personality.

Even after our results showed that the two constructs are not correlated yet, the meaning of implicit personality is not theoretically clear. In our opinion, we believe that implicit personality refers to the unconscious or automatic cognitive processes and associations that shape people's personalities. However, we think further research should be done to fit this construct into the field of personality to understand its nature and define it properly.

6.5.3–Respondent fatigue

One significant limitation in our study is the length of the included measures. Ben-Nun (2008) suggested that long measures can lead to a phenomenon called *respondent fatigue*. This phenomenon occurs when participants become exhausted of the measure's task, and therefore, affects the quality of the data provided by them. Perhaps, one way to mitigate it is by decreasing the number of tasks without affecting the quality of the measure. Accordingly, we only included the first categorisation task in the first sub-IAT of both trait EI and the Big Five and eliminated this task from the following sub-IATs (See 6.3.1.3.1 and 6.3.1.3.2).

We presented the number of participants who completed each sub-IATs along with the number of button mashers from pilot and main studies. The results from all studies showed that the number of participants was decreasing as they approach the end of the IAT. Also, the number of button mashers was increasing as the participants approached the end of the IAT. Thus, suggesting that the respondent fatigue has occurred in these participants, even though we

decreased the number of tasks to mitigate this phenomenon. As a further step, we eliminated these participants from our data analyses in order to avoid any threats to the validity of our results.

Besides the aforementioned attempts to control the respondent fatigue, we also ensured that the instructions given to the participants were clear and concise. This is also to ensure that participants do not spend much of the study time in reading the instructions.

Given the fact that this type of measure is introduced for the first time to a Kuwaiti sample, we expected that the error rate will be relatively high in the first sub-IAT of each construct as shown by our results. However, the error rate decreased continuously as the participants approached the end of the IAT. This suggests that experiencing more IATs can help the participant to perform the categorisation tasks more accurately.

Taking altogether, we believe that this chapter makes a contribution by introducing implicit association test as a vehicle to assess implicit personality constructs in Kuwait. These implicit personality assessment methodologies are highly novel and original in Kuwaiti Psychology field. Not only in Kuwait, but the study included in this chapter also contributes to the growing implicit personality literature, as we presented results from a relatively large sample. These results supported the idea that the implicit aspect of personality should be thought of as a distinct aspect of personality. Thus, researchers within the field should view it

as a different aspect of human personality rather than only viewing it as another method to measure personality.

6.5.4–Theoretical Contributions

The present chapter makes significant theoretical contributions to the field of implicit personality theory. Firstly, by introducing, for the first time in the literature, and adapting implicit measurement methods for implicit personality assessment in Kuwait, our study opens up new avenues for research in this region, specifically, and more broadly, the Middle East. As the first study to implement these measures in Kuwait, our work provides a valuable resource for future researchers who can now apply these measures to further contribute to the theory and understanding of implicit personality in this cultural context.

Furthermore, the chapter's contribution is amplified by the inclusion of the largest dataset to date in the implicit personality literature. In fact, a meta-analytic study by De Cuyper et al. (2017) showed that the median was 95 participants for the 70-studies included in their final analysis. So, by collecting a substantial sample of participants, we have enhanced the robustness and generalisability of the findings. This extensive dataset serves as a valuable resource for researchers interested in exploring implicit personality constructs and their implications in various contexts.

One of the key findings in this chapter is the lack of correlations between explicit and implicit personality constructs. This lack of correlation aligns with the results of a meta-analytic study conducted by De Cuyper et al. (2017), which also

reported a low weighted explicit-implicit correlation. These findings suggest that explicit and implicit measures of personality capture distinct aspects of an individual's personality, indicating the need for a nuanced understanding of personality assessment.

Several explanations have been proposed to account for the lack of correlation between explicit and implicit personality measures. One possible explanation is that explicit measures primarily capture conscious, deliberative processes, where individuals have the opportunity to reflect on and manipulate their self-presentation (Greenwald et al., 2002). In contrast, implicit measures tap into more automatic, unconscious processes that are less susceptible to intentional control. These processes may involve the automatic activation of associations or propositions in memory (Gawronski & Bodenhausen, 2014; Strack & Deutch, 2004; De Houwer, 2014).

Another explanation can be made considering methodological confounds. Response biases, for example, can introduce systematic discrepancies between the two types of measures. Response bias refers to the tendency of individuals to modify their responses based on social desirability concerns or self-presentation motives (Hofmann et al., 2005). Participants may consciously or unconsciously adjust their responses on explicit measures to present themselves in a more socially desirable manner. This response bias can lead to inconsistencies between explicit and implicit measures. An illustrative example of response bias comes from a study by Nosek and Smyth (2007) on racial attitudes. Explicit

measures showed low levels of racial bias, suggesting minimal racial prejudice, while implicit measures revealed a substantial implicit bias. This discrepancy suggests the presence of response bias, as participants may have been motivated to present themselves as less racially biased on explicit measures due to social desirability concerns.

Measurement context differences also pose a methodological challenge when comparing explicit and implicit measures. Explicit measures are typically completed through self-report questionnaires, allowing individuals ample time to reflect on and deliberate over their responses. In contrast, implicit measures, such as the IAT, require individuals to make rapid associations between concepts, limiting conscious deliberation. This distinction in measurement context can contribute to the lack of correlation between explicit and implicit measures. Individuals may provide socially desirable responses on explicit measures to align with their desired self-image, while implicit measures tap into more automatic, less controlled aspects of personality. As a result, explicit measures may reflect consciously endorsed beliefs and attitudes, while implicit measures capture more spontaneous and automatic associations (Greenwald et al., 2002).

Accordingly, implicit personality can be viewed and defined as the set of automatic, unconscious cognitive processes that influence an individual's perception, judgment, and behavior, without the need for conscious awareness or deliberate intention. These processes are typically assessed through indirect measurement tasks, such as the IAT, which capture the strength and valence of

associations between the self and various attribute concepts (Greenwald et al., 2002). Implicit personality can reveal underlying biases, stereotypes, and attitudes that individuals may not be consciously aware of or willing to endorse, providing valuable insights into the automatic cognitive processes that shape behavior.

Chapter 7: Summary of the Research

7.1–Introduction

In this chapter, we discuss the implications of our findings for theory, methodology, and policy and practice. We also explain how this dissertation opens new directions for future research. Finally, we discuss the general strengths and limitations of the research. Table 40 summarises the contents of this dissertation by chapter.

Table 40

Summary Listing of the Contents by Chapter

Chapter 3	Chapter 4	Chapter 5	Chapter 6
Summary of personality-related measures in Kuwait.	Adapting and validating TEIQue-SF for use in Kuwaiti samples.	Adapting and validating belimp inventory for use in a Kuwaiti sample.	Introducing the concept of implicit personality to Kuwaiti population.
Summary of the adaptation procedures followed by researchers in Kuwait.	First investigation of the psychometric properties of TEIQue-SF through sophisticated data-analytic approaches.	First attempt to perform factor analysis on belimp data through CFA.	Adapting and validating the Big Five IAT for use in a Kuwaiti sample.
	Examining the relationship between TEIQue-SF variables and sociodemographic variables in Kuwaiti samples.	First investigation of the psychometric properties of belimp inventory in a Kuwaiti sample.	Constructing the first measurement method for trait EI through trait EI IAT.
	Evidence of the role of trait EI in organisational settings.	Testing the belimp theory over 15-life domains clustered in 3-clusters of life domains.	Examined the relationship between explicit and implicit constructs, which support the argument that the two tap into two distinct aspects of personality.
	Presenting a preliminary trait EI profile across different professions in Kuwait		

7.2–Implications for Theory

The implications of the studies included in the dissertation for theory are manifold (Table 41). In the following lines, we will discuss them by chapter.

Table 41

Summary Listing of the Theoretical Contributions by Chapter

Chapter 4	Chapter 5	Chapter 6
Advancing the trait EI using TEIQue-SF in Kuwait for the first time, which enhances the manifestation of trait EI in a non-Western culture.	Validation of the measurement model of belimp theory through Confirmatory Factor Analysis, for the first time in the literature.	Introduction of implicit measurement methods for implicit personality assessment in Kuwait, opening up new avenues for research in the region and the Middle East.
Enhancing understanding of trait EI within a distinct cultural context, in light of Hofstede's cultural dimensions.	Advancing the idea of domain clusters to the belimp theory.	Refining the definition of implicit personality in light of our findings.
Contribution to the exploration of the universality of trait EI.	Studying the belimp theory, for the first time, in a non-Western culture.	Explanation of the lack of correlation between explicit and implicit personality measures.
Retention and confirmation of the bi-factor model of TEIQue-SF in a non-Western context.	Exploring alternative explanations and possible personality traits for the Hubris quadrant.	
Confirmation of trait EI's role in predicting job performance.		

Chapter 4 of the thesis makes several significant theoretical contributions to the understanding of trait EI, as shown in Section 4.5.4. Firstly, the advancement of trait EI using the TEIQue-SF in Kuwait for the first time represents a significant contribution to the field. This novel application of the TEIQue-SF in a non-Western culture allows for a deeper understanding of trait EI beyond its origins in Western contexts. In Kuwait, we conducted similar analyses to Perazzo et al. (2020) in Brazil and Pérez-Díaz and Petrides (2021) in Chile, and our findings were consistent with their findings. This contributes to the

broader understanding of the generalisability and robustness of trait EI across diverse cultural settings.

Furthermore, our studies in Chapter 4 enhances the understanding of trait EI within the specific cultural context of Kuwait. Cultural factors play a significant role in shaping individuals' emotional experiences, expressions, and interpersonal interactions. By exploring trait EI in Kuwait, Chapter 4 in our thesis acknowledges and investigates the influence of cultural norms, values, and social dynamics on the manifestation and development of EI. This adds depth and richness to our understanding of trait EI by considering the unique cultural context of Kuwait and shedding light on how cultural factors may shape EI processes.

For example, Kuwaiti culture is characterised by a collectivist orientation, emphasising strong family ties, social cohesion, and group harmony. In such a cultural context, individuals may prioritise interpersonal relationships and the well-being of the group over individual needs. This cultural emphasis on collectivism may influence the development of trait EI by fostering skills such as empathy, cooperation, and conflict resolution. For example, a study by Bhullar et al. (2017) examined the role of collectivism in predicting trait EI among individualistic-collectivistic orientations and found that collectivistic orientation was significantly associated with greater EI. In another study including nine countries from different cultural backgrounds, Gunkel et al. (2014) found that participants from countries, who considered to be collectivist, had higher EI

scores. This suggests that the cultural emphasis on interpersonal relationships and group cohesion in Kuwait may contribute to the development and expression of EI skills related to understanding and managing emotions in social interactions.

Cultural norms in Kuwait place less emphasis on openly expressing emotions, particularly in public settings (Al-Eidan, 2019a,b). There is a cultural expectation to maintain composure, avoid displays of strong emotions, and handle personal matters privately. This cultural norm may influence the recognition and understanding of emotions, which are core components of trait EI. For instance, in Study 2 of Chapter 4, we explored trait EI among Kuwaiti professionals, and we found that military personnel had relatively lower trait EI scores compared to their counterparts in Western countries. We attributed these differences to cultural factors that inhibit the acknowledgment and expression of emotions in Kuwaiti society, particularly within the military context. This example highlights how cultural norms regarding emotional expression can influence the development and manifestation of EI in Kuwait.

Secondly, the retention and confirmation of the bi-factor model of the TEIQue-SF in a non-Western context is another important theoretical contribution. By confirming the applicability of this model, our finding supports the psychometric robustness and validity of the TEIQue-SF in capturing the multidimensionality of trait EI in diverse cultural settings. This finding aligns with previous research conducted by Pérez-Díaz and Petrides (2021), who retained

the bi-factor model of the TEIQue-SF in a sample from Chile. The consistency of the factor structure across different cultural contexts strengthens the theoretical foundations of trait EI and provides further support for the generalisability of the model.

Thirdly, our finding confirms the role of trait EI in predicting job performance, contributing to the growing body of literature on the practical implications of trait EI in the workplace. Previous research, such as the meta-analysis by O'Boyle et al. (2011), has shown that trait EI is positively associated with job performance across various occupations and industries. By demonstrating this relationship in the Kuwaiti context, our findings in Chapter 4 adds to the evidence base supporting the relevance and importance of trait EI in the workplace.

The link between trait EI and job performance can be understood through the deep mechanisms that underlie this relationship. One important mechanism is emotional self-awareness. Individuals with higher levels of trait EI possess a greater self-awareness and understanding of their own emotions, which in turn affect their performance (Gómez-Leal et al., 2021; Krén & Séllei, 2020). They have the ability to accurately perceive, label, and reflect upon their emotional states, strengths, weaknesses, and triggers.

This heightened self-awareness allows them to recognise how their emotions impact their thoughts, behaviors, and interactions in the workplace. By understanding their emotional experiences, individuals can make more informed

decisions, regulate their emotions effectively, and adapt their behaviors to different work situations. This self-awareness facilitates better self-management and self-control, ultimately contributing to improved performance (Frayne & Geringer, 2000; Job et al., 2015).

Another mechanism is social perception and relationships. Trait EI is associated with individuals' perceptions of others' emotions and their ability to navigate social interactions. Individuals high in trait EI are more attuned to social cues, such as facial expressions (Austin, 2004). They have a heightened ability to accurately interpret and understand the emotions of their colleagues, clients, and other stakeholders in the workplace. This enhanced social perception enables them to respond empathetically, communicate effectively, and build positive relationships. Such positive social interactions and relationships contribute to a conducive work environment, teamwork, collaboration, and ultimately, improved job performance (Zhenjing et al., 2022).

Stress management is another significant mechanism linking trait EI and job performance. Individuals high in trait EI have a better understanding of their own stress triggers, coping strategies, and emotional reactions to any psychological distress (Sanchez-Ruiz et al., 2021). They possess the ability to recognise and regulate their emotions in high-pressure situations, allowing them to maintain composure and make rational decisions. Moreover, individuals with higher trait EI are more likely to engage in adaptive stress management techniques, such as seeking social support, engaging in problem-solving, and

utilising relaxation techniques. Effective stress management is crucial for maintaining optimal job performance as it helps individuals minimize the negative impact of stress on their cognitive abilities, decision-making processes, productivity, and overall well-being (Cherniss & Goleman, 2001).

Additionally, trait EI influences job performance through its impact on work motivation (Dissou, 2010). Individuals high in trait EI tend to have a stronger sense of purpose and meaning in their work. They are more likely to derive intrinsic satisfaction from their tasks, demonstrate enthusiasm, and display a positive attitude. This positive emotional outlook and self-motivation contribute to increased job satisfaction, engagement, and perseverance in the face of challenges. Individuals with higher trait EI are driven to achieve their goals, maintain focus, and exhibit higher levels of effort and commitment in their work. Their motivated and dedicated approach translates into enhanced productivity, performance, and overall job success (Cardoso-Pulido et al., 2022; Urquijo et al., 2019).

Chapter 5 presents several significant theoretical contributions to the understanding of Belimp theory, as demonstrated in Section 5.5.4. One notable theoretical contribution is the validation of the measurement model of Belimp theory through the application of Confirmatory Factor Analysis (CFA). This study marks the first instance of validating the measurement model in the literature. By employing CFA on the Belimp inventory, we have provided empirical evidence supporting the underlying factor structure and psychometric properties of the

measurement model, known as the domain clusters. The introduction and exploration of domain clusters extend the theoretical framework of Belimp theory beyond individual domains, allowing for the consideration of interrelationships and coherence among various life domains. This conceptualization recognizes that different aspects of individuals' lives are interconnected and mutually influence one another. For example, our study reveals that domains such as aging, financial, health, leisure, and spirituality can be categorized within the Being domain cluster, illustrating the interconnections among these domains and their collective impact on individuals' self-perception and well-being. This advancement in understanding domain clusters provides a comprehensive framework for investigating individuals' experiences and perceptions across multiple life domains, thereby offering a more holistic approach to the study of Belimp theory.

Furthermore, our study in Chapter 5 contributes to the literature by examining the belimp theory in a non-Western culture, marking the first time it has been studied in this context. By investigating the applicability and relevance of belimp theory in a different cultural setting, we have expanded our understanding of how cultural factors may shape individuals' perceptions across various life domains. This exploration of a non-Western culture, such as Kuwait, provides insights into the universality and cultural adaptability of belimp theory. For instance, previous research has primarily focused on Western cultures (Petrides, 2010; Petrides, 2011b; Petrides & Frederickson, 2011; Petrides &

Furnham, 2015), and ours adds to the literature by examining the theory's validity and relevance in a distinct cultural context, enhancing the cross-cultural applicability and generalisability of the belimp theory.

Perceptions about life domains can differ across cultures, reflecting the influence of cultural norms, values, and social dynamics on individuals' experiences and interpretations. For example, in individualistic cultures, such as Western societies, there tends to be a greater emphasis on personal achievement, autonomy, and self-expression. This cultural context may shape perceptions in life domains such as legacy and success, where individuals may prioritise individual aspirations and personal growth (Markus & Kitayama, 1991). In contrast, in collectivistic cultures, such as many the Kuwaiti culture, there is a stronger emphasis on group harmony, interdependence, and social relationships. This cultural context may influence perceptions in domains such as family, friends, and relationships, where individuals may prioritise fulfilling societal expectations, maintaining interpersonal harmony, and contributing to the welfare of the group (Triandis, 1994).

Lastly, our study in Chapter 5 contributes to belimp theory by exploring alternative explanations and possible personality traits for the Hubris quadrant. The Hubris quadrant represents a distinct pattern of perceptions related to inflated self-importance, arrogance, and excessive pride. By investigating possible personality traits associated with this quadrant, we delve deeper into

understanding the underlying mechanisms and psychological factors contributing to these perceptions. This can be found in Section 5.5.2.

Chapter 6 makes several significant theoretical contributions to the understanding of implicit personality, as shown in Section 6.5.4. One such is the introduction of implicit measurement methods for implicit personality assessment in Kuwait, which opens up new avenues for research in the region and the Middle East. Implicit measures provide a unique approach to assess personality traits by tapping into automatic and unconscious processes that may not be fully captured by traditional self-report measures (Greenwald & Banaji, 1995). By introducing implicit measures of personality in Kuwait, we extend the methodological toolkit available to researchers in the region and offer opportunities for exploring implicit aspects of personality that may be influential in various settings.

Furthermore, our thesis contributes to the field by including the largest dataset to date in the implicit personality literature, enhancing the robustness and generalisability of the findings. With a sizable dataset, our study not only strengthens the empirical evidence supporting the utility of implicit measures but also allows for more precise estimations of the relationships between implicit and explicit personality. This large dataset also enhances the comparability of findings across studies and facilitates future meta-analytic efforts to gain a deeper understanding of the explicit-implicit relationships across different personality traits.

In Chapter 6, we addressed an important aspect of the explicit-implicit personality relationship by finding a lack of correlation between explicit and implicit measures. Previous research (see the meta-analytic study by De Cuyper et al., 2017) reported that explicit and implicit measures of personality often yield divergent results, with weak or no correlations between them. By examining this discrepancy in the Kuwaiti context, our thesis sheds light on the underlying mechanisms that contribute to the dissociation between explicit and implicit measures.

For example, cultural factors, social desirability biases, and self-presentation concerns may influence explicit measures, while automatic and unconscious processes may drive implicit measures, as we showed in Section 6.5.4. Understanding the factors that contribute to the lack of correlation between these measures provides valuable insights into the complex nature of personality assessment and highlights the need to consider multiple assessment methods for a comprehensive understanding of one's personality traits.

Lastly, our thesis contributes to the theoretical understanding of implicit personality by refining the definition of implicit personality in light of the findings. By examining the patterns and associations between implicit measures and their corresponding explicit ones, our thesis adds to the existing body of knowledge on implicit personality and provides a conceptual framework for interpreting implicit personality scores. This conceptualisation helps to clarify the nature of implicit personality and its relevance to different settings.

7.3–Methodological and Statistical Implications

With respect to methodology, this dissertation introduces four innovations that we will now present, organised by chapter.

First, the aims of the present dissertation were advanced based on the scoping review methodology presented in Chapter 3. This methodology offers a comprehensive overview of the existing literature on a topic and can help ensure the originality of ensuing studies in three ways. First, it can help researchers to focus on areas where original contributions can be made by identifying research gaps. Second, it can help researchers to avoid duplicating work that has already been done. Third, it can highlight areas for further exploration and provide inspiration for new ideas and approaches to the research topic. Thus, we encourage future researchers, and especially, PhD students, to follow this methodology to ensure the originality of their projects.

Second, the blend of qualitative and quantitative approaches implemented throughout the dissertation to adapt and validate the measures in Chapters 4, 5, and 6 proved useful and appropriate. We showed the importance of following comprehensive guidelines, such as those of ITC (2017) for the purposes of cultural adaptation. These guidelines are also accompanied by checklists proposed by Hernández et al. (2020), which helped us assess the readability and general applicability of our adapted measures.

Third, we proposed a mediation model to understand the role of trait EI in organisational settings in Study 2 of Chapter 4. Based on the literature, we

wanted to examine whether job attitudes will mediate the well-established relationship between trait EI and job performance. To our knowledge, this is the first study to explore this relationship with mediation methodology. We believe that this approach is important to understand the crucial role of trait EI on job performance.

Lastly, for the first time in the literature, we used a factor-analytic statistical technique (i.e., CFA) to analyse belimp data. The findings supported our proposed model, that is, the 15-life domains can be clustered into three domain clusters: Being, Belonging, and Becoming. This approach helped us to study the belimp theory effectively, as shown in Chapter 5.

7.4–Implications for Policy and Practice

One of the issues in the international personality psychology field is the lack of reliable measures in certain countries. Kuwait is not exempt from that. Our scoping review showed that most adapted personality measures are outdated or focused on personality traits that are less useful for policymakers (e.g., shyness). This could partly explain why policymakers pay less attention to personality traits, as demonstrated in Study 2 of Chapter 4.

Consequently, we wanted to develop and test personality measures that would be valuable for policymakers. One measure we selected was the TEIQue-SF, which is used to assess trait EI. Trait EI has been shown to play a significant role in areas such as academic achievement (Petrides et al., 2004 Petrides et al., 2018), psychopathology (Petrides et al., 2017), and job performance

(Hjalmarsson & Daderman, 2022; Li et al., 2018) in various settings such as education, clinical and organizational settings. Therefore, it is important to have a valid measurement tool for trait EI to determine if training is necessary and effective.

In addition, we adapted the belimp inventory as the measurement vehicle for belimp theory. This theory is important to policymakers and in different practices because it offers significant utility and incremental validity in predicting an individual's behaviour over standard personality inventories (Petrides, 2011a). It also allows them to understand the public beliefs and attitudes toward a certain life domain so that they can tailor their policies to address the needs and concerns of the individuals. Policymakers can apply behaviour modification strategies to benefit their constituents, for example, by influencing the latter's standing on one or both belimp coordinates. According to the theory, if the policymakers can help magnify the belief and importance of education in the individual, they could enhance his or her motivation and eventually their overall attainment. For example, policymakers can leverage the belimp theory to change the attitudes of students, teachers, and parents toward cheating in education through emphasising the negative consequences of cheating and encouraging them to develop a sense of personal responsibility for their own actions. This could be done by launching a public awareness campaign that focuses on the consequences of cheating and the importance of academic integrity.

We also introduced a novel implicit personality measurement method, which can help us to identify personality traits that people are unwilling to report through self-report measures (i.e., explicit measures). The contributions in Chapter 6 will benefit policymakers in Kuwait as well as the international context because several organisations rely on psychological measures and other job-related qualifications to hire certain staff members (e.g., leaders). In fact, this is not surprising as certain personality traits (e.g., trait EI) showed significant predictive effects on job performance (Sackett et al., 2021). Accordingly, some participants may provide desirable responses to obtain higher trait EI scores (Siegling, Nielsen, et al., 2014) in order to secure a position in a certain job. Therefore, there is a need for an indirect measurement tool that can offer another view of one's personality traits, which was offered in Chapter 6 of this dissertation.

Clearly, it is difficult for policymakers to consider the importance of personality traits in different settings if no valid measurement tools are provided. We believe that the measures adapted in this dissertation can help policymakers to study people's personality traits, make decisions based on them, and provide training where needed. Unsurprisingly, research showed that certain personality traits are important for certain jobs. For example, research showed that trait EI plays a significant role in the selection and advancement of managers with different samples (Siegling, Nielsen, et al., 2014; Siegling, Sfeir, et al., 2014).

7.5–Implications for Future Research

Several directions for future research can be identified based on our findings, which go beyond the promotion of cross-cultural comparative studies.

In Chapter 3, we summarised the current status of personality-related adapted measures in Kuwait. This summary can guide researchers in two potential directions. The first direction is similar to the one followed here: the need to adapt well-established measures to Kuwaiti-Arabic culture. The second direction is to revisit the psychometric properties of the current adapted measures, as most of them are outdated.

In Chapters 4, 5, and 6, we provided comprehensive tools to assess trait EI, belimp theory, and implicit personality, respectively. The measures presented in these chapters were adapted and validated following the most comprehensive and updated cross-cultural adaptation guidelines. This, in fact, is also a big contribution to Kuwaiti psychology, as it promotes the research of these novel constructs across different settings in the country.

Two more important directions can also be pinpointed from the results of Chapter 6. As we discussed earlier in the chapter, one is the need to rethink about the concept of reliability (esp., internal consistency) of implicit data. That said, future researchers should revisit the meaning of the reliability in this context. Also, they should consider coming up with a better methodology to assess and interpret the internal consistency of the scores. Another direction is the study of the meaning of the implicit aspects of the Big Five and trait EI. Our

results clearly indicated no correlation between explicit and implicit measures, which raises the question of what implicit personality reflects. We believe that they refer to the unconscious and automatic aspects of a person's personality, which are deeply ingrained in an individual and unconsciously influence their behaviour and thought patterns. Frankly, we believe that these two directions can be thought of as PhD projects in their own night.

7.6–Limitations and Strengths of the Research

The detailed limitations of the studies included in our dissertation are discussed in their respective chapters. They mainly related to sampling methods, sample characteristics, and measurement methods.

The sampling method restrictions apply to all studies included in our dissertation. As discussed earlier, we relied on non-probability sampling methods (e.g., convenience and non-proportional quota sampling methods). However, these sampling methods were appropriate for our study design, as we wanted to recruit as large as possible a sample size with a restricted time frame and funds (Galloway, 2005). Yet, these methods have a high degree of bias, which threatens the validity of the results obtained in our studies. In addition, it limits us from generalising our findings to the general population.

As shown earlier, some of the samples included in this dissertation were highly heterogenous regarding participants characteristics (e.g., Study 2 of Chapter 4), while in others they were highly homogenous (e.g., Study 1 of Chapter 4). We justified in Chapter 4 why we did not perform a factor analysis

with the professional sample of Study 2, which was due to the heterogeneity of the sample, as they comprise several professions, and also because there is trait EI non-invariance across different professions. With that being said, we were confident to proceed with some analyses (e.g., factor analysis of TEIQue-SF in Study 1 of Chapter 4) when the sample was less heterogenous, and the construct showed invariance among key demographic variables (e.g., age and gender) as recommended in the literature. However, due to the dearth of literature on construct invariance in implicit personality (Chapter 6), the argument that other sociodemographic variables may possibly confound the obtained results cannot be eliminated. Hence, we encourage future researchers to fill this gap in the implicit personality assessment literature.

Undoubtedly, self-report measures are the most common and simple way to collect data from participants. In this dissertation, we relied on this measurement method to validate our adapted measures. This method can threaten our findings' validity, especially if the criterion's psychometric properties are problematic. Clearly, the Kuwaiti NEO-FFI was one of the key criteria in this dissertation, and unfortunately, the internal consistency of two of its dimensions were less than desirable. These low reliabilities affect the correlations between this criterion and our target-adapted measures throughout the present dissertation. Accordingly, we conducted another study (i.e., Study 2 of Chapter 4) with different criteria to assess the criterion-related validity of the Kuwaiti-Arabic TEIQue-SF.

Furthermore, relying on self-report measures may threat the validity of our findings due to the common-method variance (Kock et al., 2021). The common-method variance issue refers to a potential bias or error in research studies that arises from the shared method or measurement used to collect data. It occurs when the variance in responses is primarily attributed to the method of measurement rather than the constructs being studied. However, to minimise the effect of the common-method variance, the self-report measures were presented in certain way. That said, we used different scales and answer formats for Belimp inventory (a 0 to 100 percentage), NEO-FFI (5-Likert-type scale), and TEIQue-SF (i.e., 7-Likert-type scale). Also, we presented each measure in separated sections on Qualtrics.

On the other hand, the strengths of this dissertation are multiple. Clearly, Kuwait is an underrepresented country in the international personality literature. One reason for this is the dearth of valid and reliable instruments to measure the corresponding constructs presented in the current dissertation. Hence our first aim was to adapt and validate personality instruments that allow researchers to study personality in Kuwait. This contributes to the international psychology literature in general and to the personality literature specifically, opening the possibilities for the intensive research of these constructs in the Kuwaiti context.

Second, we applied relatively modern and sophisticated data-analytic approaches throughout this dissertation. For instance, we implemented the bi-factor ESEM approach to study the factorial structure of the TEIQue-SF as

presented in Study 1 of Chapter 4. In addition, we proposed a mediation model to study the role of trait EI in organisational settings, presented in Study 2 of Chapter 4. Also, we performed factor analysis with belimp data in Chapter 5, which, as far as we know, is the first attempt in the literature.

Third, the sample size was sufficiently large to carry out all statistical analyses as intended. We believe that our implicit personality dataset is amongst the largest in the literature, especially in the Arabic world. Large sample sizes are considered an advantage in statistical analysis as they result in increased precision and stability of the estimates obtained (Polit & Beck, 2012). In turn, this reduces the risk of type I and type II errors and improves the statistical power of the tests (Cohen, 1988).

Lastly, it is important to mention that although the main aim of this study was to adapt personality-related measures, we additionally contributed to two important personality paradigms. Briefly, we retained the four-factor model of trait EI as originally proposed by Petrides (2009) in Chapter 4, while we also presented the relationship between TEIQue-SF variables and other measures, such as the Big Five factors of personality and job-related variables. Additionally, we showed that there is no relationship between the explicit and implicit aspects of the Big Five personality factors and the four trait EI factors, which suggests that these two distinct methodologies tap into different concepts.

In conclusion, this dissertation has identified and addressed the limitations and strengths of the studies included in it. While limitations related to sampling

methods, sample characteristics, and measurement methods were discussed in their respective chapters, the strengths of this dissertation included the adaptation and validation of personality instruments for Kuwait, the application of modern data-analytic approaches, and the use of sufficiently large sample sizes to carry out all statistical analyses as intended. Furthermore, the present dissertation also made important contributions to the personality paradigms of trait EI and the Big Five personality factors, highlighting the need for future research to fill gaps in the literature and continue to advance the understanding of personality in different cultural contexts.

References

Abdel-Khalek, A. M., & Albana, H. Kh. (2014). [Alexithymia and Its Relation to the Big Five Factors of Personality Among a Sample of Kuwait University Students]. *Journal of Social Sciences, 42*(1), 11-41. Retrieved from https://search.mandumah.com/Record/513955

Abdel-Khalek, A. M., & Aljawhary, S. W. (2014). [Psychometric Properties of the Big Five Questionnaire for Children in A Sample of Kuwaitis]. *Journal of Social Sciences, 42*(3), 11-41. Retrieved from http://search.mandumah.com/Record/605290

Abdel-Khalek, A. M., Al-Shatty, T. S., Al-Theeb, S. A., Abbas, S. H., Yousef, S. Y., Al-Thweiny, N. M., & Al-Saeedy, N. G. (2003). [Happiness in Kuwaiti samples]. *Derasat Nafsiyah*, *13*(4), 581-612. Retrieved from http://search.mandumah.com/Record/83939

Abdel-Khalek, A. M., & Lester, D. (2010). Constructions of religiosity, subjective well-being, anxiety, and depression in two cultures: Kuwait and USA. *International Journal of Social Psychiatry*, *58*(2), 138–145. https://doi.org/10.1177/0020764010387545

Abdul-Mageed, M., Alhuzali, H., & Elaraby, M. (2018). You Tweet What You Speak: A City-Level Dataset of Arabic Dialects. In *Proceedings of the Eleventh International Conference on Language Resources and Evaluation (LREC 2018)*. European Language Resources Association (ELRA). Retrieved from https://aclanthology.org/L18-1577/

Abe, K., Evans, P., Austin, E. J., Suzuki, Y., Fujisaki, K., Niwa, M., & Aomatsu, M. (2013). Expressing one's feelings and listening to others increases emotional intelligence: a pilot study of Asian medical students. *BMC Medical Education*, *13*(1). https://doi.org/10.1186/1472-6920-13-82

Abe, K., Niwa, M., Fujisaki, K., & Suzuki, Y. (2018). Associations between emotional intelligence, empathy and personality in Japanese medical students. *BMC Medical Education*, *18*(1). https://doi.org/10.1186/s12909-018-1165-7

Abe, K., Wakabayashi, H., Saiki, T., Kawakami, C., Fujisaki, K., Niwa, M., & Suzuki, Y. (2012). Validity and reliability of the Japanese versions of the Trait Emotional Intelligence Questionnaire-Short Form and the Jefferson Scale of Physician Empathy. *Medical Education*, 351-359. Retrieved from https://www.jstage.jst.go.jp/article/mededjapan/43/5/43_351/_article/-char/ja/

Al-Ajmi, R. (2006). The effect of gender on job satisfaction and organisational commitment in Kuwait. *International Journal of Management*, *23*(4), 838. Retrieved from https://www.proquest.com/docview/233230449

Al-Balhan, E. M. (2006). The Children's Depression Inventory as a reliable measure for post-Iraqi invasion Kuwaiti youth. *Social Behavior and Personality: An International Journal, 34*(4), 351–366. https://doi.org/10.2224/sbp.2006.34.4.351

Al-Dassean, K. A. (2023). Psychometric properties of the Arabic version of the Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF). *Cogent Psychology*, *10*(1). https://doi.org/10.1080/23311908.2023.2171184

Al-Eidan, M. A. (2019a). [Alexithymia" and Emotional Intelligence: Exploratory Factorial Study]. *The Arabic Journal of Art and Humanities, 0*(10), 31-62. Retrieved from http://search.mandumah.com/Record/993512

Al-Eidan, M. A. (2019b). [Alexithymia and its Relationship with Depression, Anxiety, and Stress]. *Dar Semat for Research, 8*(6), 14-25. Retrieved from http://search.mandumah.com/Record/1000273

Al-Mutairi, A., Naser, K., & Al-Enezi, M. (2017). Job Satisfaction among Academicians at Business Colleges Operating in Kuwait. *Asian Social Science*, *13*(12), 9. https://doi.org/10.5539/ass.v13n12p9

Al-Nasser, A. M., & Al-Enezy, M. (2018). The Big Five Factors of Personality and Its Relation to Emotional Intelligence among Leaders of Educational Institutions in the State of Kuwait. *Psychology*, *09*(07), 1680–1694. https://doi.org/10.4236/psych.2018.97099

Al-Sammak, A. (1994). *Female mental health and sociocultural change in Kuwait: stress, depression, and locus of control in traditional-modern female roles* [Unpublished doctoral dissertation, California School of Professional Psychology].

Al-Sammak, A. (2019). [Psychological security and its relationship with some psychological variables in a sample of students of Kuwait University]. *College of Arts Journal, 79*, 57-93. Retrieved from http://search.mandumah.com/Record/1088924

Alansari, B. M. (1993). *A Cross-Situational and A Cross-Cultural Examination of Shyness using Aggregation and Act-Frequency: Approaches in Britain and Kuwait.* [Unpublished doctoral dissertation, University of Aberdeen, Scotland].

Alansari, B. M. (1997). [The Psychometric Properties of NEO-FFI-S Based on the Kuwaiti Society]. *Educational Journal, 12*(42), 11-41. Retrieved from https://search.mandumah.com/Record/755320

Alansari, B. M. (1998). [The Kuwaiti Beck Depression Inventory]. *Derasat Nafsiyah, 7*(2), 277-310. Retrieved from https://search.mandumah.com/Record/10599

Alansari, B. M. (2001). [Emotional Dtates Among Kuwaitis and Egyptians: A Comparative Cultural Study]. *Journal of Gulf and Arabian Peninsula Studies, 27*(100), 159-205. Retrieved from http://search.mandumah.com/Record/53236

Alansari, B. M. (2002). [*The reference in personality measures: Measures adapted in Kuwait*]. Kuwait: Dar Al-Kitab Al-Hadith.

Alansari, B., & Alali, T. (2021). Psychometric properties of Eysenck personality questionnaire-revised (EPQ-R) short scale in Arabic among

undergraduates in Kuwait. *European Psychiatry*, *64*(Suppl 1), S751. https://doi.org/10.1192/j.eurpsy.2021.1990

Aldeqbasi, N. (2019, January 24). A Kuwaiti military leader confirms the importance of training courses in strengthening the military. *Kuwait News Agency (KUNA)*. https://www.kuna.net.kw/ArticlePrintPage.aspx?id=2772488&language=ar

AlDosiry, K. S., Alkhadher, O. H., AlAqraa', E. M., & Anderson, N. (2016). Relationships between emotional intelligence and sales performance in Kuwait. *Revista de Psicología Del Trabajo Y de Las Organizaciones*, *32*(1), 39–45. https://doi.org/10.1016/j.rpto.2015.09.002

Alhabeb, T. M. (2001). [The Most Common Psychological and Behavioral Problems among High School Female Students in Kuwait]. *The Journal of Educational Scientific Research, 18*(6), 295-309. Retrieved from https://search.mandumah.com/Record/876227

Alkhadher O. (2007). Emotional intelligence and psychological health in a sample of Kuwaiti college students. *Perceptual and motor skills*, *104*(3 Pt 1), 923–936. https://doi.org/10.2466/pms.104.3.923-936

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology, 63*(1), 1–18. https://doi.org/10.1111/j.2044-8325.1990.tb00506.x

Almutairi, S., Heller, M., & Yen, D. (2020). Reclaiming the heterogeneity of the Arab states. *Cross Cultural & Strategic Management*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/ccsm-09-2019-0170

Alsalman, R. B., & Alansari, B. M. (2019). [Psychometric Properties of the Kuwaiti's Version of Beck Scale for Suicide Ideation: Study on a Sample of Kuwait University Undergraduates]. *Journal of Educational and Psychological Sciences, 20*(1), 375-409. Retrieved from http://search.mandumah.com/Record/967493

Altawari, S. M. (2018). [Social Phobia among Adolescents in Kuwait]. *The Arabic Journal of Educational and Psychological Sciences, 0*(2), 47-68. Retrieved from https://search.mandumah.com/Record/863840

Aluja, A., Blanch, A., & Petrides, K. V. (2016). Psychometric properties of the Catalan version of the Trait Emotional Intelligence (TEIQue): Comparison between Catalan and English data. *Personality and Individual Differences, 99,* 133–139. https://doi.org/10.1016/j.paid.2016.04.098

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (Eds.). (2014). *Standards for educational and psychological testing*. American Educational Research Association.

Andrei, F., Smith, M. M., Surcinelli, P., Baldaro, B., & Saklofske, D. H. (2016). The Trait Emotional Intelligence Questionnaire: Internal Structure, Convergent, Criterion, and Incremental Validity in an Italian Sample.

Measurement and Evaluation in Counseling and Development, 49(1), 34–45. https://doi.org/10.1177/0748175615596786

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a Methodological Framework. *International Journal of Social Research Methodology*, *8*(1), 19–32. https://doi.org/10.1080/1364557032000119616

Asad, S., & Sadler-Smith, E. (2020). Differentiating leader hubris and narcissism on the basis of power. *Leadership*, *16*(1), 39–61. https://doi.org/10.1177/1742715019885763

Ashkanasy, N. M., & Dorris, A. D. (2017). Emotions in the Workplace. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 67–90. https://doi.org/10.1146/annurev-orgpsych-032516-113231

Ashouri, A., Farokhnezhad Afshar, P., Alimoradi, H., & Talebizadeh, M. (2021). Psychometric Properties of the Persian Version of the Trait Emotional Intelligence Questionnaire (TEIQUE) in Students of Selected Universities in Tehran in 2016. *Iranian Journal of Psychiatry and Clinical Psychology*. https://doi.org/10.32598/ijpcp.27.4.3123.1

Asparouhov, T., & Muthén, B. (2009). Exploratory Structural Equation Modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, *16*(3), 397–438. https://doi.org/10.1080/10705510903008204

Austin, E. J. (2004). An investigation of the relationship between trait emotional intelligence and emotional task performance. *Personality and Individual Differences*, *36*(8), 1855–1864. https://doi.org/10.1016/j.paid.2003.07.006

Back, M. D., Schmukle, S. C., & Egloff, B. (2009). Predicting actual behavior from the explicit and implicit self-concept of personality. *Journal of Personality and Social Psychology*, *97*(3), 533–548. https://doi.org/10.1037/a0016229

Bader, M., Jobst, L. J., & Moshagen, M. (2022). Sample size requirements for bifactor models. *Structural Equation Modeling, 29*(5), 772–783. https://doi.org/10.1080/10705511.2021.2019587

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W H Freeman/Times Books/ Henry Holt & Co.

Bar-On, R. (2004). The Bar-On Emotional Quotient Inventory (EQ-i): Rationale, description and summary of psychometric properties. In G. Geher (Ed.), *Measuring emotional intelligence: Common ground and controversy* (pp. 115–145). Nova Science Publishers.

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, *25*(24), 3186–3191. https://doi.org/10.1097/00007632-200012150-00014

Beck, A. T. & Steer, R. A. (1993b). *Manual for the Beck Depression Inventory*. San Antonio, TX: Psychological Corporation

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An Inventory for Measuring Depression. *Archives of General Psychiatry*, *4*(6), 561–571. https://doi.org/10.1001/archpsyc.1961.01710120031004

Behr, D. (2016). Assessing the use of back translation: the shortcomings of back translation as a quality testing method. *International Journal of Social Research Methodology*, *20*(6), 573–584. https://doi.org/10.1080/13645579.2016.1252188

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, *42*(2), 155–162. https://doi.org/10.1037/h0036215

Ben-Nun, P. (2008). Respondent fatigue. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods* (2008). Sage Publications, Inc. https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods/n480.xml

Bhullar, N., Schutte, N. S., & Malouff, J. M. (2012). Associations of individualistic-collectivistic orientations with emotional intelligence, mental health, and satisfaction with life: A tale of two countries. *Individual Differences Research, 10*(3), 165–175. Retrieved from https://psycnet.apa.org/record/2012-26587-005

Bond, A. L. (2016). *Trait Emotional Intelligence Differences in Pre-Career and Mid-Career United States Military Leaders.* (Thesis, Auburn University).

Bonomi, A. E., Cella, D. F., Hahn, E. A., Bjordal, K., Sperner-Unterweger, B., Gangeri, L., Bergman, B., Willems-Groot, J., Hanquet, P., & Zittoun, R. (1996). Multilingual translation of the Functional Assessment of Cancer

Therapy (FACT) quality of life measurement system. *Quality of Life Research*, *5*(3), 309–320. https://doi.org/10.1007/bf00433915

Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Cross-cultural adaptation and validation of psychological instruments: some considerations. *Paidéia (Ribeirão Preto)*, *22*(53), 423–432. https://doi.org/10.1590/S0103-863X2012000300014

Boyle, G. J., Saklofske, D. H., & Matthews, G. (2015). *Measures of personality and social psychological constructs* (pp. 752–776). Academic Press, An Imprint of Elsevier.

Brannick, M. T., Wahi, M. M., Arce, M., Johnson, H.-A., Nazian, S., & Goldin, S. B. (2009). Comparison of trait and ability measures of emotional intelligence in medical students. *Medical Education*, *43*(11), 1062–1068. https://doi.org/10.1111/j.1365-2923.2009.03430.x

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of Personality*, *54*(1), 106–148. https://doi.org/10.1111/j.1467-6494.1986.tb00391.x

Brown, T. A. (2015). *Confirmatory factor analysis for applied research.* The Guilford Press.

Browne, M. W. (2001). An Overview of Analytic Rotation in Exploratory Factor Analysis. *Multivariate Behavioral Research*, *36*(1), 111–150. https://doi.org/10.1207/s15327906mbr3601_05

Browne, M. W., & Cudeck, R. (1992). Alternative Ways of Assessing Model Fit. Sociological Methods & Research, 21(2), 230–258. https://doi.org/10.1177/0049124192021002005

Bourgeon, L., Bensalah, M., Vacher, A., Ardouin, J.-C., & Debien, B. (2015). Role of emotional competence in residents' simulated emergency care performance: a mixed-methods study. *BMJ Quality & Safety*, *25*(5), 364–371. https://doi.org/10.1136/bmjqs-2015-004032

Buck, A., & Smith, M. (2014). The Importance of Family and Friends in Advice-Seeking for Rights Problems. *Social Policy and Society*, *14*(2), 175–188. https://doi.org/10.1017/s1474746414000141

Burke, J. D., Boylan, K., Rowe, R., Duku, E., Stepp, S. D., Hipwell, A. E., & Waldman, I. D. (2014). Identifying the irritability dimension of ODD: Application of a modified bifactor model across five large community samples of children. *Journal of abnormal psychology*, *123*(4), 841–851. https://doi.org/10.1037/a0037898

Cardoso-Pulido, M. J., Guijarro-Ojeda, J. R., & Pérez-Valverde, C. (2022). A Correlational Predictive Study of Teacher Well-Being and Professional Success in Foreign Language Student Teachers. *Mathematics*, *10*(10), 1720. https://doi.org/10.3390/math10101720

Cai, L. (2013). Factor analysis of tests and items. In K. F. Geisinger, B. A. Bracken, J. F. Carlson, J.-I. C. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez (Eds.), *APA handbook of testing and assessment in*

psychology, Vol. 1. Test theory and testing and assessment in industrial and organizational psychology (pp. 85–100). American Psychological Association. https://doi.org/10.1037/14047-005

Carmeli, A. (2003). The relationship between emotional intelligence and work attitudes, behavior and outcomes. *Journal of Managerial Psychology*, *18*(8), 788–813. https://doi.org/10.1108/02683940310511881

Carpenter, T. P., Pogacar, R., Pullig, C., Kouril, M., Aguilar, S., LaBouff, J., Isenberg, N., & Chakroff, A. (2019). Survey-software implicit association tests: A methodological and empirical analysis. *Behavior Research Methods*, *51*(5), 2194–2208. https://doi.org/10.3758/s13428-019-01293-3

Cattell, R. B. (1973). *Personality and mood by questionnaire.* Jossey-Bass.

Chamizo-Nieto, M. T., Arrivillaga, C., Rey, L., & Extremera, N. (2021). The Role of Emotional Intelligence, the Teacher-Student Relationship, and Flourishing on Academic Performance in Adolescents: A Moderated Mediation Study. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.695067

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41*(2), 330–339. https://doi.org/10.1037/0022-3514.41.2.330

Cheek, J.M., & Melchior, L.A. (1985). *Measuring the Three Components of Shyness*. In M.H. Davis & S.L. Franzoi (Co-chairs), Emotion, Personality,

and Personal Well-Being II. Symposium conducted at the annual convention of the American Psychological Association, Los Angeles.

Chen, J., Chiu, C.-Y., Roese, N. J., Tam, K.-P., & Lau, I. Y.-M. (2006). Culture and Counterfactuals. *Journal of Cross-Cultural Psychology*, *37*(1), 75–84. https://doi.org/10.1177/0022022105282296

Cherniss, C., & Goleman, D. (2001). *The emotionally intelligent workplace : how to select for, measure, and improve emotional intelligence in individuals, groups, and organizations*. Jossey-Bass.

Chirumbolo, A., Picconi, L., Morelli, M., & Petrides, K. V. (2019). The Assessment of Trait Emotional Intelligence: Psychometric Characteristics of the TEIQue-Full Form in a Large Italian Adult Sample. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.02786

Church, A. T., & Burke, P. J. (1994). Exploratory and confirmatory tests of the Big Five and Tellegen's three- and four-dimensional models. *Journal of Personality and Social Psychology, 66*(1), 93–114. https://doi.org/10.1037/0022-3514.66.1.93

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). L. Erlbaum Associates.

Costa, P. T., Jr., & McCrae, R. R. (2008). The Revised NEO Personality Inventory (NEO-PI-R). In G. J. Boyle, G. Matthews, & D. H. Saklofske (Eds.), *The SAGE handbook of personality theory and assessment, Vol. 2.*

Personality measurement and testing (pp. 179–198). Sage Publications, Inc. https://doi.org/10.4135/9781849200479.n9

Credé, M., Harms, P., Niehorster, S., & Gaye-Valentine, A. (2012). An evaluation of the consequences of using short measures of the Big Five personality traits. *Journal of personality and social psychology*, *102*(4), 874–888. https://doi.org/10.1037/a0027403

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297–334. https://doi.org/10.1007/bf02310555

Cummins, R. A. (1996). The domains of life satisfaction: An attempt to order chaos. *Social Indicators Research*, *38*(3), 303–328. https://doi.org/10.1007/bf00292050

Cummins, R. A. (2005). Moving from the quality of life concept to a theory. *Journal of Intellectual Disability Research*, *49*(10), 699–706. https://doi.org/10.1111/j.1365-2788.2005.00738.x

De Cuyper, K., De Houwer, J., Vansteelandt, K., Perugini, M., Pieters, G., Claes, L., & Hermans, D. (2017). Using Indirect Measurement Tasks to Assess the Self-concept of Personality: A Systematic Review and Meta-analyses. *European Journal of Personality*, *31*(1), 8–41. https://doi.org/10.1002/per.2092

De Houwer, J., & De Bruycker, E. (2007). The implicit association test outperforms the extrinsic affective Simon task as an implicit measure of inter-individual differences in attitudes. *The British journal of social*

psychology, *46*(Pt 2), 401–421. https://doi.org/10.1348/014466606X130346

DeMars, C. E. (2013). A Tutorial on Interpreting Bifactor Model Scores. *International Journal of Testing*, *13*(4), 354–378. https://doi.org/10.1080/15305058.2013.799067

Deniz, M. E., Özer, E., & Isik, E. (2013). Trait Emotional Intelligence Questionnaire-Short Form: Validity and Reliability Studies. *Egitim Ve Bilim, 38*(169) https://www.proquest.com/scholarly-journals/trait-emotional-intelligence-questionnaire-short/docview/1428312465/se-2

Di Fabio, A., Saklofske, D. H., & Tremblay, P. F. (2016). Psychometric properties of the Italian trait emotional intelligence questionnaire (I-TEIQue). *Personality and Individual Differences*, *96*, 198–201. https://doi.org/10.1016/j.paid.2016.03.009

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of personality and social psychology*, *69*(5), 851–864. https://doi.org/10.1037//0022-3514.69.5.851

Diener, E., Thapa, S., & Tay, L. (2020). Positive Emotions at Work. *Annual Review of Organizational Psychology and Organizational Behavior*, *7*(1), 451–477. https://doi.org/10.1146/annurev-orgpsych-012119-044908

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41,* 417–440. https://doi.org/10.1146/annurev.ps.41.020190.002221

Dissou, G. (2010). *The role of trait emotional intelligence (EI) in the workplace* [Doctoral Thesis *The role of trait emotional intelligence (EI) in the workplace*]. https://discovery.ucl.ac.uk/id/eprint/10006505/

Dugger, Z., Petrides, K. V., Carnegie, N., & McCrory, B. (2022). Trait emotional intelligence in American pilots. *Scientific Reports*, *12*(1). https://doi.org/10.1038/s41598-022-18868-4

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*(1), 109–132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Eccles, J. S. [Parsons], J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgley, C. (1983). Expectations, values and academic behaviors. In J. T. Spence (Ed.), *Perspective on achievement and achievement motivation* (pp. 75–146). San Francisco: W. H. Freeman.

Eid, M., Geiser, C., Koch, T., & Heene, M. (2017). Anomalous results in *G* -factor models: Explanations and alternatives. *Psychological Methods, 22*(3), 541–562. https://doi.org/10.1037/met0000083

Elizur, D., Kantor, J., Yaniv, E., & Sagie, A. (2008). Importance of Life Domains in Different Cultural Groups. *The American Journal of Psychology*, *121*(1), 35. https://doi.org/10.2307/20445442

Epstein, J., Santo, R. M., & Guillemin, F. (2015). A review of guidelines for cross-cultural adaptation of questionnaires could not bring out a

consensus. *Journal of Clinical Epidemiology*, *68*(4), 435–441. https://doi.org/10.1016/j.jclinepi.2014.11.021

Ercikan, K., & Por, H. H. (2020). Comparability in Multilingual and Multicultural Assessment Contexts. In *Comparability of Large-Scale Educational Assessments: Issues and Recommendations* (pp. 205–225). National Academy of Education.

Feher, A., Yan, G., Saklofske, D. H., Plouffe, R. A., & Gao, Y. (2019). An Investigation of the Psychometric Properties of the Chinese Trait Emotional Intelligence Questionnaire Short Form (Chinese TEIQue-SF). *Frontiers in psychology*, *10*, 435. https://doi.org/10.3389/fpsyg.2019.00435

Fernandez, C. S. P. (2007). Emotional Intelligence in the Workplace. *Journal of Public Health Management and Practice*, *13*(1), 80–82. https://doi.org/10.1097/00124784-200701000-00013

Finch, W. H. (2020). Using Fit Statistic Differences to Determine the Optimal Number of Factors to Retain in an Exploratory Factor Analysis. *Educational and Psychological Measurement*, *80*(2), 217–241. https://doi.org/10.1177/0013164419865769

Frayne, C. A., & Geringer, J. M. (2000). Self-management training for improving job performance: A field experiment involving salespeople. *Journal of Applied Psychology*, *85*(3), 361–372. https://doi.org/10.1037/0021-9010.85.3.361

Frederickson, N., Petrides, K. V., & Simmonds, E. (2012). Trait emotional intelligence as a predictor of socioemotional outcomes in early adolescence. *Personality and Individual Differences, 52*(3), 323–328. https://doi.org/10.1016/j.paid.2011.10.034

Freudenthaler, H. H., Neubauer, A. C., Gabler, P., Scherl, W. G., & Rindermann, H. (2008). Testing and validating the trait emotional intelligence questionnaire (TEIQue) in a German-speaking sample. *Personality and Individual Differences*, *45*(7), 673–678. https://doi.org/10.1016/j.paid.2008.07.014

Fricker, R. (2008). Sampling methods for web and e-mail surveys. SAGE Publications, Ltd, https://doi.org/10.4135/9780857020055

Fuchs, C., & Diamantopoulos, A. (2009). Using single-item measures for construct measurement in management research: Conceptual issues and application guidelines. *Die Betriebswirtschaft*, *69*(2), 195. Retrieved from https://www.proquest.com/docview/750491294?pq-origsite=gscholar&fromopenview=true

Furr, M. (2011). *Scale construction and psychometrics for social and personality psychology*. SAGE publications ltd.

Gadelrab, H. F. (2018). An Investigation of Differential Relationships of Implicit and Explicit Aggression: Validation of an Arabic Version of the Conditional Reasoning Test for Aggression. *Journal of Personality*

Assessment, *101*(6), 609–620. https://doi.org/10.1080/00223891.2018.1501695

Galloway, A. (2005). Non-Probability Sampling. *Encyclopedia of Social Measurement*, *2*, 859–864. https://doi.org/10.1016/b0-12-369398-5/00382-0

Gardner, B., & Lally, P. (2012). Does intrinsic motivation strengthen physical activity habit? Modeling relationships between self-determination, past behaviour, and habit strength. *Journal of Behavioral Medicine*, *36*(5), 488–497. https://doi.org/10.1007/s10865-012-9442-0

Gardner, K. J., & Qualter, P. (2010). Concurrent and incremental validity of three trait emotional intelligence measures. *Australian Journal of Psychology, 62*(1), 5–13. https://doi.org/10.1080/00049530903312857

Gawronski, B., & Bodenhausen, G. V. (2014). The associative—Propositional evaluation model: Operating principles and operating conditions of evaluation. In J. W. Sherman, B. Gawronski, & Y. Trope (Eds.), *Dual-process theories of the social mind* (pp. 188–203). The Guilford Press.

Geisinger, K. F. (1994). Cross-cultural normative assessment: Translation and adaptation issues influencing the normative interpretation of assessment instruments. *Psychological Assessment, 6*(4), 304–312. https://doi.org/10.1037/1040-3590.6.4.304

Geisinger, K. F. (2013). Reliability. In K. F. Geisinger, B. A. Bracken, J. F. Carlson, J.-I. C. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez

(Eds.), *APA handbook of testing and assessment in psychology, Vol. 1. Test theory and testing and assessment in industrial and organizational psychology* (pp. 21–42). American Psychological Association. https://doi.org/10.1037/14047-002

Geisinger, K. F., Bracken, B. A., Carlson, J. F., Hansen, J.-I. C., Kuncel, N. R., Reise, S. P., & Rodriguez, M. C. (Eds.). (2013). *APA handbook of testing and assessment in psychology, Vol. 1. Test theory and testing and assessment in industrial and organizational psychology.* American Psychological Association. https://doi.org/10.1037/14047-000

Gerdy, Kristin B., "The Heart of Lawyering: Clients, Empathy, and Compassion" (2013). Vol. 3: Religious Conviction. 24. https://digitalcommons.law.byu.edu/life_law_vol3/24

Gökçen, E., Furnham, A., Mavroveli, S., & Petrides, K. V. (2014). A cross-cultural investigation of trait emotional intelligence in Hong Kong and the UK. *Personality and Individual Differences*, *65*, 30–35. https://doi.org/10.1016/j.paid.2014.01.053

Gómez-Leal, R., Holzer, A. A., Bradley, C., Fernández-Berrocal, P., & Patti, J. (2021). The relationship between emotional intelligence and leadership in school leaders: a systematic review. *Cambridge Journal of Education*, *52*(1), 1–21. https://doi.org/10.1080/0305764x.2021.1927987

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*(1), 4–27. https://doi.org/10.1037/0033-295X.102.1.4

Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., & Mellott, D. S. (2002). A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review, 109*(1), 3–25. https://doi.org/10.1037/0033-295X.109.1.3

Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, *79*(6), 1022–1038. https://doi.org/10.1037/0022-3514.79.6.1022

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480. https://doi.org/10.1037/0022-3514.74.6.1464

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*(2), 197–216. https://doi.org/10.1037/0022-3514.85.2.197

Gregory, R. J. (2014). *Psychological testing: history, principles, and applications*. Pearson.

Grumm, M., & von Collani, G. (2007). Measuring Big-Five personality dimensions with the implicit association test – Implicit personality traits or self-esteem? *Personality and Individual Differences*, *43*(8), 2205–2217. https://doi.org/10.1016/j.paid.2007.06.032

Gudmundsson, E. (2009). Guidelines for translating and adapting psychological instruments. *Nordic Psychology*, *61*(2), 29–45. https://doi.org/10.1027/1901-2276.61.2.29

Guillemin, F., Bombardier, C., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: Literature review and proposed guidelines. *Journal of Clinical Epidemiology*, *46*(12), 1417–1432. https://doi.org/10.1016/0895-4356(93)90142-n

Gunkel, M., Schlägel, C., & Engle, R. L. (2014). Culture's Influence on Emotional Intelligence: An Empirical Study of Nine Countries. *Journal of International Management*, *20*(2), 256–274. https://doi.org/10.1016/j.intman.2013.10.002

Habash, N. Y. (2010). Introduction to Arabic Natural Language Processing. In *Synthesis Lectures on Human Language Technologies*. Springer International Publishing. https://doi.org/10.1007/978-3-031-02139-8

Hadi, F., Llabre, M. M., & Spitzer, S. (2006). Gulf war-related trauma and psychological distress of Kuwaiti children and their mothers. *Journal of Traumatic Stress*, *19*(5), 653–662. https://doi.org/10.1002/jts.20153

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis*. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.

Hallquist, M. N., & Wiley, J. F. (2018). *MplusAutomation*: An *R* Package for Facilitating Large-Scale Latent Variable Analyses in *Mplus*. *Structural equation modeling : a multidisciplinary journal*, *25*(4), 621–638. https://doi.org/10.1080/10705511.2017.1402334

Hambleton, R. K. (2001). The Next Generation of the ITC Test Translation and Adaptation Guidelines. *European Journal of Psychological Assessment*, *17*(3), 164–172. https://doi.org/10.1027//1015-5759.17.3.164

Hambleton, R. K., Merenda, P. F., & Spielberger, C. D. (2004). Issues, designs, and technical guidelines for adapting tests into multiple languages and cultures. In *Adapting educational and psychological tests for cross-cultural assessment* (pp. 15-50). Psychology Press.

Hambleton, R. K., & Patsula, L. (1998). Adapting tests for use in multiple languages and cultures. *Social Indicators Research*, *45*(1/3), 153–171. https://doi.org/10.1023/a:1006941729637

Harb, C. (2015). The Arab region: Cultures, values, and identities. In *Handbook of Arab American psychology* (pp. 23-38). Routledge.

Haynes, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment, 7*(3), 238–247. https://doi.org/10.1037/1040-3590.7.3.238

Heiman, T., & Olenik-Shemesh, D. (2019). Perceived Body Appearance and Eating Habits: The Voice of Young and Adult Students Attending Higher Education. *International Journal of Environmental Research and Public Health*, *16*(3), 451. https://doi.org/10.3390/ijerph16030451

Heinrich, M., Geiser, C., Zagorscak, P., Burns, G. L., Bohn, J., Becker, S. P., Eid, M., Beauchaine, T. P., & Knaevelsrud, C. (2021). On the Meaning of the "P Factor" in Symmetrical Bifactor Models of Psychopathology: Recommendations for Future Research From the Bifactor-(S–1) Perspective. Assessment, 0(0). https://doi.org/10.1177/10731911211060298

Hensel, E. (2001). Is Satisfaction a Valid Concept in the Assessment of Quality of Life of People with Intellectual Disabilities? A Review of the Literature. *Journal of Applied Research in Intellectual Disabilities*, *14*(4), 311–326. https://doi.org/10.1046/j.1468-3148.2001.00081.x

Henson, R. K. (2001). Understanding Internal Consistency Reliability Estimates: A Conceptual Primer on Coefficient Alpha. *Measurement and Evaluation in Counseling and Development*, *34*(3), 177–189. https://doi.org/10.1080/07481756.2002.12069034

Herdman, M., Fox-Rushby, J., & Badia, X. (1998). A model of equivalence in the cultural adaptation of HRQoL instruments: the universalist approach. *Quality of life research : an international journal of quality of life*

aspects of treatment, care and rehabilitation, *7*(4), 323–335. https://doi.org/10.1023/a:1024985930536

Hernández, A., Hidalgo, M. D., Hambleton, R. K., & Gómez-Benito, J. (2020). International Test Commission guidelines for test adaptation: A criterion checklist. *Psicothema*, *32*(3), 390–398. https://doi.org/10.7334/psicothema2019.306

Hiller, N. J., & Hambrick, D. C. (2005). Conceptualizing executive hubris: the role of (hyper-)core self-evaluations in strategic decision-making. *Strategic Management Journal*, *26*(4), 297–319. https://doi.org/10.1002/smj.455

Hjalmarsson, A. K. V., & Dåderman, A. M. (2022). Relationship between emotional intelligence, personality, and self-perceived individual work performance: A cross-sectional study on the Swedish version of TEIQue-SF. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 41*(5), 2558–2573. https://doi.org/10.1007/s12144-020-00753-w

Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the implicit association test and explicit self-report measures. *Personality & social psychology bulletin*, *31*(10), 1369–1385. https://doi.org/10.1177/0146167205275613

Hofstede, G. (2001). *Culture's consequences: Comparing values, Behaviors, Institutions, and Organizations across Nations* (2nd ed.). Sage.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind, third edition* (3rd ed.). McGraw-Hill Professional.

Holland, P. W., & Wainer, H. (2012). *Differential item functioning*. Routledge.

Hopkins, N., Benstead, J., Wardle, M., & Divine, A. (2022). Associations between Motivation, Attitudes, and Habit Strength in Physical Activity Behaviour. *Journal of Physical Activity Research*, *7*(2), 74–80. https://doi.org/10.12691/jpar-7-2-1

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and Organizations : the GLOBE Study of 62 Societies*. Sage Publications.

Hu, L.-T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76–99). Sage Publications, Inc.

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hubley, A. M., & Zumbo, B. D. (2013). Psychometric characteristics of assessment procedures: An overview. In K. F. Geisinger, B. A. Bracken, J. F. Carlson, J.-I. C. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez (Eds.), *APA handbook of testing and assessment in psychology, Vol. 1. Test theory and testing and assessment in industrial and organizational*

psychology (pp. 3–19). American Psychological Association. https://doi.org/10.1037/14047-001

Humphrey, R. (2013). The Benefits of Emotional Intelligence and Empathy to Entrepreneurship. *Entrepreneurship Research Journal*, *3*(3), 287-294. https://doi.org/10.1515/erj-2013-0057

Hyland, P., Shevlin, M., Adamson, G., & Boduszek, D. (2013). The factor structure and composite reliability of the Profile of Emotional Distress. *The Cognitive Behaviour Therapist, 6*, E15. doi:10.1017/S1754470X13000214

IBM Corp. Released 2020. IBM SPSS Statistics for Macintosh, Version 27.0. Armonk, NY: IBM Corp

Ibrahim, M. (2022, July 12). A Kuwaiti solider was killed by his colleague. *Alqabas Newspaper*. https://www.alqabas.com/article/5888559

International Test Commission. (2017). *The ITC Guidelines for Translating and Adapting Tests (Second edition)*. [www.InTestCom.org]. Retrieved from https://www.intestcom.org/files/guideline_test_adaptation_2ed.pdf

Jacobs, I., Sim, C.-W., & Zimmermann, J. (2015). The German TEIQue-SF: Factorial structure and relations to agentic and communal traits and mental health. *Personality and Individual Differences, 72,* 189–194. https://doi.org/10.1016/j.paid.2014.09.003

James, L. R., & Lebreton, J. M. (2012). *Assessing the implicit personality through conditional reasoning*. American Psychological Association.

Jeanrie, C., & Bertrand, R. (1999). Translating Tests with the International Test Commission's Guidelines: Keeping Validity in Mind. *European Journal of Psychological Assessment*, *15*(3), 277–283. https://doi.org/10.1027//1015-5759.15.3.277

Job, V., Friese, M., & Bernecker, K. (2015). Effects of practicing self-control on academic performance. *Motivation Science*, *1*(4), 219–232. https://doi.org/10.1037/mot0000024

Johanson, G. A., & Brooks, G. P. (2009). Initial Scale Development: Sample Size for Pilot Studies. *Educational and Psychological Measurement*, *70*(3), 394–400. https://doi.org/10.1177/0013164409355692

Jolic-Marjanovic, Z., & Altaras-Dimitrijevic, A. (2014). Reliability, construct and criterion-related validity of the Serbian adaptation of the trait emotional intelligence questionnaire (TEIQue). *Psihologija*, *47*(2), 249–262. https://doi.org/10.2298/psi1402249j

Jones, N., Bartlett, H. E., & Cooke, R. (2018). An analysis of the impact of visual impairment on activities of daily living and vision-related quality of life in a visually impaired adult population. *British Journal of Visual Impairment*, *37*(1), 50–63. https://doi.org/10.1177/0264619618814071

Jones, W. H., & Russell, D. (1982). The Social Reticence Scale: an objective instrument to measure shyness. *Journal of personality assessment*, *46*(6), 629–631. https://doi.org/10.1207/s15327752jpa4606_12

Joseph, D. L., Jin, J., Newman, D. A., & O'Boyle, E. H. (2015). Why does self-reported emotional intelligence predict job performance? A meta-analytic investigation of mixed EI. *The Journal of applied psychology*, *100*(2), 298–342. https://doi.org/10.1037/a0037681

Judge, T. A., & Kammeyer-Mueller, J. D. (2012). Job Attitudes. *Annual Review of Psychology*, *63*(1), 341–367. https://doi.org/10.1146/annurev-psych-120710-100511

King, G. A., Cathers, T., Polgar, J. M., MacKinnon, E., & Havens, L. (2000). Success in Life for Older Adolescents with Cerebral Palsy. *Qualitative Health Research*, *10*(6), 734–749. https://doi.org/10.1177/104973200129118796

Kock, F., Berbekova, A., & Assaf, A. G. (2021). Understanding and managing the threat of common method bias: Detection, prevention and control. *Tourism Management*, *86*, 104330. https://doi.org/10.1016/j.tourman.2021.104330

Kovacs, M. (1978). *Children's Depression Inventory (CDI)* [Database record]. APA PsycTests. https://psycnet.apa.org/doi/10.1037/t00788-000

Krén, H., & Séllei, B. (2020). The Role of Emotional Intelligence in Organizational Performance. *Periodica Polytechnica Social and Management Sciences*, *29*(1), 1–9. https://doi.org/10.3311/ppso.15879

Kryukova, E. A., & Shestova, M. A. (2020). Emotional intelligence in the structure of a person's intellectual and personal potential: trait or ability? (adaptation of the short version of the TEIQue-SF questionnaire). *National*

Psychological Journal, *40*(4), 18–30. https://doi.org/10.11621/npj.2020.0402

Laborde, S., Allen, M. S., & Guillén, F. (2016). Construct and concurrent validity of the short- and long-form versions of the trait emotional intelligence questionnaire. *Personality and Individual Differences*, *101*, 232–235. https://doi.org/10.1016/j.paid.2016.06.009

Laborde, S., Guillén, F., & Watson, M. (2017). Trait emotional intelligence questionnaire full-form and short-form versions: Links with sport participation frequency and duration and type of sport practiced. *Personality and Individual Differences, 108,* 5–9. https://doi.org/10.1016/j.paid.2016.11.061

Lane, K. A., Banaji, M. R., Nosek, B. A., & Greenwald, A. G. (2007). Understanding and Using the Implicit Association Test: IV: What We Know (So Far) about the Method. In B. Wittenbrink & N. Schwarz (Eds.), *Implicit measures of attitudes* (pp. 59–102). The Guilford Press.

Leaper, C. (2011). More similarities than differences in contemporary theories of social development?: A plea for theory bridging. In J. B. Benson (Ed.), *Advances in child development and behavior,* Vol. 40, pp. 337–378). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-386491-8.00009-8

Leary M. R. (1983). Social anxiousness: the construct and its measurement. *Journal of personality assessment*, *47*(1), 66–75. https://doi.org/10.1207/s15327752jpa4701_8

Leue, A., & Beauducel, A. (2011). The PANAS structure revisited: On the validity of a bifactor model in community and forensic samples. *Psychological Assessment, 23*(1), 215–225. https://doi.org/10.1037/a0021400

Li, M., Pérez-Díaz, P. A., Mao, Y., & Petrides, K. V. (2018). A Multilevel Model of Teachers' Job Performance: Understanding the Effects of Trait Emotional Intelligence, Job Satisfaction, and Organizational Trust. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.02420

Lin, D. T., Kannappan, A., & Lau, J. N. (2013). The Assessment of Emotional Intelligence Among Candidates Interviewing for General Surgery Residency. *Journal of Surgical Education*, *70*(4), 514–521. https://doi.org/10.1016/j.jsurg.2013.03.010

Littrell, A. (2017). *The Relationship Between Body Image and Exercise Type* (p. 366) [Undergraduate Honors Theses, East Tennessee State University]. Reterived from https://dc.etsu.edu/cgi/viewcontent.cgi?article=1438&context=honors

Livingston, M. H., & Rosenbaum, P. L. (2008). Adolescents with cerebral palsy: stability in measurement of quality of life and health-related quality of life over 1 year. *Developmental Medicine & Child Neurology*, *50*(9), 696–701. https://doi.org/10.1111/j.1469-8749.2008.03053.x

MacEwan, D., & Gibson, A. (2022). Emotional intelligence in military medical officers in the Defence Medical Services. *BMJ Military Health*, e002068. https://doi.org/10.1136/bmjmilitary-2021-002068

Marsh, H. W., Lüdtke, O., Muthén, B., Asparouhov, T., Morin, A. J. S., Trautwein, U., & Nagengast, B. (2010). A new look at the big five factor structure through exploratory structural equation modeling. *Psychological Assessment, 22*(3), 471–491. https://doi.org/10.1037/a0019227

Marsh, H. W., Morin, A. J. S., Parker, P. D., & Kaur, G. (2014). Exploratory Structural Equation Modeling: An Integration of the Best Features of Exploratory and Confirmatory Factor Analysis. *Annual Review of Clinical Psychology*, *10*(1), 85–110. https://doi.org/10.1146/annurev-clinpsy-032813-153700

Marsh, H. W., Muthén, B., Asparouhov, T., Lüdtke, O., Robitzsch, A., Morin, A. J. S., & Trautwein, U. (2009). Exploratory structural equation modeling, integrating CFA and EFA: Application to students' evaluations of university teaching. *Structural Equation Modeling, 16*(3), 439–476. https://doi.org/10.1080/10705510903008220

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*(2), 224–253. https://doi.org/10.1037/0033-295X.98.2.224

Martos, M. P. B., Lopez-Zafra, E., Pulido-Martos, M., & Augusto, J. M. (2013). Are emotional intelligent workers also more empathic? *Scandinavian Journal of Psychology*, *54*(5), 407–414. https://doi.org/10.1111/sjop.12058

Martskvishvili, K., Arutinov, L., & Mestvirishvili, M. (2013). A Psychometric Investigation of the Georgian Version of the Trait Emotional Intelligence Questionnaire. *European Journal of Psychological Assessment*, *29*(2), 84–88. https://doi.org/10.1027/1015-5759/a000135

Matsumoto, D., & Hwang, H. C. (2013). Assessing cross-cultural competence: A review of available tests. *Journal of Cross-Cultural Psychology, 44*(6), 849–873. https://doi.org/10.1177/0022022113492891

Mavroveli, S., Petrides, K. V., Rieffe, C., & Bakker, F. (2007). Trait emotional intelligence, psychological well-being and peer-rated social competence in adolescence. *British Journal of Developmental Psychology, 25*(2), 263–275. https://doi.org/10.1348/026151006X118577

Mavroveli, S., Petrides, K. V., Shove, C., & Whitehead, A. (2008). Investigation of the construct of trait emotional intelligence in children. *European child & adolescent psychiatry*, *17*(8), 516–526. https://doi.org/10.1007/s00787-008-0696-6

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3–34). Basic Books.

McCrae, R. R., & Costa, P. T., Jr. (1997). Personality trait structure as a human universal. *American Psychologist, 52*(5), 509–516. https://doi.org/10.1037/0003-066X.52.5.509

McCrae, R. R., & Terracciano, A. (2005). Personality profiles of cultures: Aggregate personality traits. *Journal of Personality and Social Psychology*, *89*(3), 407–425. https://doi.org/10.1037/0022-3514.89.3.407

McCrae, R. R., Zonderman, A. B., Costa, P. T., Jr., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the Revised NEO Personality Inventory: Confirmatory factor analysis versus Procrustes rotation. *Journal of Personality and Social Psychology, 70*(3), 552–566. https://doi.org/10.1037/0022-3514.70.3.552

McDaniel, M. J., Beier, M. E., Perkins, A. W., Goggin, S., & Frankel, B. (2009). An assessment of the fakeability of self-report and implicit personality measures. *Journal of Research in Personality*, *43*(4), 682–685. https://doi.org/10.1016/j.jrp.2009.01.011

McDonald, R. P. (2013). *Test Theory*. Psychology Press. https://doi.org/10.4324/9781410601087

McKinley, S. K., Petrusa, E. R., Fiedeldey-Van Dijk, C., Mullen, J. T., Smink, D. S., Scott-Vernaglia, S. E., Kent, T. S., Stephen Black-Schaffer, W., & Phitayakorn, R. (2014). Are There Gender Differences in the Emotional Intelligence of Resident Physicians? *Journal of Surgical Education*, *71*(6), e33–e40. https://doi.org/10.1016/j.jsurg.2014.05.003

Mellers, B., Schwartz, A., & Ritov, I. (1999). Emotion-based choice. *Journal of Experimental Psychology: General, 128*(3), 332–345. https://doi.org/10.1037/0096-3445.128.3.332

Meyer, D., Dimitriadou, E., Hornik, K., Weingessel, A., & Leisch, F. (2021). e1071: Misc Functions of the Department of Statistics, Probability Theory Group (Formerly: E1071), TU Wien. R package version 1.7-9. https://CRAN.R-project.org/package=e1071

Miao, C., Humphrey, R. H., & Qian, S. (2016). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology*, *90*(2), 177–202. https://doi.org/10.1111/joop.12167

Miao, C., Humphrey, R. H., & Qian, S. (2020). The cross-cultural moderators of the influence of emotional intelligence on organizational citizenship behavior and counterproductive work behavior. *Human Resource Development Quarterly*, *31*(2). https://doi.org/10.1002/hrdq.21385

Microsoft Corporation. (2021). *Microsoft Excel*. Retrieved from https://office.microsoft.com/excel

Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric Properties of the Trait Emotional Intelligence Questionnaire: Factor Structure, Reliability, Construct, and Incremental Validity in a French-Speaking Population. *Journal of Personality Assessment*, *88*(3), 338–353. https://doi.org/10.1080/00223890701333431

Mikolajczak, M., Petrides, K. V., Coumans, N., & Luminet, O. (2009). The moderating effect of trait emotional intelligence on mood deterioration following laboratory-induced stress. *International Journal of Clinical and Health Psychology, 9*(3), 455–477. Reterived from https://www.semanticscholar.org/paper/The-moderating-effect-of-trait-emotional-on-mood-Mikolajczak-Petrides/feb79a4def807f0b893cdc90de6b498810b7fa62

Morin, A. J. S., Marsh, H. W., & Nagengast, B. (2013). Exploratory structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course* (pp. 395–436). IAP Information Age Publishing.

Motowidlo, S. J. (2003). Job performance. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology,* Vol. 12, pp. 39–53). John Wiley & Sons, Inc..

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, *14*(2), 224–247. https://doi.org/10.1016/0001-8791(79)90072-1

Mroz, J. E., Pullen, C. H., & Hageman, P. A. (2018). Health and appearance reasons for weight loss as predictors of long-term weight change. *Health Psychology Open*, *5*(2). https://doi.org/10.1177/2055102918816606

Muchinsky, P. M. (1996). The Correction for Attenuation. *Educational and Psychological Measurement*, *56*(1), 63–75. https://doi.org/10.1177/0013164496056001004

Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic Review or Scoping review? Guidance for Authors When Choosing between a Systematic or Scoping Review Approach. *BMC Medical Research Methodology*, *18*(1). https://doi.org/10.1186/s12874-018-0611-x

Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus user's guide. Eighth edition.* Los Angeles, CA: Muthén & Muthén.

Naderi Anari, N. (2012). Teachers: emotional intelligence, job satisfaction, and organizational commitment. *Journal of Workplace Learning*, *24*(4), 256–269. https://doi.org/10.1108/13665621211223379

Nelis, D., Quoidbach, J., Mikolajczak, M., & Hansenne, M. (2009). Increasing emotional intelligence: (How) is it possible? *Personality and Individual Differences*, *47*(1), 36–41. https://doi.org/10.1016/j.paid.2009.01.046

Nikolaou, I., & Tsaousis, I. (2002). Emotional intelligence in the workplace: Exploring its effects on occupational stress and organizational commitment. *The International Journal of Organizational Analysis, 10*(4), 327–342. https://doi.org/10.1108/eb028956

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *The*

Journal of Abnormal and Social Psychology, 66(6), 574–583. https://doi.org/10.1037/h0040291

Norris, G., Qureshi, F., Howitt, D., & Cramer, D. (2014). *Introduction to Statistics with SPSS for Social Science*. Routledge.

Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality & social psychology bulletin*, *31*(2), 166–180. https://doi.org/10.1177/0146167204271418

Nosek, B. A., & Smyth, F. L. (2007). A multitrait-multimethod validation of the Implicit Association Test: Implicit and explicit attitudes are related but distinct constructs. *Experimental Psychology, 54*(1), 14–29. https://doi.org/10.1027/1618-3169.54.1.14

Nouri, L., & Dehghani, Y. (2019). The Effectiveness of Education of Emotional Intelligence on Work Ethic Belief of Emam Reza Nursing Staff in Kaboodarahang. *Scientific Journal of Hamadan Nursing and Midwifery Faculty*, *26*(6), 349–356. https://doi.org/10.30699/sjhnmf.26.6.349

O'Boyle, E. H., Humphrey, R. H., Pollack, J. M., Hawver, T. H., & Story, P. A. (2011). The relation between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*, *32*(5), 788–818. https://doi.org/10.1002/job.714

O'Brien, E. J. (1985). Global self-esteem scales: Unidimensional or multidimensional? *Psychological Reports, 57*(2), 383–389. https://doi.org/10.2466/pr0.1985.57.2.383

O'Connor, P. J., Hill, A., Kaya, M., & Martin, B. (2019). The measurement of emotional intelligence: A critical review of the literature and recommendations for researchers and practitioners. *Frontiers in Psychology*, *10*(1116). Frontiersin. https://doi.org/10.3389/fpsyg.2019.01116

Ogińska-Bulik, N. (2005). Emotional intelligence in the workplace: exploring its effects on occupational stress and health outcomes in human service workers. *International journal of occupational medicine and environmental health*, *18*(2), 167–175.

Onwuegbuzie, A. J., Roberts, J. K., & Daniel, L. G. (2005). A Proposed New "What if Reliability" Analysis for Assessing the Statistical Significance of Bivariate Relationships. *Measurement and Evaluation in Counseling and Development*, *37*(4), 228–239. https://doi.org/10.1080/07481756.2005.11909763

Owen, D., & Davidson, J. (2009). Hubris syndrome: An acquired personality disorder? A study of US Presidents and UK Prime Ministers over the last 100 years. *Brain*, *132*(5), 1396–1406. https://doi.org/10.1093/brain/awp008

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, *128*(1), 3–72. https://doi.org/10.1037/0033-2909.128.1.3

Pandey, M., Sharma, D., & Kamboj, N. (2023). Assessing trait emotional intelligence and its relationship with stress and health behaviour in the education sector: An empirical study from Uttarakhand, India. *F1000Research*, *12*, 320. https://doi.org/10.12688/f1000research.131306.1

Parker, J. D. A., Summerfeldt, L. J., Walmsley, C., O'Byrne, R., Dave, H. P., & Crane, A. G. (2020). Trait emotional intelligence and interpersonal relationships: Results from a 15-year longitudinal study. *Personality and Individual Differences*, *169*, 110013. https://doi.org/10.1016/j.paid.2020.110013

Paunonen, S. V., & Ashton, M. C. (2001). Big Five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology*, *81*(3), 524–539. https://doi.org/10.1037/0022-3514.81.3.524

Perazzo, M. F., Abreu, L. G., Pérez-Díaz, P. A., Petrides, K. V., Granville-Garcia, A. F., & Paiva, S. M. (2020). Trait Emotional Intelligence Questionnaire-Short Form: Brazilian Validation and Measurement Invariance between the United Kingdom and Latin-American Datasets. *Journal of Personality Assessment*, 1–10. https://doi.org/10.1080/00223891.2020.1758118

Pérez-Díaz, P. A., Manrique-Millones, D., García-Gómez, M., Vásquez-Suyo, M. I., Millones-Rivalles, R., Fernández-Ríos, N., Pérez-González, J.-C., & Petrides, K. V. (2022). Invariance of the Trait Emotional Intelligence Construct Across Clinical Populations and Sociodemographic Variables. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.796057

Pérez-Díaz, P. A., Perazzo, M. F., Chiesi, F., Marunic, G., Granville-Garcia, A. F., Paiva, S. M., & Petrides, K. V. (2021). Invariance of the trait emotional intelligence construct across populations and sociodemographic variables. *Personality and Individual Differences*, *169*, 110038. https://doi.org/10.1016/j.paid.2020.110038

Pérez-Díaz, P. A., & Petrides, K. V. (2021). The Spanish-Chilean Trait Emotional Intelligence Questionnaire-Short Form: The Adaptation and Validation of the TEIQue-SF in Chile. *Journal of personality assessment*, *103*(1), 67–79. https://doi.org/10.1080/00223891.2019.1692856

Pérez-González, J. C., & Sanchez-Ruiz, M.-J. (2014). Trait emotional intelligence anchored within the Big Five, Big Two and Big One frameworks. *Personality and Individual Differences*, *65*, 53–58. https://doi.org/10.1016/j.paid.2014.01.021

Petrides, K. V. (2009). *Technical manual for the trait emotional intelligence questionnaires*. London Psychometric Laboratory.

Petrides, K. V. (2010). An Application of Belief-Importance Theory with Reference to the Big Five and Trait Emotional Intelligence. *Social Behavior and Personality: An International Journal*, *38*(5), 697–709. https://doi.org/10.2224/sbp.2010.38.5.697

Petrides, K. V. (2011a). A general mechanism for linking personality traits to affect, motivation, and action. *New Ideas in Psychology*, *29*(2), 64–71. https://doi.org/10.1016/j.newideapsych.2010.02.001

Petrides, K. V. (2011b). An application of belief-importance theory with reference to trait emotional intelligence, mood, and somatic complaints. *Scandinavian Journal of Psychology*, *52*(2), 161–167. https://doi.org/10.1111/j.1467-9450.2010.00832.x

Petrides, K. V. (2011c). Ability and trait emotional intelligence. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 656–678). Wiley Blackwell.

Petrides, K. V., & Frederickson, N. (2011). An application of belief-importance theory in the domain of academic achievement. *British Journal of Educational Psychology*, *81*(1), 97–111. https://doi.org/10.1111/j.2044-8279.2010.02010.x

Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, *36*(2), 277–293. https://doi.org/10.1016/s0191-8869(03)00084-9

Petrides, K. V., & Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personality and Individual Differences*, *29*(2), 313–320. https://doi.org/10.1016/s0191-8869(99)00195-6

Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*(6), 425–448. https://doi.org/10.1002/per.416

Petrides, K. V., & Furnham, A. (2006). The Role of Trait Emotional Intelligence in a Gender-Specific Model of Organizational Variables1. *Journal of Applied Social Psychology*, *36*(2), 552–569. https://doi.org/10.1111/j.0021-9029.2006.00019.x

Petrides, K. V., & Furnham, A. (2015). Further Tests of Belief-Importance Theory. *PLOS ONE*, *10*(4), e0121978. https://doi.org/10.1371/journal.pone.0121978

Petrides, K. V., Gómez, M. G., & Pérez-González, J. C. (2017). Pathways into psychopathology: Modeling the effects of trait emotional intelligence, mindfulness, and irrational beliefs in a clinical sample. *Clinical psychology & psychotherapy*, *24*(5), 1130–1141. https://doi.org/10.1002/cpp.2079

Petrides, K. V., Mikolajczak, M., Mavroveli, S., Sanchez-Ruiz, M.-J., Furnham, A., & Pérez-González, J.-C. (2016). Developments in Trait Emotional Intelligence Research. Emotion Review, 8(4), 335–341. https://doi.org/10.1177/1754073916650493

Petrides, K. V., Perazzo, M. F., Pérez-Díaz, P. A., Jeffrey, S., Richardson, H. C., Sevdalis, N., & Ahmad, N. (2022). Trait Emotional Intelligence in Surgeons. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.829084

Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, *98*(2), 273–289. https://doi.org/10.1348/000712606x120618

Petrides, K. V., Sanchez-Ruiz, M. J., Siegling, A. B., Saklofske, D. H., & Mavroveli, S. (2018). Emotional intelligence as personality: Measurement and effects of trait emotional intelligence in educational contexts. In K. V. Keefer, J. D. A. Parker, & D. H. Saklofske (Eds.), *Handbook of Emotional Intelligence in Education*. New York: Springer. (pp. 49-81).

Petrides, K. V., Sangareau, Y., Furnham, A., & Frederickson, N. (2006). Trait Emotional Intelligence and Children's Peer Relations at School. *Social Development*, *15*(3), 537–547. https://doi.org/10.1111/j.1467-9507.2006.00355.x

Petrides, K. V., Vernon, P. A., Schermer, J. A., Ligthart, L., Boomsma, D. I., & Veselka, L. (2010). Relationships between trait emotional intelligence and the Big Five in the Netherlands. *Personality and Individual Differences*, *48*(8), 906–910. https://doi.org/10.1016/j.paid.2010.02.019

Pham, M. T., Rajić, A., Greig, J. D., Sargeant, J. M., Papadopoulos, A., & McEwen, S. A. (2014). A scoping review of scoping reviews: advancing

the approach and enhancing the consistency. *Research Synthesis Methods*, *5*(4), 371–385. https://doi.org/10.1002/jrsm.1123

Picone, P. M., Dagnino, G. B., & Minà, A. (2014). The Origin of Failure: A Multidisciplinary Appraisal of the Hubris Hypothesis and Proposed Research Agenda. *Academy of Management Perspectives*, *28*(4), 447–468. https://doi.org/10.5465/amp.2012.0177

Placek, S. B., Franklin, B. R., & Ritter, E. M. (2019). A Cross-Sectional Study of Emotional Intelligence in Military General Surgery Residents. *Journal of Surgical Education*, *76*(3), 664–673. https://doi.org/10.1016/j.jsurg.2018.10.013

Platsidou, M. (2010). Trait Emotional Intelligence of Greek Special Education Teachers in Relation to Burnout and Job Satisfaction. *School Psychology International*, *31*(1), 60–76. https://doi.org/10.1177/0143034309360436

Polit, D. F., & Beck, C. (2017). *Nursing research: Generating and assessing evidence for nursing practice* (10th ed.). Wolters Kluwer Health.

Prati, L., Douglas, C., Ferris, G. R., Ammeter, A. P., & Buckley, M. R. (2003). Emotional intelligence, leadership effectiveness, and team outcomes. *The international journal of organizational analysis*, *11*(1), 21-40. https://doi.org/10.1108/EB028961

Rahimi, M. (2019). Psychometric properties of the persian trait emotional intelligence questionnaire (P-TEIQue). *Current Psychology*. https://doi.org/10.1007/s12144-019-00218-9

Raphael, D., Brown, I., Renwick, R., & Rootman, I. (1996). Assessing the Quality of Life of Persons with Developmental Disabilities: Description of a New Model, Measuring Instruments, and Initial Findings. *International Journal of Disability, Development and Education*, *43*(1), 25–42. https://doi.org/10.1080/0156655960430103

Raphael, D., Waalen, J., & Karabanow, A. (2001). Factor Analytic Properties of the Quality of Life Profile: Examination of the Nine Subdomain Quality of Life Model. *Psychological Reports*, *88*(1), 265–276. https://doi.org/10.2466/pr0.2001.88.1.265

Reichenheim, M. E., & Moraes, C. L. (2007). Operationalizing the cross-cultural adaptation of epidemological measurement instruments. *Revista de saúde pública*, *41*, 665-673. *Revista de Saúde Pública*, *41*(4), 665–673. https://doi.org/10.1590/S0034-89102006005000035

Reise, S. P., Moore, T. M., & Haviland, M. G. (2013). Applying unidimensional item response theory models to psychological data. *APA Handbook of Testing and Assessment in Psychology, Vol. 1: Test Theory and Testing and Assessment in Industrial and Organizational Psychology.*, 101–119. https://doi.org/10.1037/14047-006

Revelle, W. (2021) psych: Procedures for Personality and Psychological Research, Northwestern University, Evanston, Illinois, USA, https://CRAN.R-project.org/package=psych Version = 2.1.9. https://CRAN.R-project.org/package=psych

Revelle, W., & Zinbarg, R. E. (2008). Coefficients Alpha, Beta, Omega, and the glb: Comments on Sijtsma. *Psychometrika*, *74*(1), 145–154. https://doi.org/10.1007/s11336-008-9102-z

Riketta, M. (2008). The causal relation between job attitudes and performance: A meta-analysis of panel studies. *Journal of Applied Psychology, 93*(2), 472–481. https://doi.org/10.1037/0021-9010.93.2.472

Rizopoulos, D. (2006). ltm: An R Package for Latent Variable Modeling and Item Response Analysis. *Journal of Statistical Software*, *17*(5), 1–25. https://doi.org/10.18637/jss.v017.i05

Robinson, E., Hull, L., & Petrides, K. V. (2020). Big Five model and trait emotional intelligence in camouflaging behaviours in autism. *Personality and Individual Differences*, *152*, 109565. https://doi.org/10.1016/j.paid.2019.109565

Roberts, B. W., Lejuez, C., Krueger, R. F., Richards, J. M., & Hill, P. L. (2014). What is conscientiousness and how can it be assessed? *Developmental Psychology*, *50*(5), 1315–1330. https://doi.org/10.1037/a0031109

Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, *48*(2). https://doi.org/10.18637/jss.v048.i02

RStudio Team (2021). RStudio: Integrated Development for R. RStudio, Inc., Boston, MA URL http://www.rstudio.com/.

Rudman, L. A. (2011). *Implicit measures for social and personality psychology*. SAGE Publications Ltd.

Sackett, P. R., Zhang, C., Berry, C. M., & Lievens, F. (2021). Revisiting meta-analytic estimates of validity in personnel selection: Addressing systematic overcorrection for restriction of range. *Journal of Applied Psychology.* Advance online publication. https://doi.org/10.1037/apl0000994

Salami, S. O. (2008). Demographic and Psychological Factors Predicting Organizational Commitment among Industrial Workers. *The Anthropologist*, *10*(1), 31–38. https://doi.org/10.1080/09720073.2008.11891026

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, *9*(3), 185–211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG

Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, & health* (pp. 125–154). American Psychological Association. https://doi.org/10.1037/10182-006

Sánchez-Ruiz, M., Mavroveli, S., & Petrides, K. V. (2020). The Trait Emotional Intelligence Questionnaire in Lebanon and the UK : A comparison of the

psychometric properties in each country. *International Journal of Psychology*. https://doi.org/10.1002/ijop.12711

Sánchez-Ruiz, M. J., Mavroveli, S., & Poullis, J. (2013). Trait emotional intelligence and its links to university performance: An examination. *Personality and Individual Differences*, *54*(5), 658–662. https://doi.org/10.1016/j.paid.2012.11.013

Sánchez-Ruiz, M. J., Perez-Gonzalez, J. C., & Petrides, K. V. (2010). Trait emotional intelligence profiles of students from different university faculties. *Australian Journal of Psychology*, *62*(1), 51–57. https://doi.org/10.1080/00049530903312907

Sanchez-Ruiz, M.-J., Tadros, N., Khalaf, T., Ego, V., Eisenbeck, N., Carreno, D. F., & Nassar, E. (2021). Trait Emotional Intelligence and Wellbeing During the Pandemic: The Mediating Role of Meaning-Centered Coping. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.648401

Sarrionandia, A., & Mikolajczak, M. (2019). A meta-analysis of the possible behavioural and biological variables linking trait emotional intelligence to health. *Health Psychology Review*, 1–25. https://doi.org/10.1080/17437199.2019.1641423

Schmitt, D. P., Allik, J., McCrae, R. R., & Benet-Martinez, V. (2007). The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description Across 56 Nations. *Journal of Cross-*

Cultural Psychology, *38*(2), 173–212. https://doi.org/10.1177/0022022106297299

Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment, 8*(4), 350–353. https://doi.org/10.1037/1040-3590.8.4.350

Schmukle, S. C., & Egloff, B. (2005). A Latent State-Trait Analysis of Implicit and Explicit Personality Measures. *European Journal of Psychological Assessment*, *21*(2), 100–107. https://doi.org/10.1027/1015-5759.21.2.100

Schnabel, K., Asendorpf, J. B., & Greenwald, A. G. (2008). Assessment of Individual Differences in Implicit Cognition. *European Journal of Psychological Assessment*, *24*(4), 210–217. https://doi.org/10.1027/1015-5759.24.4.210

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, *25*(2), 167–177. https://doi.org/10.1016/s0191-8869(98)00001-4

Scull, N. C. (2015). Forgiveness, revenge, and adherence to Islam as moderators for psychological wellbeing and depression among survivors of the 1990 Iraqi invasion of Kuwait. *Journal of Muslim Mental Health*, *9*(1). https://doi.org/10.3998/jmmh.10381607.0009.103

Sevdalis, N., Petrides, K. V., & Harvey, N. (2007). Trait emotional intelligence and decision-related emotions. *Personality and Individual Differences, 42*(7), 1347–1358. https://doi.org/10.1016/j.paid.2006.10.012

Shahzad, S., Riaz, Z., & Begum, N. (2014). Urdu Translation and Psychometric Properties of Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF). *Asian journal of management sciences & education, 3*, 130-140. Retrieved from https://www.semanticscholar.org/paper/URDU-TRANSLATION-AND-PSYCHOMETRIC-PROPERTIES-OF-Shahzad-Riaz/fc2f25639effb25e73f057eb21c1197fafe560b4

Shipley, N.L., Jackson, M.J. & Segrest, S.L. (2010). The effects of emotional intelligence, age, work experience, and academic performance. *Research in Higher Education Journal* (9), 1-18. Retrieved from https://digitalcommons.usf.edu/fac_publications/335/

Sheridan, J. E., & Slocum, J. W. (1975). The direction of the causal relationship between job satisfaction and work performance. *Organizational Behavior and Human Performance*, *14*(2), 159–172. https://doi.org/10.1016/0030-5073(75)90021-5

Shibayama, S., & Wang, J. (2019). Measuring originality in science. *Scientometrics*, *122*(1), 409–427. https://doi.org/10.1007/s11192-019-03263-0

Shockley, K. M., Ispas, D., Rossi, M. E., & Levine, E. L. (2012). A meta-analytic investigation of the relationship between state affect, discrete emotions, and job performance. *Human Performance, 25*(5), 377–411. https://doi.org/10.1080/08959285.2012.721832

Siegel, J. P., & Bowen, D. (1971). Satisfaction and performance: Causal relationship and moderating effects. *Journal of Vocational Behavior, 1*(3), 263–269. https://doi.org/10.1016/0001-8791(71)90027-3

Siegling, A. B., Nielsen, C., & Petrides, K. V. (2014). Trait emotional intelligence and leadership in a European multinational company. *Personality and Individual Differences, 65,* 65–68. https://doi.org/10.1016/j.paid.2014.01.049

Siegling, A. B., Saklofske, D. H., Vesely, A. K., & Nordstokke, D. W. (2012). Relations of emotional intelligence with gender-linked personality: Implications for a refinement of EI constructs. *Personality and Individual Differences*, *52*(7), 776–781. https://doi.org/10.1016/j.paid.2012.01.003

Siegling, A. B., Sfeir, M., & Smyth, H. J. (2014). Measured and self-estimated trait emotional intelligence in a UK sample of managers. *Personality and Individual Differences*, *65*, 59–64. https://doi.org/10.1016/j.paid.2014.01.027

Siegling, A. B., Vesely, A. K., Petrides, K. V., & Saklofske, D. H. (2015). Incremental Validity of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF). *Journal of personality assessment*, *97*(5), 525–535. https://doi.org/10.1080/00223891.2015.1013219

Sireci, S. G., Patsula, L. N., & Hambleton, R. K. (2005). Statistical Methods for Identifying Flaws in the Test Adaptation Process. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting Educational and*

Psychological Tests for Cross-Cultural Assessment (pp. 93–115). Mahwah, NJ: Lawrence Erlbaum Associates

Sireci, S. G., & Sukin, T. (2013). Test validity. In K. F. Geisinger, B. A. Bracken, J. F. Carlson, J.-I. C. Hansen, N. R. Kuncel, S. P. Reise, & M. C. Rodriguez (Eds.), *APA handbook of testing and assessment in psychology, Vol. 1. Test theory and testing and assessment in industrial and organizational psychology* (pp. 61–84). American Psychological Association. https://doi.org/10.1037/14047-004

Smollan, R. K., & Sayers, J. G. (2009). Organizational Culture, Change and Emotions: A Qualitative Study. *Journal of Change Management*, *9*(4), 435–457. https://doi.org/10.1080/14697010903360632

Spector, P. E. (1997). *Job satisfaction : application, assesment, causes and consequences*. Thousand Oaks [Etc] Sage.

Stamatopoulou, M., Galanis, P., & Prezerakos, P.E. (2016). Psychometric properties of the Greek translation of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF). *Personality and Individual Differences, 95*, 80-84. https://doi.org/10.1016/j.paid.2016.02.035

Steffens, M. C. (2004). Is the Implicit Association Test Immune to Faking? *Experimental Psychology*, *51*(3), 165–179. https://doi.org/10.1027/1618-3169.51.3.165

Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and social psychology review : an official journal of*

the Society for Personality and Social Psychology, Inc, *8*(3), 220–247. https://doi.org/10.1207/s15327957pspr0803_1

Streiner, D. L. (1994). Figuring Out Factors: The Use and Misuse of Factor Analysis. *The Canadian Journal of Psychiatry*, *39*(3), 135–140. https://doi.org/10.1177/070674379403900303

Szczygieł, D., Jasielska, A., & Wytykowska, A. (2015). Psychometric properties of the Polish version of the Trait Emotional Intelligence Questionnaire-Short Form. *Polish Psychological Bulletin, 46*(3), 447–459. https://doi.org/10.1515/ppb-2015-0051

Szigeti, R., Balázs, N., Bikfalvi, R., & Urbán, R. (2017). Burnout and depressive symptoms in teachers: Factor structure and construct validity of the Maslach Burnout inventory-educators survey among elementary and secondary school teachers in Hungary. *Stress and Health*, *33*(5), 530–539. https://doi.org/10.1002/smi.2737

Tanzer, N. K., & Sim, C. Q. E. (1999). Adapting instruments for use in multiple languages and cultures: A review of the ITC Guidelines for Test Adaptations. *European Journal of Psychological Assessment, 15*(3), 258–269. https://doi.org/10.1027/1015-5759.15.3.258

The Central Statistical Bureau of Kuwait. (2014a). *Main features of expatriate labour employment in the private sector as of 30/6/2014*. https://www.csb.gov.kw/Pages/Statistics?ID=15&ParentCatID=1

The Central Statistical Bureau of Kuwait. (2014b). *Main features of national labour employment in the private sector as of 30/6/2014*. https://www.csb.gov.kw/Pages/Statistics?ID=15&ParentCatID=1

The Central Statistical Bureau of Kuwait. (2021, June 30). *Employment in government sector as of 30/6/2021*. https://www.csb.gov.kw/Pages/Statistics?ID=13&ParentCatID=1

Thomas, L. I., Fuchs, R., & Klaperski, S. (2018). High trait emotional intelligence in men: Beneficial for perceived stress levels but disadvantageous for the physiological response to acute stressors? *Journal of Applied Biobehavioral Research*, *23*(3), e12116. https://doi.org/10.1111/jabr.12116

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications.* American Psychological Association. https://doi.org/10.1037/10694-000

Tracy, J. L., & Robins, R. W. (2007). The psychological structure of pride: A tale of two facets. *Journal of Personality and Social Psychology*, *92*(3), 506–525. https://doi.org/10.1037/0022-3514.92.3.506

Triandis, H. C. (1994). *Culture and social behavior.* Mcgraw-Hill Book Company.

Triandis, H. C., & Suh, E. M. (2002). Cultural influences on personality. *Annual Review of Psychology, 53*(1), 133–160. https://doi.org/10.1146/annurev.psych.53.100901.135200

Tukiman Hendrawijaya, A., Ary Gumanti, T., Sasongko, & Puspitaningtyas, Z. (2018). The mediating role of emotional intelligence in the employees

performance. *Problems and Perspectives in Management*, *16*(1), 145–154. https://doi.org/10.21511/ppm.16(1).2018.14

Ulutas, I. (2019). Psicometric Properties of the Trait Emotional Intelligence Questionnaire (TEIQe) in Turkish. *Current Psychology*, *38*(3), 775–781. https://doi.org/10.1007/s12144-017-9647-z

Urquijo, I., Extremera, N., & Azanza, G. (2019). The contribution of emotional intelligence to career success: Beyond personality traits. *International Journal of Environmental Research and Public Health*, *16*(23), 4809. https://doi.org/10.3390/ijerph16234809

Van der Linden, D., Tsaousis, I., & Petrides, K. V. (2012). Overlap between General Factors of Personality in the Big Five, Giant Three, and trait emotional intelligence. *Personality and Individual Differences*, *53*(3), 175–179. https://doi.org/10.1016/j.paid.2012.03.001

Van de Vijver, F., & Hambleton, R. K. (1996). Translating Tests. *European Psychologist*, *1*(2), 89–99. https://doi.org/10.1027/1016-9040.1.2.89

VandenBos, G. R. (Ed.). (2007). *APA Dictionary of Psychology.* American Psychological Association.

Vecchione, M., Dentale, F., Alessandri, G., & Barbaranelli, C. (2014). Fakability of implicit and explicit measures of the Big Five: Research findings from organizational settings. *International Journal of Selection and Assessment, 22*(2), 211–218. https://doi.org/10.1111/ijsa.12070

Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. V. (2008). Phenotypic and genetic associations between the big five and trait emotional intelligence. *Twin research and human genetics : the official journal of the International Society for Twin Studies*, *11*(5), 524–530. https://doi.org/10.1375/twin.11.5.524

Walters, S. (2018). *Emotional intelligence and leader development: measuring trait emotional intelligence scores of mid-career commissioned US army officers* (Doctoral dissertation, Western Kentucky University).

Wanous, J. P. (1974). A causal-correlational analysis of the job satisfaction and performance relationship. *Journal of Applied Psychology, 59*(2), 139–144. https://doi.org/10.1037/h0036532

Waring, E., Quinn, M., McNamara, A., de la Rubia, E. A., Zhu, H., & Ellis, S. (2021). skimr: Compact and Flexible Summaries of Data. R package version 2.1.3. https://CRAN.R-project.org/package=skimr

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*(3), 465–490. https://doi.org/10.1037/0033-2909.96.3.465

Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*(4), 448–457. https://doi.org/10.1037/h0027806

Weiner, I. B., & Greene, R. L. (2017). *Handbook of personality assessment*. John Wiley & Sons, Inc.

Weiss, D. J., Dawis, R. V., and England, G. W. (1967). “Manual for the Minnesota satisfaction questionnaire” in *Minnesota Studies in Vocational Rehabilitation*. (Whole No. XXII).

Weston, R., & Gore, P. A., Jr. (2006). A Brief Guide to Structural Equation Modeling. *The Counseling Psychologist, 34*(5), 719–751. https://doi.org/10.1177/0011000006286345

Widaman, K. F. (2012). Exploratory factor analysis and confirmatory factor analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 3. Data analysis and research publication* (pp. 361–389). American Psychological Association. https://doi.org/10.1037/13621-018

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample Size Requirements for Structural Equation Models. *Educational and Psychological Measurement*, *73*(6), 913–934. https://doi.org/10.1177/0013164413495237

Wrobel, N. H. (2016). Research measures: Psychometric methods and challenges to valid assessment of constructs. In M. M. Amer & G. H. Awad (Eds.), *Handbook of Arab American psychology* (pp. 361–399). Routledge/Taylor & Francis Group.

Yubero, S., Navarro, R., Larrañaga, E., Esteban, M., Gutiérrez, J., & Elche, M. (2018). Health Contributing Factors in Higher Education Students: The

Importance of Family and Friends. *Healthcare*, *6*(4), 147. https://doi.org/10.3390/healthcare6040147

Zbib, R., Malchiodi, E., Devlin, J., Stallard, D., Matsoukas, S., Schwartz, R., Makhoul, J., Zaidan, O., & Callison-Burch, C. (2012). Machine Translation of Arabic Dialects. In *Proceedings of the 2012 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies* (pp. 49–59). Association for Computational Linguistics. Retrieved from https://aclanthology.org/N12-1006/

Zheng, X., Wang, R., Hoekstra, A. Y., Krol, M. S., Zhang, Y., Guo, K., Sanwal, M., Sun, Z., Zhu, J., Zhang, J., Lounsbury, A., Pan, X., Guan, D., Hertwich, E. G., & Wang, C. (2021). Consideration of culture is vital if we are to achieve the Sustainable Development Goals. *One Earth*, *4*(2), 307–319. https://doi.org/10.1016/j.oneear.2021.01.012

Zhenjing, G., Chupradit, S., Ku, K. Y., Nassani, A. A., & Haffar, M. (2022). Impact of Employees' Workplace Environment on Employees' Performance: A Multi-Mediation Model. *Frontiers in public health*, *10*, 890400. https://doi.org/10.3389/fpubh.2022.890400

Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's α, Revelle's β, and Mcdonald's ωH: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika, 70*(1), 1–11. https://doi.org/10.1007/s11336-003-0974-7

Zuanazzi, A. C., Meyer, G. J., Petrides, K. V., & Miguel, F. K. (2022). Validity of the Trait Emotional Intelligence Questionnaire (TEIQue) in a Brazilian Sample. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.735934

Appendices

Appendix A

التعليمات: يرجى الإجابة على البنود التالية بوضع علامة دائرة على أفضل رقم يمثل درجة الاتفاق او عدم الاتفاق مع البند. يجب ان لا تفكر كثيراً في معنى البند والاجابة بسرعة وبدقة قدر المستطاع. لا يوجد أي إجابة صحيحة او خاطئة. هناك سبع استجابات ممكنة تتباين بين اعارض (غير موافق) تماماً (رقم ١) وأوافق تماماً (رقم ٧).

1	2	3	4	5	6	7
غير موافق تماماً						**موافق تماماً**

.1	لا أجد صعوبة في التعبير عن مشاعري لفظياً.	1	2	3	4	5	6	7
.2	في الغالب، أجد صعوبة في فهم الأمور من وجهة نظر الآخرين.	1	2	3	4	5	6	7
.3	بشكل عام، انا شخص متحفز بشكل كبير جداً.	1	2	3	4	5	6	7
.4	في الغالب، أجد صعوبة في تنظيم عواطفي.	1	2	3	4	5	6	7
.5	بشكل عام، لا أرى أن الحياة ممتعة.	1	2	3	4	5	6	7
.6	يمكنني التعامل مع الآخرين بشكل فعّال.	1	2	3	4	5	6	7
.7	أميل الى تغيير رأيي كثيراً.	1	2	3	4	5	6	7
.8	لا يمكنني التعرف على مشاعري في كثير من الأحيان.	1	2	3	4	5	6	7
.9	أشعر بأن لدي العديد من الصفات الحسنة.	1	2	3	4	5	6	7
.10	في الغالب، أجد صعوبة في الدفاع عن حقوقي.	1	2	3	4	5	6	7
.11	في الغالب، أستطيع التأثير على مشاعر الآخرين.	1	2	3	4	5	6	7
.12	بشكل عام، لدي وجهات نظر متشائمة حول معظم الأشياء.	1	2	3	4	5	6	7
.13	يشتكي المقربون من معاملتي السيئة لهم بشكل متكرر.	1	2	3	4	5	6	7
.14	غالباً أجد صعوبة في التأقلم مع الظروف الجديدة في حياتي.	1	2	3	4	5	6	7
.15	بشكل عام، يمكنني التعامل مع الضغوط.	1	2	3	4	5	6	7
.16	في الغالب، أجد صعوبة في اظهار عواطفي تجاه المقربين مني.	1	2	3	4	5	6	7
.17	أستطيع أن أضع نفسي مكان الآخرين وأشعر بمشاعرهم.	1	2	3	4	5	6	7
.18	أجد صعوبة في إبقاء نفسي متحفزاً.	1	2	3	4	5	6	7
.19	أجد طرق للتحكم بمشاعري عندما أرغب بذلك.	1	2	3	4	5	6	7
.20	بشكل عام، انا راضٍ عن حياتي.	1	2	3	4	5	6	7
.21	أصف نفسي كمفاوض جيّد.	1	2	3	4	5	6	7
.22	أورط نفسي في أمور أتمنى لاحقاً التخلص منها.	1	2	3	4	5	6	7
.23	في الغالب، اتوقف للحظات للتفكير في مشاعري.	1	2	3	4	5	6	7
.24	أؤمن بأنني مليء بنقاط القوة الشخصية.	1	2	3	4	5	6	7
.25	أميل الى التراجع عن موقفي حتى لو كنت اعلم بأنني على حق.	1	2	3	4	5	6	7
.26	يبدو لي بأنه ليس لدي أي سلطة على مشاعر الآخرين.	1	2	3	4	5	6	7
.27	بشكل عام، أؤمن بأن الأمور ستسير على ما يرام في حياتي.	1	2	3	4	5	6	7
.28	أجد صعوبة في الارتباط حتى مع أقرب الناس لي.	1	2	3	4	5	6	7
.29	بشكل عام، يمكنني التأقلم مع أي بيئة جديدة.	1	2	3	4	5	6	7
.30	يتعجب الآخرون من قدراتي على الاسترخاء.	1	2	3	4	5	6	7

Appendix B

List of stimuli used for the Trait EI IAT

Me: I, me, my, mine, self

Others: Others, they, them, their, it

Emotionality: sociable, talkative, active, impulsive, outgoing

Logicality: rigorous, reticent, passive, deliberate, reserved

Self-control: stable, calm, cautious, flexible, motivated

Unrestrainedness: irritable, stressed, impetuous, inflexible, demanding

Sociability: leaders, influencers, confident, social

Bashfulness: followers, overwhelmed, uncertain, shy

Well-being: positive, optimistic, cheerful, happy

Misery: negative, pessimistic, gloomy, sad

Appendix C

List of stimuli used for the Big Five IAT

Me: I, me, my, mine, self

Others: Others, they, them, their, it

Neuroticism: anxious, nervous, fearful, uncertain, afraid

Fearlessness: calm, relaxed, restful, at ease, balanced

Extraversion: sociable, talkative, active, impulsive, outgoing

Introversion: shy, reticent, passive, deliberate, reserved

Openness: imaginative, civilized, well-educated, interested, gifted

Reticence: unimaginative, primitive, uneducated, indifferent, limited

Agreeableness: trusting, well-meaning, friendly, helpful, goodnatured

Reluctance: obstinate, quarrelsome, hostile, hard-hearted, resentful

Conscientiousness: meticulous, reliable, neat, fussy, thorough

Unscrupulous: careless, unreliable, chaotic, frivolous, erratic