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DEVELOPMENT OF A PERSIAN VERSION OF SUBMISSIVE BEHAVIOR
SCALE

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Abstract

A client's cultural background is considered one of the important factors in psychotherapy that can lead to successful treatment outcomes. One of the major issues in the field of counseling psychology is the limited research on cultural factors related to psychopathology. Submissiveness is a behavior that is perceived differently across cultures. In western societies, submissive behavior is mainly defined as the unhealthy tendency to yield to the will or authority of others while in eastern cultures, submissiveness is valued and perceived positively. Submissive behavior is found to be correlated to depression in western societies. However, this relationship has not been studied in Iranian populations. The aims of this research study are to (a) convert the Submissive Behavior Scale (SBS) into Farsi and investigate its validity on the Iranian population and assess the equivalence of the Persian SBS in comparison to the English SBS, (b) to explore the relationship of the SBS, anxiety, and depression, and (c) to investigate whether SBS is a predictor of anxiety or depression in the Iranian population. The results of this study revealed a one-factor solution for the Persian SBS and two-factor solution for the English version of the SBS. However, confirmatory factor analysis revealed a poor model fit for the SBS within the Iranian and the U.S. population. Further, the SBS model was not equivalent between the Iranian and the US samples. Moreover, the relationship between SBS, depression, and anxiety in both populations was positive and significant. Last, submissiveness found to be a significant predictor of anxiety and depression for the Iranian and the US samples.

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Introduction

Culture is an influential factor in psychotherapy as it can impact not only an individual, but also how a psychological symptom is presented, expressed, and understood by that individual (Anderson, 2006). People's personal, family, and cultural values, along with their biases, fears, and attitude toward psychotherapy can impact their expectation toward treatment (Anderson, 2006). While many psychological symptoms may be similar across cultures (e.g., anxiety and depression), their etiology, prognosis, and factors that moderate or minimize these symptoms may be different. Furthermore, each individual may respond differently to psychological interventions that clinicians utilize in session (Anderson, 2006). In other words, "It is important to know the person who has the disorder in addition to knowing the disorder the person has" (Anderson, 2006, p. 279). Therefore, understanding how psychological symptoms are presented and measured across cultures is essential in psychotherapy (Matsumoto & van de Vijver, 2010).

Cross-cultural research is increasing and culture has become an essential part of theories and models in psychology and psychological processes (Matsumoto & van de Vijver, 2010). Berry (2002) defines cross-cultural research in psychology as "the explicit, systematic comparison of psychological variables under different cultural conditions in order to specify the antecedents and processes that mediate the emergence of behavior differences" (Berry, 2002, p. 1). Matsumoto and van de Vijver (2010) define cross-cultural research as studies that "compare two or more cultural groups… on psychological variables of interest" (Matsumoto & van de Vijver, 2010, p. 1).

There are two approaches to cross-cultural studies; etic and emic approaches (Berry, 1999; Matsumoto & Juang, 2008). The etic approach, which is the focus of the current study, compares psychological phenomena across cultures looking for universals in behavior (Berry, 1999; Matsumoto & Juang, 2008). There are advantages to the etic approach in that it allows researchers to verify whether our clinical knowledge about a particular cultural group holds true (Matsumoto & van de Vijver, 2010). In other words, are there similarities between two or more cultures? One of the first goals of cross-cultural research is known as "transport", which means to "test the generality of existing psychological knowledge and theories" (etic approach) and to also test "hypotheses concerning human behavior" across cultures (Berry, 2002, p. 3). Western studies that are conducted on European Americans have dominated the field of counseling psychology and applying findings regarding psychotherapy interventions, generalizability and transportability of treatments, assessment methods, and treatment efficacy and effectiveness from primarily White majority culture to marginalized populations have become a challenge (Anderson, 2006, Matsumoto & van de Vijver, 2010). Therefore, one of the major criticisms that many scholars have about training, research, and clinical practice in the field of counseling psychology is the lack of attention to multicultural aspects of counseling and individual differences (Duncan, Miller, Wampold, & Hubble, 2010; Matsumoto & van de Vijver, 2010).

The emic approach attempts to study one culture alone and investigates meaning for behaviors within that specific culture (Berry, 1999; Matsumoto & Juang, 2008). Given that individuals have unique identities, it is essential to study unique behaviors

within a culture. This is especially critical when it comes to using clinical interventions and assessments that are normed on White majority populations for marginalized groups, and clinicians are advised to be cautious in using such psychological assessments (Matsumoto & van de Vijver, 2010). It would be unethical to interpret psychological assessments on diverse populations without taking into account a client's cultural background and unique identities. Lack of attention to a client's background can lead to under- or over-diagnosis of clients and even harm these individuals. For instance, studies on African Americans suggest that this population is over-diagnosed for depression and schizophrenia (Baker & Bell, 1999). This suggests that some of the behavioral patterns that may appear pathological in White majority culture or are perceived as such are adaptive and within the cultural norms of individuals who identify as African American. This emphasizes the need for cross-cultural research on the validity of psychological assessments across cultures.

While there are numerous inventories that have been evaluated for use on Iranian populations (Ghassemzadeh, Mojtabai, Karamghadiri, & Ebrahimkhani, 2005; Hojat & Mehryar, 1986; Hojat, Shapurian, & Mehryar, 1986), the focus of this study, there are limitations to these adapted inventories. For instance, most of the inventories that are adapted from English into Farsi have gone through linguistic equivalence but have not been evaluated for cultural context.

The aim of this study is to utilize an etic approach by examining the structure of the scale in an Iranian population and in a US sample. Initially, the Submissive Behavior Scale (SBS), a scale developed, normed, and used in the United States, will be

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converted into Persian. The goal is to assess the reliability and validity of this scale in Iranian populations and achieve linguistic equivalence in psychometric adaptation of this measure, as well as to contrast the structure of the scale in an Iranian sample to a US sample. The Submissive Behavior Scale (SBS) was developed by Allen and Gilbert (1997), designed to measure submissive behavior which has been found to be associated with anxiety, depression and other psychological issues. However, there is no literature as to whether this scale is valid and reliable among Iranian populations. This is the first time that the SBS has been converted to Farsi and, therefore, this research will provide guidance to psychologists not only in Iran but also in western countries in assessing their Iranian clients more accurately and choosing interventions that fit clients' cultural backgrounds, leading to more successful treatment outcomes.

Review of Literature

Importance of Culture in Counseling and Psychological Assessments

Culture has many different definitions in the literature (Heppner, Wampold, & Kivlighan, 2007). Psychologists, anthropologists, and sociologists have different views toward culture and, therefore, define it either objectively (i.e., individuals way of living in an environment, design of their houses, style of their dress) or subjectively (i.e., focuses on individuals' beliefs, rituals, values, behaviors, and way of living in society; Berry, 2002; Heppner et al., 2007). In this study, the subjective definition of culture is of interest: a set of rules established by groups of people in certain region of the world (e.g., a country) which involve "attitudes, values, beliefs, norms, and behaviors shared by a group but harbored differently by each specific unit within the group,

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communicated across generations, relatively stable, but with the potential to change across time" (Heppner et al., 2007).

Culture is an influential factor in psychotherapy as it can impact not only an individual, but also how a psychological symptom is presented, expressed, and understood by that individual (Anderson, 2006). People's personal, family, and cultural values, along with their biases, fears, and attitudes toward psychotherapy can impact their expectations in regard to treatment (Anderson, 2006). By ignoring cultural factors in counseling, clinicians may be at risk of making etiological assumptions which can result in utilizing inappropriate diagnoses and interventions in counseling (Frey & Roysircar, 2004). While many psychological symptoms may be similar across cultures (i.e., anxiety and depression), their etiology, prognosis and factors that moderate or minimize these symptoms may be different. Therefore, individuals across cultures may respond differently to psychological interventions that clinicians utilize in session. In other words, as noted previously, "it is important to know the person who has the disorder in addition to knowing the disorder the person has" (Anderson, 2006, p. 279). Every individual has unique identities influenced by genetic, environmental, and cultural factors (Duncan et al., 2010). Unlike medical fields where individuals are prescribed fairly similar medication for specific physical complications and illnesses, psychologists are trained to utilize psychotherapy interventions in accordance to the client's unique identities (Duncan et al., 2010). In other words, particular structured psychotherapy approaches may not be effective for everyone as studies suggest that the

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effectiveness of treatments alone leading to successful outcome is only 15% (Duncan et al., 2010).

Evidence-Based Practice (EBP) is a model in psychology that attempts to improve client care by integrating research with clinical practice (Anderson, 2006). This model takes client characteristics into consideration when discussing clinical interventions. According to this model, social factors and an individual's cultural background can impact treatment outcome. In addition, it is emphasized that clinical interventions that are widely used in psychotherapy have often been validated for use on majority population, not necessarily marginalized groups. Therefore, psychological measures need to be modified and validated for various cultural groups in society (Anderson, 2006).

There are other individual characteristics that are found to be essential in successful clinical outcome (Anderson, 2006). For instance, every individual may present with different levels of psychological symptoms and behaviors. Furthermore, presenting issues and their etiology may vary from one individual to another (Anderson, 2006). Factors such as age, developmental history, past traumatic experiences, parents' attachment style, and past and current socialization may impact treatment outcome (Anderson, 2006).

Sociocultural and familial factors such as gender, sexual orientation, ethnicity, race, religion, and social status can also be determining factors in psychotherapy (Anderson, 2006). Personal values and differences such as worldviews, preferences for treatment, and goals for therapy can impact the usefulness of a treatment (Anderson,

2006). Furthermore, social and environmental factors such as experiencing racism and prejudice in society, immigration status, unemployment, financial resources, family support, divorce, and loss of a loved one can also affect treatment outcome (Anderson, 2006).

There are numerous factors that play a role in positive treatment outcome. A wide range of research literature suggests that it is only through a positive and meaningful relationship that therapists can learn about clients' identities and cultural background (Duncan et al., 2010). This relationship is called the therapeutic relationship, which is different from any other relationship outside of therapy (Duncan et al., 2010). The therapeutic relationship is a relationship where the therapist's only focus is understanding clients, what brings them to therapy, and how their current issues are related to their identities, including cultural identities (Duncan et al., 2010). This factor is one of the core components of Relational Cultural Theory (RCT), which emphasizes the therapeutic relationship between the client and therapist, and also "validating and incorporating a client's cultural and social context" (Frey, 2013, p. 179). What makes therapy complicated is that all of the factors discussed so far can impact one another. For instance, culture, both the client's and therapist's culture, not only can influence their personal values and beliefs, but also the therapeutic relationship. This factor can also affect the power differential in therapy between therapists and clients (Anderson, 2006).

Psychological assessments play an auxiliary role in assisting counselors in conceptualizing issues and concerns that clients bring to therapy (Draguns, 1996;

Duncan et al., 2010). However, assessment results alone are not a final determining factor for making decisions concerning diagnosis or interventions (Draguns, 1996). Given that individuals have unique characteristics, clinicians are encouraged to be mindful of a client's cultural background when conducting and interpreting psychological assessments (Berry, 2002).

Psychological measures are combinations of questions that are found to be helpful in identifying not only psychological symptoms in clients, but also the level at which clients experience these symptoms (Duncan et al., 2010). For instance, the Beck Depression Inventory is a psychological test that measures depressive symptoms in individuals (Beck, Steer, Ball, R, & Ranieri, 1996). The maximum score for this inventory is 63 and individuals who score between 29 and 63 are considered to have severe depression, while scores between 20-28 are indicative of moderate depression, 14-19 suggests mild depression and 0-13 reflect minimal or no depression (Beck, Steer, Ball, R, & Ranieri, 1996). There is considerable research behind every clinical psychological inventory because the efficacy, reliability, and validity of these tests needs to be assessed in order to be utilized as a tool to measure the severity of client's psychological symptoms (Duncan et al., 2010).

Cross-Cultural Research: The Need for Culturally Evaluated Assessments in Counseling Psychology

Culture plays a significant role in shaping our identity and is one of the main factors in individual differences (Duncan et al., 2010). As discussed previously, culture is also an essential factor in psychotherapy and psychological assessment as it impacts

not only clients and clinicians, but also their understanding of psychological symptoms, how these symptoms are expressed, and the power balance and therapeutic relationship between therapists and clients (Anderson, 2006; Duncan et al., 2010). Therefore, psychologists are interested in conducting research on individuals across cultures - namely cross-cultural research - in order to provide the best possible care to their clients (Matsumoto & van de Vijver, 2010). As stated earlier, Berry (2002) defines cross-cultural research in psychology as "the explicit, systematic comparison of psychological variables under different cultural conditions in order to specify the antecedents and processes that mediate the emergence of behavior differences" (Berry, 2002, p. 1). Matsumoto and van de Vijver (2010) define cross-cultural research as studies that "compare two or more cultural groups… on psychological variables of interest" (Matsumoto & van de Vijver, 2010, p. 1).

Literature indicates that the frequency of cross-cultural research is increasing and that culture has become an essential part of theories and models in psychology and psychological processes (Matsumoto & van de Vijver, 2010). For instance, the RCT approach advocates for the expansion of multicultural and social justice research and values cultural considerations and related competencies in counseling (Comstock, Hammer, Strentzsch, Cannon, Parsons, & Salazar II, 2008; Frey, 2013).

Advantages to cross-cultural research. There are advantages to cross-cultural research, one of which is to verify whether our clinical knowledge of a particular cultural group holds true about another group of individuals (Matsumoto & van de Vijver, 2010). Therefore, as noted previously, one of the first goals of cross-cultural

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research is known as transport, which means to "test the generality of existing psychological knowledge and theories" and to also test "hypotheses concerning human behavior" across cultures (Berry, 2002, p. 3). This is especially critical when it comes to using clinical interventions and assessments that are normed on the White majority population for marginalized groups. The majority of psychological assessments and interventions that exist today are modeled and normed in western societies and on White majority populations. Therefore, the efficacy and effectiveness of these assessments and interventions on marginalized populations is questionable, which is an ethical concern (Matsumoto & van de Vijver, 2010). One of the major criticisms that many scholars have about the training, research, and practice in the field of counseling psychology is the lack of attention to multicultural aspects of counseling and individual differences (Duncan et al., 2010; Matsumoto & van de Vijver, 2010).

Cross-cultural research can give clinicians and researchers a better understanding about the differences between two or more cultural groups (Matsumoto & van de Vijver, 2010). Indeed, there are behaviors that are specific to cultural groups, requiring researchers to learn about behaviors within specific cultures, which can be studied using an emic approach (Berry, 1999; Matsumoto & Juang, 2008). Therefore, the second goal of cross-cultural research is to go beyond just replicating and generalizing current interventions and assessments from one culture to another, and instead look for variables and cultural variations that we may not currently be aware of due to our limited knowledge of a marginalized population (Berry, 2002).

The third goal for this type of research is to integrate the first two goals "into a broadly based psychology" that can be used for diverse clinical populations (Berry, 2002). The third goal helps clinicians to build two-way channels from one culture to another and to generate interventions that are valid for use in multiple populations (Berry, 2002). Such universality can be achieved using an etic approach to cross-cultural research (Berry, 1999; Matsumoto & Juang, 2008).

Risks and disadvantages of cross-cultural research. Every research has risks and disadvantages and cross-cultural research is no exception. One of the immediate risks in cross-cultural research is that inaccurate conclusions may be obtained due to flawed research methods and designs (Matsumoto & van de Vijver, 2010). Some of the flawed methods that are identified in conducting cross-cultural research include but are not limited to errors in sampling, translation issues, measurement validity and reliability, and data analysis and interpretation (Matsumoto & van de Vijver, 2010). For instance, a large number of cross-cultural studies use college student populations as their sample which may not correspond to matched samples in a different country, or different region within the same culture or country, due to factors such as quality of education, differences in school enrollment rates, and socioeconomic status (He & van de Vijver, 2012). While cross-cultural research can be helpful to clinicians in aiding clients from marginalized groups, it can have negative implications if the results obtained are inaccurate and flawed (Matsumoto & van de Vijver, 2010). Therefore, clinicians and researchers are encouraged to be knowledgeable about, sensitive to, and aware of these issues when conducting cross-cultural studies.

Biases as a major risk. Two of the major risks in cross-cultural research are biases and issue of equivalence (Matsumoto & van de Vijver, 2010). Matsumoto and van de Vijver (2010) define bias in cross-cultural research as "differences in a measurement instrument that do not have exactly the same meaning within and across cultures" (p. 18). If there are biases in a measurement, then that measurement is "culture- or group-dependent" (Matsumoto & van de Vijver, 2010, p. 22) and therefore cannot be generalized to other groups or population. There are different types of biases reported in research literature, some of which are method, construct, and item bias (Van de Vijver & Poortinga, 1997), and investigator, experimenter, and participant bias (Heppner et al., 2007; Matsumoto & van de Vijver, 2010). For instance, using an item that is known to measure depression in a specific ethnicity in order to study depressive symptoms on a different population may be biased (i.e., item bias); an individual in the target population may not endorse the item due to cultural variations. Item bias is often related to "poor translation or inapplicability of item content" in the target population (He & van de Vijver, 2012, p. 7). Certain phrases or words in English (e.g., "I feel blue", p. 8) may not have equivalents in a different language and therefore, pose a challenge to the validity of the measure (He & van de Vijver, 2012).

Equivalence as a major risk. Equivalence is defined as "the level of comparability of measurement outcome" across cultures (Matsumoto & van de Vijver, 2010, p. 19). Biases can threaten equivalence. In order to fulfil equivalence criteria in cross-cultural research, we need to ask whether the items of a psychological assessment that we intend to use in a different culture have the same meaning compared to the

population on which they were normed (Heppner et al., 2007). For instance, if our intention is to measure anxiety across cultures, we need to make sure the items in the anxiety inventory, are (a) understood and mean the same in the target population, and (b) that this measurement is a valid tool to compare the anxiety level between two or more cultures (Matsumoto & van de Vijver, 2010).

There are many different types of equivalence that a research study must demonstrate in order to be valid. Construct equivalence is obtained when measurement constructs in a study population share the same meaning in the target population (Matsumoto & van de Vijver, 2010; Van de Vijver & Poortinga, 1997). Structural or functional equivalence refers to underlying factors within a measurement and whether each of the factors exist in and serve the same purpose in the target culture that is being studied (Matsumoto & van de Vijver, 2010, Sue, 1996). Another type of equivalence is metric or measurement unit equivalence which is met when measurements use the same units of measurements and the units are understood in the same way in the two populations (Matsumoto & van de Vijver, 2010; Sue, 1996). Full score equivalence is a type of equivalence that is achieved by obtaining the meaning of all items in a measurement, which allows researchers to infer comparisons about a phenomenon across cultures (Matsumoto & van de Vijver, 2010; Sue, 1996). Translation equivalence is also essential in cross-cultural research; this equivalence is maintained by making sure items and psychological concepts are translated accurately into the target language (Sue, 1996).

Conducting Cross-Cultural Research in Psychology

There are different approaches that have been introduced by researchers in conducting cross-cultural research (Matsumoto, 2008). Cross-cultural comparison is one of the methods that researchers use to compare specific psychological variables or measures across cultures (Matsumoto, 2008). The major goal in this type of approach is to investigate if certain populations score differently on specific measures (Matsumoto, 2008). This type of research can expand clinical knowledge of counselors and raise their awareness about cultural competencies in psychotherapy (Matsumoto, 2008). However, the disadvantage of this approach is that comparison group is generally from the White majority population, set up as the normative group. Another approach in conducting cross-cultural studies is unpacking studies, which refer to research designs focused on understanding why there are differences in findings on certain measures across cultures (Matsumoto, 2008). This type of research is like "peeling (layers) of an onion" one after another (Matsumoto, 2008, p. 191). Ecological level studies are another type of cross-cultural research design in which countries and cultures – not individuals - are the "unit of analysis" (Matsumoto, 2008, p. 191). In these studies, average scores for each culture or country are obtained and compared with one another. One of the most challenging type of cross-cultural studies is ethnography studies, which involve researchers living in the target population and "being immersed in a culture for an extended period of time" (Matsumoto, 2008, p. 192). This type of research allows researchers to experience the rituals, customs, and beliefs of people who live in that culture (Matsumoto, 2008). Researchers in this type of design rely mostly on their own

experiences when investigating the difference between their own culture and the target culture that is being studied (Matsumoto, 2008). While there are many advantages to this design, lack of generalizability is one of the disadvantages (Matsumoto, 2008).

Sue (1996) also offered several different approaches for conducting cross-cultural studies. Developing new tests and measures unique to a culture is one of the approaches suggested by Sue (1996). One of the advantages of developing new tests and measures for ethnic minority populations, which is considered an emic approach, is to reduce biases that exist in measures and assessments used with that population (Sue, 1996). A major disadvantage for this type of research is the multi-step process including multiple pilot studies, large sample size requirements, assessing validity and reliability for each pilot study, and modifying items in order to reach optimum reliability (Johanson & Brooks, 2010). Sue (1996) calls for researchers to advocate for cross-cultural research in the field of psychology and recommends researchers come up with new assessment paradigms that fit ethnic minority population.

Finally, cross-cultural validation or survey design studies are approaches that focus on validating psychological measures across cultures (Heppner et al., 2007; Matsumoto, 2008). This type of study is common practice in conducting a cross-cultural study, is often exploratory in design, and is considered essential in cross-cultural studies (Heppner et al., 2007; Matsumoto, 2008). In a cross-cultural survey design, a psychological instrument, survey or questionnaire that is usually developed and validated in a specific population is used on a different population to verify its validity, reliability, and equivalence (Heppner et al., 2007; Matsumoto & van de Vijver,

2010). One major aspect of such adaptation is focused on language and another aspect

is related to the cultural context of the target population (Matsumoto & van de Vijver,

2010). In order for an instrument to be validated and normed in a target population, the

instrument (a) needs to be translated into the language of that target population,

followed by (b) evaluation of cultural verification or equivalence (Ghassemzadeh et al.,

2005; Guillemin, Bombardier, & Beaton, 1993; Matsumoto, 2008; Matsumoto & van de

Vijver, 2010, Sue, 1996). The above approach is utilized in this study to validate the

SBS for use on Iranian populations.

As previously noted, the majority of well-known psychological batteries are

developed in western countries and tested on the White majority culture. For instance,

the Minnesota Multiphasic Personality Inventory (MMPI) is a well-known

psychometric test that was validated on White majority populations in Minnesota in the

1930s and is a measure of adult personality and psychopathology (Draguns, 1996;

Friedman, Bolinskey, Levak, & Nichols, 2014). While the standardization of the

MMPI-2 utilized subjects from minority ethnic groups such as African American,

Hispanics, and Native Americans, Asians were unrepresented in this assessment and the

Hispanic sample size is reported to be disproportionate to the Hispanic populations in

the United States (Draguns, 1996). The Millon Clinical Multiaxial Inventory (MCMI)

is another psychological instrument that is designed to measure personality traits. Like

the MMPI, the MCMI was standardized and normed on White individuals (Millon,

1977). Similarly, the Beck Anxiety and Depression inventories (BAI and BDI) are also

assessments that measure anxiety and depression in individuals and were normed in

White majority culture (Beck, Steer, Ball, & Ranieri, 1996). However, the BAI and BDI have been adapted for use in many different languages and cultures.

Given that individuals have unique identities, it extremely important to be cautious in using many of the psychological assessments for non-White clients (Matsumoto & van de Vijver, 2010). It is considered unethical to interpret psychological assessments on diverse populations without taking into account the client's cultural background and identities (Matsumoto & Jones, 2009). Lack of attention to client's background can lead to under- or over-diagnosis of clients, and even harming these individuals. For instance, as noted previously, studies on African American populations suggest that this population is over-diagnosed for depression and schizophrenia (Baker & Bell, 1999). This suggests that some of the behavioral patterns that may appear as pathological in the White majority culture are adaptive and within the cultural norms of individuals who identify as African American (Garretson, 1993). This simply emphasizes the need for cross-cultural research on investigating the validity of psychological assessments across cultures.

Types of Sampling in Cross-Cultural Research

Sampling methods that are used in cross-cultural studies vary depending on the type of research design (Matsumoto & van de Vijver, 2010). Given that cross-cultural studies are often conducted on marginalized populations, snowball sampling is one of the widely used sampling methods in cross-cultural research (Boehnke, Lietz, Schreier, & Wilhelm, 2010). This sampling method is preferred for populations that are not easy to find (e.g., marginalized population, certain religious groups) or when the researchers

are not able to be physically present. In this method, some members of the community or population are contacted and are asked to introduce the study to other individuals in the community that may be willing to participate (Boehnke et al., 2010). Cluster sampling is also another method that is used in cross-cultural studies. In this method, a limited number of groups of individuals are randomly selected from a population (e.g., ten Shia Muslim Mosques in the United States). In the second step, all members of these groups are included in the sample (Boehnke et al., 2010). Stratified sampling is used when "a given factor has an effect on the phenomenon under study" (e.g., religious affiliations such as Shia and Sunni Muslims; Boehnke et al., 2010, p. 104). In this sampling technique, a population is divided into strata before sampling, and each stratum is given a value for that factor (i.e., 1=Shia Muslims, 2=Sunni Muslims). In the final step, participants are selected randomly from each stratum (Boehnke et al., 2010). This study will use snowball sampling because it is difficult to identify and recruit Iranian participants.

Cross Cultural Research, Iranian Worldview, and Submissiveness

The terms *eastern and western cultures/countries* are used often in this literature review. *Eastern countries* in this context are mainly referring to non-White populations in countries in central, south, and middle east Asia, including Iran, China, Japan, Turkey, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan. *Western societies* refers to White populations in Europe, and North America, including the United States and Canada.

Individualistic and collectivistic culture. Personal values and normative

standards depend on cultural worldview. Furthermore, cultural orientation is an important element in understanding individuals' worldviews as well as self-views (Lonner, 2007). Lonner (2007) describes individualism and collectivism as "a set of values, attitudes, and behaviors that vary in the priority placed on the self versus the ingroup" (p. 31). In societies where individuals are oriented toward individualism, the self is the focus in individual decision making and is the major factor in shaping identities (Lonner, 2007). In an individualistic culture individuals tend to be more self-oriented and independent, and prioritize self-related goals (Ghorbani, Bing, Watson, Davison, & LeBreton, 2003). They value autonomy, freedom, and self-fulfillment. In contrast, in a collectivistic culture, the group is the main focus. People who are more collectivistic tend to be more interdependent and value nurturance and compliance, and their goals are bound to the family and groups that they ascribe to (Ghorbani et al., 2003; Tafarodi & Smith, 2001; Lonner, 2007). Such differences in world views and self-views contribute to how people assess self-worth, acceptance, commitment, or making decisions (Ghorbani et al., 2003; LeFebvre & Franke, 2013). For instance, in a collectivistic culture, self-acceptance depends on social evaluation and conforming to the goals of family and other groups. Conversely, in individualistic cultures, self-acceptance is related to self-performance and self-evaluation, while less dependent on conforming to group goals (Chen, Chan, Bond, & Steward, 2006). As a result, coping mechanisms that individuals have for dealing with problems are culturally specific. For instance, family support tends to be a major coping mechanism in a collectivistic culture (Allen & Smith, 2015; Torkelson & Muhonen, 2008). In the Iranian culture, which is

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considered to be collectivistic (Joshanloo, 2010), when someone loses a loved one, relatives will visit him or her every day, and some relatives will stay with the family of the deceased individual for 40 days to offer empathy and emotional support. In this example, supporting families of deceased individuals is considered a duty and, therefore, a priority for individuals who identity as collectivistic. This means that a collectivist may sacrifice individual goals over group goals.

Individualism and collectivism are not distinct categories, rather part of a continuum of cultural traits (Lonner, 2007). In a collectivistic culture, there are individuals who are also more individualistic, and vice versa. However, in general, studies confirm that people in the United States, especially Euro-Americans, are oriented more toward individualism and less toward collectivism (Lonner, 2007).

Individuals in collectivistic and individualistic societies cope differently with problems. A study on Asian American individuals who lost their loved ones in the 9/11 tragedy reported that these individuals interpreted their life story through religious beliefs and increased their spiritual activity to cope with their loss (Allen & Smith, 2015). Family support has also been found to be one of the predictors of lower impairment and positive psychological well-being in individuals who identify as collectivists (Allen & Smith, 2015). Such findings are essential to consider in treating individuals from collectivistic cultures. Furthermore, such empirically based cross-cultural considerations can help psychologists be more sensitive to problems that their clients bring into session and be more informed about interventions that they use in

therapy.

Submissive behavior in western cultures. In western societies, submissive behavior is generally defined as a tendency to "yield to the will or authority of others" (Submissive, n.d.). In literature, it is defined as a behavior that "involves increased tension and inhibition in situations of challenge or conflict (of interests) and where the chosen response is to back down or inhibit self-promotion" (Gilbert, 1992; Gilbert & Allen, 1994, p. 296). Studies also have indicated that fear is associated with submissiveness (Gilbert &Allen, 1994), including fear of being judged, rejected, threatened or ridiculed. Submissiveness is believed to be negatively correlated with assertiveness (Gilbert & Allen, 1994), which is generally defined as "the ability to express self without anxiety, anger, or aggression" (Gilbert & Allen, 1994, p. 295). Assertiveness is measured in the two dimensions of distress and actual performance of a specific assertive behavior (Gilbert & Allen, 1994, p. 295). For instance, one may be very anxious but able to perform an assertive behavior. A study by Gilbert and Allen (1994) showed that submissive behavior was associated with both assertive distress and assertive performance (Gilbert & Allen, 1994). More specifically, submissiveness was found to be negatively correlated with the display of negative feelings and with initiating assertiveness (Gilbert & Allen, 1994). That is, the more submissiveness an individual demonstrated, the less negative emotions were displayed by that individual. However, submissive behavior was reported to be positively correlated with assertive distress, suggesting the more submissive an individual was, the more anxious the individual (Gilbert & Allen, 1994, p. 295).

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There are several factors that have been found to contribute to one behaving in a submissive manner in western studies. Allan and Gilbert (1997) reported that submissive behavior as a psychological construct can be linked to socially defensive responses and are a consequence of threats or a strategy to avoid conflict. In other words, an individual who is threatened by someone or a situation, may respond by avoiding/escaping the situation (i.e., flight) or by passive behaviors (i.e., crouching, looking down, avoiding eye contact; Allen & Gilbert, 1997).

Existing literature on submissiveness indicates that only involuntary submissive behavior is associated with psychopathology (Allen & Gilbert, 1997). For instance, individuals who pay respect to their grandparents may present with submissive behavior *voluntarily* and, therefore, such behavior cannot be labeled pathological. However, someone who is depressed may present with submissive behaviors due to a lack of emotional regulation which can lead to involuntary submissive behavior (Allen & Gilbert, 1997). In other words, someone who is severely depressed may be unable to follow through on the desire to be assertive and may subordinate or be passive in social communications (O'Connor, Berry, Weiss, & Gilbert, 2002). Therefore, involuntary acts such as "doing things against one's will" (Allen & Gilbert, 1997, p. 471) are commonly regarded as submissive. The study of submissive behavior originating with Buss & Craik (1986) and further developed by Allen and Gilbert (1997) led to the development of the Submissive Behavior Scale (SBS). However, all of these studies on submissive behaviors were conducted on White majority populations and cultural factors were not considered (Allen & Gilbert, 1997; Gilbert, Allen, & Trent, 1995).

Submissive behavior has been associated with a wide range of psychological problems in western countries (Allan & Gilbert, 1997; O'Connor et al., 2002; Troop, Allan, Treasure, & Katzman, 2003). O'Connor et al. (2002) found significant positive correlations between submissive behavior and somatization, depression, anxiety, hostility, and paranoid ideation in a clinical group that consisted of 136 out-patient non-psychotic individuals who were diagnosed with anxiety and depression. Submissive behavior has also been observed in individuals who have been traumatized or sexually/verbally abused (Allen and Gilbert, 1997). Studies have indicated that submissiveness was negatively correlated with social comparison (Gilbert & Allen, 1995; Cheung et al., 2004), self-esteem, and academic achievement (Ahmet, Satici, & kayiş, 2012). Furthermore, studies have shown that this behavior was positively correlated with fear of negative evaluation (Gilbert, 2000); fear of envy and survivor guilt (O'Connor, Berry, Weiss & Gilbert, 2002); empathy distress and social anxiety (Ahmet et al., 2012; Gilbert, 2000); and shame and rumination (Cheung et al., 2004). An additional research study revealed a significant level of submissive behavior in individuals diagnosed with eating disorders compared to a non-eating disordered control group (Troop et al., 2003); the study also found that submissive behavior was significantly related to the severity of the eating disorder after accounting for depression and other psychopathology variance.

Submissive behavior in Iran and eastern populations. As previously noted, the key distinction between a pathological submissive behavior and a non-pathological behavior may be the *involuntary* nature of the decision making, which is what makes it

pathological (Allen and Gilbert, 1997). However, submissiveness is a behavior perceived differently across cultures and, unlike in western societies, submissiveness has a broader interpretation in eastern countries such as Iran. Individuals in eastern societies may engage in *involuntary* submissive behaviors due to the collectivistic norms of their culture. For instance, according to Allen and Gilbert (1997) involuntary behaviors such as "doing things against one's will" (p. 471) are regarded as submissive acts and therefore pathological. This makes sense in an individualistic society where "the self is the central unit of society" (Lonner, 2007). However, in eastern cultures such as Iran, where individuals are more collectivistic and group goals are prioritized over individual goals, individuals may make decisions that are against their will in order to conform to goals of their group. For example, an individual who is very busy with school and does not have time to engage in activities outside of his academic work may help his parents or grandfather simply because that is expected of him. Not doing so may have consequences such as being evaluated negatively by others and bring feelings of shame. Therefore, such passive behavior, while considered pathological in western societies (Allen and Gilbert, 1997), may not be considered pathological in an Iranian culture due to existing cultural values and norms. Therefore, it is essential for a submissive behavior scale to fit the collectivistic norms of Iran in order to be meaningful.

There are limited studies on submissive behavior in eastern countries. A study by Öngen (2006) investigated the relationships between self-criticism, submissive behavior, and depression and found that submissiveness was a significant predictor of

depression among Turkish adolescents. Another study on Turkish students explored the relationship between submissive behavior and self-compassion (Ahmet, 2009). These results indicated that self-compassion was a significant predictor of submissiveness (Ahmet, 2009). More specifically, self-kindness, common humanity, and mindfulness were negative predictors of submissive behavior, while self-judgment, isolation, and over-identification predicted submissive behavior in a positive direction (Ahmet, 2009). Other studies have shown that submissive behavior is negatively associated with positive expressivity, negative emotional expressivity (Ahmet et al., 2012; Satıcı & Kayiş, 2011), and impulse strength (Ahmet et al., 2012). Öngen (2006) also found a positive relationship between submissiveness and depression.

Purpose of the Study

There are numerous inventories that have been evaluated for use in Iranian populations. For instance, the BAI and BDI are two well-known inventories that have been translated into Persian, normed in Iranian populations, and are widely used in psychology clinics in Iran (Ghassemzadeh et al., 2005; Hojat & Mehryar, 1986; Hojat et al., 1986). However, the limitation that continues to exist in adaptation of psychological inventories into Farsi is the lack of cultural evaluation or equivalence. Most of the inventories that are adapted from English into Farsi, have gone through linguistic equivalence but have not been evaluated for cultural context. The focus of the current study is to first, address the linguistic equivalence of the Persian SBS and investigate the reliability and validity of the Persian SBS. Once the linguistic equivalence is achieved, future studies can continue to assess the cultural equivalence.

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Specifically, the aim of this study is to convert the Submissive Behavior Scale (SBS), a scale developed, normed and used in the United States, into Persian. The goal is to examine the structure of the scale in an Iranian population and in a US sample, as well as to contrast the structure of the scale in an Iranian sample to a US sample. This is the first time that the SBS is being converted to Farsi. Therefore, this research will allow psychologists not only in Iran, but also in western countries, to assess their Iranian clients more accurately and hopefully identify interventions that fit clients' cultural backgrounds, leading to more successful treatment outcomes. Given that submissiveness has been associated with depression, anxiety, and other psychological disorders in the U.S. but the scant research supporting these relationships in Iran, developing a Persian version of the SBS is a necessary first step in being able to pursue this research in Iran. The following research questions are proposed:

1. Are items of the English version of the SBS reliable and valid for use with Iranian populations? More specifically, what is the dimensionality of the SBS in an Iranian and a US sample? What is the goodness of model fit for the SBS within the Iranian and the US samples? Furthermore, is SBS equivalent between the samples?

2. What is the relationship between the SBS, depression, and anxiety in the Iranian and US samples?

3. Is submissiveness a predictor of depression and anxiety in the Iranian and the US samples?

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Method

Participants

In this study participants were recruited from the United States and Iran. In the United States, the target population was individuals who identify as American citizens and Permanent Residents (green card holders), 18 years and older, who have lived in the U.S. more than four years. As for Iranian participants, Iranians who were 18 years and older and have not lived outside of Iran for more than four years were included in this study. Participants in this study were recruited through snowball sampling as it is proven to be effective in recruiting minority ethnic groups in society (Goodman, 1961). Recruitment in both sites consisted of sending invitation emails to friends, family members, colleagues, university professors and staff and asking them to participate in this study and to also forward the invitation email to other individuals that they know.

US sample. The US sample for this study comprised of 168 individuals, 139 female (82.7%), 27 male (16.1%), and two participants did not report their gender. Four participants were excluded from the study because they indicated that they were in the U.S. through VISA and that they had lived in this country for less than four years. Of the U.S. participants, 98.2% identified as American citizens ($n = 165$) and 1.8% reported as Green Card holders ($n = 3$). As for age, 61 individuals reported their age within 26-35 (36.3%), 49 reported within 36-45 (29.2%), 22 indicated 55 and older (13.1%), 19 indicated within 18-25 (11.3%), and 17 individuals reported their age within 46-54 (10.1%). The majority of participants identified as White ($n = 126$; 75%). The remainder identified as African American ($n = 19$; 11.3%), Native American ($n = 8$;

4.8%), Asian (*n* = 4; 2.4%), Hispanic/Latino (*n* = 2; 1.2%), Arab/Middle Eastern (*n* = 1; .6% and 4.8% of participants (*n* = 8) identified as individuals of other ethnic backgrounds. All of the participants in this study reported that they have lived in the U.S. for at least 4 years or longer; 95.8% (*n* = 161) reported that they have lived in the U.S. for all their life and the rest of participants reported living in the U.S. between four to eight years (*n* = 1; .6%) or nine to 15 years (*n* = 5; 3%), and data was missing on one participant. The majority of the participants reported their monthly income in the $1000 to $3000 (*n* = 55; 32.7%) and $3000 to $6000 range (*n* = 59; 35.1%). The rest of the participants reported their monthly income either less than $1000 per month (*n* = 9; 5.4%), between $6000 to $9000 (*n* = 20; 11.9%), or more than $9000 per month (*n* = 22; 13.1%), and data was missing on three participants. Of all participants, 37.5% (*n* = 63) reported having a Master's degree, 19% (*n* = 32) reported having a Ph.D./Doctorate degree, 14.3% (*n* = 24) reported a Bachelor's degree (this option was added to the list of options about 10 days after data collection started and 88 participants had participated in the study), 12.5% (*n* = 21) reported other professional degrees, 5.4% (*n* = 9) reported an Associates degree, 3% (*n* = 5) reported a high school diploma, and data was missing on one participant. When asked about their marital status, 60.7 % (*n* = 102) of the U.S participants reported being married, 28.6% (*n* = 4) reported being single, 7.7% (*n* = 13) divorced, .6% (*n* = 1) reported married but separated, and the rest of particpants reported their response as "other" (*n* = 22; 2.4%).

  Iranian Sample. There were 192 Iranian participants in this study; 119 female (62%) and 69 male (36%) and 4 individuals did not report their gender. Of the Iranian

participants, 178 reported that they have lived all their life in Iran (92.7%), 13

individuals indicated that they have lived outside of Iran (6.8%) for less than 4 years,

and data on one participant was missing. As for age, 41.7% ($n = 80$) of participants

reported their age within 26-35, 22.9% ($n = 44$) reported within 36-45, 18.8% ($n = 36$)

within 18-25, 8.9% ($n = 17$) within 46-54, 7.3% ($n = 14$) of participants reported to be

55 or older, and data on one participant was missing. When asked in what province of

Iran lived in, 24.5% ($n = 47$) participants reported living in Tehran, 25% in Alborz

(neighboring state; $n = 48$), 10.9% in Esfahan ($n = 21$) and the rest of the participants (n

$= 76$) reported living in 15 other provinces. As far as their highest degree, 46.9% ($n =$

90) of the Iranian participants reported having a Bachelor's degree, 20.8% ($n = 40$)

Masters, 8.3% ($n = 16$) high school, 7.8% ($n = 15$) a Ph.D., 6.8% ($n = 13$) reported

some college courses without completing a degree, 6.3% ($n = 12$) Associates degree,

1.6% ($n = 3$) middle school, 1% ($n = 2$) elementary school, and data on one participant

was missing. As for household income, majority of the Iranian participants reported

having a monthly income of 1 to 3 million Tomans (MT; $n = 89$; 46.4%), 3 to 6 MT (n

$= 51$; 26.6%), under 1 MT ($n = 23$; 12%), between 6 to 9 MT ($n = 14$; 7.3%), more than

11 MT ($n = 11$; 5.7%) and four participants did not report their income (during the data

collection, each U.S. dollar was approximately equivalent to 4200 Tomans). In the

Iranian sample, 61.5 % ($n = 118$) reported being married, and 33.9% ($n = 65$) reported

being single, 2.6% ($n = 5$) divorced, .5% ($n = 1$) married but living separately, and three

individuals did not respond to this question.

Measures

  Submissive Behavior Scale (SBS). The first SBS inventory (English) was developed by Buss & Craik (1986) using a self-report survey design to measure submissive behavior, and was later modified to a 16-item questionnaire by Allan and Gilbert (1994; see Appendix B.). This scale measures submissive behavior using a Likert response format of 0 to 4 (0=*never*, 1=*rarely*, 2=*sometimes*, 3=*mostly*, and 4=*always*) with higher scores indicating a higher level of self-reported submissive behavior (Allan & Gilbert, 1997).

  According to Allen and Gilbert (1997), this measure was developed on a student group (*n*=332) and clinical group (*n*=134). The Cronbach's alpha for the student group was reported as .82 for all 16 items and deletion of any one item did not result in any higher alpha. In terms of gender, Cronbach's alpha was reported to be higher for men (.83). As for the clinical group, Cronbach's alpha was reported to be .85 and no differences were reported between men and women (Allan & Gilbert, 1997). Allen and Gilbert (1997) conducted a principle component analysis of the SBS to investigate how many factors contributed to this measure. The factor analysis for the student group in this study revealed a single factor (i.e., submissive behavior) accounting for 28.4 % of the variance (Allan & Gilbert, 1997). A similar result was reported for the clinical group and the single factor accounted for 32.5 % of the variance. The mean SBS score for the student group was reported as 21.4, and 34.7 for the clinical group. It was concluded that the SBS is a reliable and valid scale for measuring submissive behavior

(Allan & Gilbert, 1997), at least within the sample (i.e., primarily students in the United States) to which it was administered. In this study, the Cronbach's alpha for the SBS was .79 for the Iranian sample and .76 for the US sample.

Conversion of SBS into Persian. The methodological strategy suggested for cross-cultural adaptation of psychological inventories suggests a multistep process: (a) forward and backward translation of an inventory from the original language, (b) conducting a cultural evaluation, and (c) conducting an exploratory factor analysis to identify factors that can explain variance in that specific population (Hojat et al., 1986; Ghassemzadeh et al., 2005; Kalantarkousheh, & Navarbafi, 2012).

To adapt the Persian version of the SBS, similar strategies were followed. In the initial step, the 16-item SBS questionnaire was translated to Farsi by an independent professional who was a licensed translator in Iran and was not familiar with the study. The translated version of the SBS was investigated for linguistic equivalence by two independent psychologists who were bilingual and fluent in Farsi and English. The two independent reviewers were also asked to rank their approval of the translations on a Likert scale of 1 to 10, 1 being a very weak translation and 10 being a satisfactory translation. Upon receiving feedback from the above psychologists, recommended changes were applied to the SBS and reviewers were asked to give their final ranking of the final version of the SBS. The lowest average ranking for each item was 9.5 and the lowest ranking for each individual reviewer was 9. At this point, the final Farsi version of the SBS was translated back to English by a different licensed translator in Iran (backward translation). The backward translation was then reviewed by two different

clinical psychologists with the same qualifications discussed in the forward translation. The average item ranking for the backward translation items were at least 9, except SBS-item 1 which was 7. Independent reviewers believed that the English translation was inaccurate for this item, and that item 1 needed to be translated again from Farsi to English in order to meet their approval. To do so, three different licensed translators in Iran were asked to translate item 1 once again from Farsi to English. All three of the modified English translations of item 1 were sent to the reviewers and they were asked to report their ranking for all three versions of the translation. One of the three translations of item 1 received full ranking of 10 from both reviewers and that item was included in the backward translation.

Depression Anxiety Stress Scales - Persian (DASS-21). The DASS is a 21-item self-report questionnaire with three subscales (seven items each) measuring depression, anxiety and stress, on a Likert scale of 0 to 3 (0=*did not apply to me at all*, 1= *applied to me to some degree*, or some of the time, 2=*applied to me to a considerable degree, or a good part of time*, 3=*applied to me very much, or most of the time*; Lovibond & Lovibond, 1995) with higher scores (for each factor) indicating higher level of self-reported depression, anxiety and/or stress. This measure has been validated for use with Iranian populations and Cronbach's alphas for depression, anxiety and stress scales were reported to be .85, .85, and .87 respectively (Asghari, Saed, & Dibajnia, 2008). Furthermore, the DASS is correlated with the Beck Depression Inventory (r=.74) and Beck Anxiety Inventory (r=.81; Lovibond & Lovibond, 1995). In this study, the anxiety (7 items) and depression (7 items) scales of

this questionnaire will be used to examine the relationship between these two factors and submissive behavior in the Iranian sample (see Appendix C.). These scales were selected as a comparison measure to see if there is a positive correlation between SBS and depression and anxiety. In this study, the Cronbach's alpha for the DASS Anxiety was .88 for the Iranian sample and .85 for the US sample. Furthermore, the Cronbach's alpha for the DASS Depression was .88 for the Iranian sample and .89 for the US sample.

Procedures

Two surveys, one in English and one in Farsi were created online using Qualtrics software following approval by the Institutional Review Board (IRB). These questionnaires started with the consent form followed by demographic questions, the SBS, and the DASS Depression and Anxiety items. A recruitment email containing the survey link to the Farsi questionnaire was sent to professors, students, friends, family and relatives in Iran and they were asked to forward that invitation email to their relatives, friends, and community. A similar recruitment email with a link to the English questionnaire was created and sent to individuals in the United States. Detailed instructions were provided at the beginning of the survey. The surveys, created using Qualtrics software, were anonymous and were saved on a secure university server which is supported by security guidelines of the University of Oklahoma and is password protected.

Statistical Analysis

   Confirmatory Factor Analysis for the SBS. Individual and group

confirmatory factor analysis (CFA) were conducted to assess the goodness of fit of

various models for the English and Farsi versions of the SBS. In the initial step, the

configural invariance was tested by running the SBS model separately in each group to

see if the SBS provided a good model within each of the groups (i.e., Iranian sample

and the US sample) before comparing the groups. The next step was to assess for

group-CFA measurement equivalence or factorial invariance (i.e., if the same construct

is being measured across the groups). There are four steps in assessing factorial

invariance across groups (Chen, Sousa & West, 2005):

    1. Configural invariance: This step is considered an unrestricted, baseline model

     and the least conservative method of determining model fit across groups.

     There are five major indices that can determine whether the model is a good

     fit across groups or within group. χ^2, χ^2/df, Root Mean Square Error of

     Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis

     Index (TLI). A non-significant value of χ^2, and values of χ^2/df that are closer

     to 1 or smaller indicate that the model is a good fit to the population (Chen,

     Sousa & West, 2005; Hu & Bentler, 1999). A CFI and TLI of greater than .9

     and RMSEA value of less than .08 are conventionally regarded as indicators

     of good fit (Chen, Sousa & West, 2005; Hu & Bentler, 1999). If above

     indices in this step do not suggest the model to be a good fit, then there is no

     need to conduct any further testing since the next three steps are considered

conservative ways of assessing model fit (Van de Schoot, Lugtig & Hox, 2012).

2. Metric invariance: the next step is to test metric invariance by fixing first-order factor loadings to be equal across groups. In this step, goodness of fit indexes such as RMSEA, CFI, and TLI are observed and chi-square difference tests is conducted to determine if there is a significant decrease in fit from the previous step (Chen, Sousa & West, 2005). If there is a significant decrease in the goodness of model fit between this step and the configural model, no further action is required. However, if the model fit is significantly increased, a stricter testing should be considered (steps three and four; Chen, Sousa & West, 2005; Van de Schoot, Lugtig & Hox, 2012).

3. Scalar invariance test: this step is a stricter test compared to the metric invariance. In this step, factor loadings and intercepts are constrained to be equal between groups, which suggest "the meaning of the construct (the factor loadings), and the levels of the underlying items (intercepts) are equal in both groups." (Van de Schoot, Lugtig & Hox, 2012, p.5). Once again, a significant chi-square difference test between this model and the previous metric invariance model suggest that the goodness of fit has decreased and therefore, no further steps are needed (Chen, Sousa & West, 2005). However, if results suggest a significant increase in model fit, then last step, which is a stricter model of fit should be considered (Chen, Sousa & West, 2005).

4. Strict factorial invariance test: This step is to determine if the latent variable is measured identically between groups, by fixing factor loadings, intercepts, and error variances equal between groups (Chen, Sousa & West, 2005). As discussed previously, if significant chi-square difference test suggests a decrease in fit from the from scalar invariance, then the model in the previous step is considered the best fit (Chen, Sousa & West, 2005).

Exploratory Factor Analysis. Exploratory Factor analyses (EFA) were also conducted as a potential follow up to the CFA, to assess for SBS factor structure within the Iranian and the US samples. Scree plots, parallel analysis, and eigenvalues were used to come up with factor solutions (Allan & Gilbert, 1997; Frey, Beesley, & Liang, 2009; Heppner et al., 2007). Furthermore, Promax rotation with a loading cut off of |.32| for item inclusion analysis was used to interpret the rotated component matrix. Factor(s) that explained the highest percentage of variance were included.

Additional Analysis. Correlations between the SBS, Depression, and Anxiety was examined. Furthermore, reliability analysis for all scales was also investigated to see if the Cronbach's alpha was within the acceptable range of >.70, which is reported to be acceptable for social and psychological research studies (Lomax, & Hahs-Vaughn, 2013). Moreover, multiple regression analysis was examined to determine whether SBS was a significant predictor of DASS Depression and DASS Anxiety in the Iranian and US samples.

Results

Preliminary and Descriptive Data Analysis

The researcher conducted preliminary analyses to determine if there were any violations of normality, linearity, homoscedasticity and multicollinearity. The results of these analyses indicated that there were no violations of these assumptions for the SBS in either sample group (Iranian, U.S.). Furthermore, no outliers were identified.

Iranian sample. Sample means, standard deviations, and Cronbach's alphas for the SBS, DASS Depression, and DASS Anxiety scales are shown in Table 1. Bivariate correlational analyses for the Iranian sample revealed a significant, moderate, and positive relationship between SBS and DASS Depression, $r = .53$, $p < .001$ (see Table 2). This relationship was also significant between SBS and DASS Anxiety, $r = .46$, $p < .001$ (see Table 2). Similarly, the relationship between DASS Anxiety and Depression was positive and significant, but it did not reach the level of multicollinearity, $r = .54$, $p < .001$ (see Table 2).

The difference between the SBS sample means within each of the demographic variables (i.e., gender, age, education, and income) was examined. Results of the ANOVAs indicated that there were no significant differences in submissiveness, between any of the demographic variables, except gender. For gender, the SBS mean was significantly higher in males than females, $M_{female} = 22.28$, $M_{male} = 25.26$, $F(1, 186) = 5.921$, $p = .016$.

The US sample. Sample means, standard deviations, and Cronbach's alphas for SBS, Depression, and Anxiety scales are shown in Table 3. Results of the bivariate

correlational analyses for the US sample indicated that there was a small, significant, and positive relationship between SBS and Depression $r = .31$, $p < .001$ (see Table 4). This relationship between SBS and anxiety was also significant and positive, $r = .27$, $p < .001$ (see Table 4). This relationship was also positive and significant between DASS Anxiety and Depression, $r = .54$, $p < .0001$.

Furthermore, the difference between SBS sample mean within each of the demographic variables (i.e., gender, age, education, and income) was examined. Results of the ANOVA analysis indicated that there were no significant differences in submissiveness between any of the demographic variables, except for age. Within the US sample, the SBS mean was significantly higher in individuals who were between 18-25 compared to those who were 55 and older, $M_{18-25} = 27.74$, $M_{55 \text{ and older}} = 21.77$, $F(4, 163) = 2.64$, $p = .03$.

Factor Analysis

Confirmatory Factor Analysis. CFA was conducted to examine the model fit of the SBS. In the first step, a one-factor model of SBS was tested within each group separately to determine the goodness of model fit. The results of the factor analysis revealed poor model fit within the Iranian sample, $\chi^2(104)=225.93$, p<.001, $\chi^2/df = 2.17$, TLI $= .67$, CFI, .75, RMSEA, .08, and AIC $= 321.93$ (see Table 5). As for the US sample, results obtained suggested SBS also being a poor model within the US sample, $\chi^2(104)=246.48$, $p < .001$, $\chi^2/df = 2.37$, TLI $= .50$, CFI, .60, RMSEA, .09, and AIC $= 342.48$ (see Table 5). The results indicate that one-factor configural model fit the data

poorly in both samples raising questions about the one factor model proposed by Allan and Gilbert (1997).

Although the one-factor model of SBS did not fit the samples, a follow up measurement invariance test for the one-factor model was conducted across groups. The results in this step also suggested a poor model fit, even for the most basic (baseline) model known as the unconstrained model, $\chi^2(208)=472.42$, p<.001; see Table 6. Follow up testing for stricter models revealed a significant change in chi-square test, meaning a significant decrease in the goodness of model fit from the unconstrained (baseline) model (see Table 6).

Given that the fit of the SBS model was poor in both samples, EFA was conducted as a follow up to the CFA to further explore the factor structures in the two groups. EFA will allow to determine if (a) a one factor solution is appropriate for both groups or the factor solution is multidimensional in one or both groups and (b) identify those items that differentially measure the dimensions associated with the factor solution.

Exploratory Factor Analysis. As noted previously**,** EFA was conducted as a follow up to the CFA, to further explore the factor structures of SBS within each of the groups (i.e., Iranian and the US sample). Kaiser-Meyer-Olkin (KMO) for both the U.S. and Iranian sample was within accepted range (KMO > .5). Furthermore, Bartlett's sphericity test was significant for both of the samples ($p < .0001$).

For the Iranian sample, the EFA, scree plot and parallel analysis suggested a one-factor solution (see Figure 1.). The one factor accounted for 25.1% of the variation

in the measured variables. A loading criterion of .32 (in absolute value) was used to evaluate the factor loadings of the SBS items. The results indicated that all items except item 1, met the inclusion criterion on the factor (see Table 7). This factor was labeled submissiveness.

For the US sample, the scree plot and parallel analysis suggested a two-factor solution (see Figure 2.). The two factors together accounted for 34.2% of the variation in the measured variables (factor one accounted for 22.8% and factor two accounted for 11.4% of the variation in the measured variables). Therefore, EFA was conducted again, forcing a two-factor solution. A loading criterion of .32 (in absolute value) was used to evaluate the factor loadings of the SBS items. The results after promax rotation indicated that items 1, 3-10, and 12 loaded onto factor 1, labeled lack of assertiveness, and items 11 and 13-16 loaded onto factor 2, labeled social avoidance (see Table 7.). Item 2 did not load to either of the factors. Furthermore, the correlation between factors was found to be .37, suggesting that factors were not orthogonal.

Given the factor structure obtained from EFA, CFA was conducted again to see if a re-specified one-factor model was a good model fit within the Iranian sample. A similar test was conducted to determine if a two-factor model was any different from the original one factor model. The results revealed that the re-specified one-factor model did not fit the data particularly well in the Iranian sample, nor did the re-specified two-factor model fit the data in the US sample (see Table 9).

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Regression Analysis

      A simple linear regression was conducted to determine whether submissiveness was a predictor of anxiety and depression in each sample. As for the Iranian sample, SBS was found to be a significant predictor of depression. The SBS accounted for 28.3% of the variation in depression ($R^2 = .28$, $F (1, 189) = 74.78$, $p < .0001$). Furthermore, results also indicated that for every 1 raw unit increase on SBS, there was a predicted .29 unit increase on depression, $b = .29$, $S.E. = .03$, $p < .0001$. Regression analysis also revealed that SBS was a significant predictor of anxiety in the Iranian sample and that it accounted for 22% of the variation in anxiety ($R^2 = .22$, $F (1, 188) = 53.02$, $p < .0001$). Results also revealed that for every 1 raw unit increase on SBS, there was a predicted .20 unit increase on anxiety, $b = .20$, $S.E. = .03$, $p < .0001$.

      In the US sample, SBS was also found to be a significant predictor of depression. The results indicated that SBS accounted for 9.5% of the variation in depression ($R^2 = .09$, $F (1, 165) = 17.36$, $p < .0001$). Furthermore, for every 1 raw unit increase on SBS, there was a predicted .17 unit increase on depression, $b = .17$, $S.E. = .04$, $p < .0001$. Regression analysis also revealed that SBS was a significant predictor of anxiety in the US sample and that it accounted for 7.3% of the variation in anxiety ($R^2 = .07$, $F (1, 166) = 13.16$, $p < .0001$). Results also indicated that for every 1 raw unit increase on SBS, there was a predicted .15 unit increase in anxiety, $b = .15$, $S.E. = .04$, $p < .0001$.

      Two-factor model of the SBS was also tested to see how each of the factors predict depression and anxiety. The SBS factor 1 also found to be a significant

predictor of depression. The results indicated that SBS factor 1 accounted for only 6%

of the variation in depression (R^2 = .06, F (1, 165) = 10.40, p < .002). Furthermore, for

every 1 raw unit increase on SBS, there was a predicted 1.87 unit increase on

depression, b =1.87, $S.E.$ = .05, p < .001. The regression result for the SBS factor 2 was

also significant and it accounted for 8.1% of the variation in depression (R^2 = .08, F (1,

165) = 14.58, p < .0001). Furthermore, for every 1 raw unit increase on SBS, there was

a predicted .40 unit increase on depression, b =.40, $S.E.$ = .10, p < .0001.

The results also revealed that the SBS factor 1 is a significant predictor of

anxiety in the US sample and that it accounted for 2.5% of the variation in anxiety (R^2 =

.02, F (1, 166) = 4.30, p < .05). Results also indicated that for every 1 raw unit increase

on SBS, there was a predicted .11 unit increase in anxiety, b = .11, $S.E.$ = .05, p < .05.

However, the SBS factor 2 accounted for 13.7% of the variation in anxiety (R^2 = .13, F

(1, 166) = 26.32, p < .0001). Results also indicated that for every 1 raw unit increase on

SBS, there was a predicted .47 unit increase in anxiety, b = .47, $S.E.$ = .09, p < .0001.

Discussion

The purpose of this study was to convert the SBS from English into Persian,

assess the validity of this scale on the Iranian population, and investigate whether the

Persian version of the SBS was equivalent to that of the English version. Exploratory

and confirmatory factor analyses were conducted to determine factor structure within

each population, and to also assess goodness of model fit. Simple linear regression

analysis was also conducted to see if submissiveness was a predictor of anxiety and

depression within the Iranian sample. There were three research questions in this study:

1. Are items of the English version of the SBS reliable and valid for use with Iranian populations? More specifically, what is the dimensionality of the SBS in an Iranian and a US sample? What is the goodness of model fit for the SBS within the Iranian and the US samples? Furthermore, is SBS equivalent between the samples?

2. What is the relationship between the SBS, depression, and anxiety in the Iranian and US samples?

3. Is submissiveness a predictor of depression and anxiety in the Iranian and the US samples?

Structure and Applicability of the SBS in the Iranian and US samples:

Confirmatory Factor Analysis

To explore the first research question, the CFA was conducted to measure the model fit of the SBS for each sample group. The confirmatory analysis indicated not only the Persian SBS, but even the English version of the SBS, did not seem to provide good models for measuring submissiveness within their target population. Furthermore, group comparison indicated that the Persian SBS was not equivalent to the English version, indicating that items in the English and Persian versions of the SBS are not measuring the same concept, that being submissiveness.

As discussed previously, sample size is a limitation in this study, especially for a study utilizing CFA (Chen, Sousa & West, 2005; Taasoobshirazi & Wang, 2016). A large sample size is preferred for such analysis, which may be why the English and Persian SBS models provided a poor fit for measuring submissiveness. Also, given that

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cultural norms and values are constantly changing in societies, submissiveness may be conceptualized differently within the US population as compared to 20 years ago, not mentioning that the US population is rapidly becoming more diverse. For instance, a census report published by the US government in 1998 indicated that 12.3% of the U.S. population in 1990 were Black, 3% were Asian, .8% American Indian, and 9% Hispanic (U.S. Census Bureau, 1997). This report projected that by 2025, 14.2% of population will include Black, 6.6% Asian, 1% American Indian, and 17.6% Hispanic. Interestingly, the census report published in 2016 indicated that 13.3% of the U.S. population were Black, 5.7% Asian, 1.3% American Indian, and 17.8% Hispanic (U.S. Census Bureau, 2016). This indicates how fast the U.S. population is diversifying; in fact, the population of Hispanics, and American Indian surpassed the projected percentile in 1997. Given that 25% of the participants in this study are ethnic minorities, their worldview has likely impacted the relevance of the SBS items. Even the White participants in this study, as noted earlier, may hold a different worldview than they did 20 years ago, which may contribute to how they view submissiveness today.

Last, the investigator did not find a study that has tested CFA on the SBS in the past, in order to compare it with the current study. Allan and Gilbert (1997) only conducted EFA and assessed for factor structure, and not model fit. Further studies with larger sample sizes are needed to determine if the SBS items that are developed by

Allan and Gilbert (1997) are a good model to measure submissive behavior.

Structure and Applicability of the SBS in the Iranian and US samples:

Exploratory Factor Analysis

To further explore the first research question, EFA was conducted as a follow up to EFA to assess factor structure within each population. The SBS mean scores for the Iranian sample and the US sample were very similar, with no significant difference between them, although the exploratory factor solution results differed.

US Sample EFA. As previously noted, the SBS was initially developed by Allan and Gilbert (1997) on a student population and the exploratory factor analysis reportedly revealed a single factor model (i.e., submissive behavior; Allan & Gilbert, 1997). In contrast, in the current study, the EFA revealed a two-factor model (lack of assertiveness, and social avoidance) for the US sample, the sample most similar to the Allan and Gilbert sample. While this study provides a replication (in the US sample) of that reported by Allan and Gilbert (1997), the result of the factor structure did not replicate in this study. There are many reasons why this study may have resulted in a two-factor solution, one of which could be the diversity of the US sample in the current study. In this study, there is a broader community sample, including students and non-students, with a wider age range as compared to the student population reported by Allan and Gilbert. Furthermore, the current study was conducted more than 20 years after Allan and Gilbert published their research in 1997. Therefore, changing social and cultural norms may play a role in how individuals now conceptualize submissiveness. It is notable, however, that the sample size in this study is somewhat smaller than the

Allan and Gilbert sample (n current study = 168; n Allan and Gilbert = 332) which may have impacted the relationships between variables. In addition, a closer examination of the EFA conducted by Allan and Gilbert (1997) shows it actually resulted in four factors and therefore, was not a single factor to begin with. However, the researchers indicated that a one factor solution was preferred since other factors were not easily interpretable and included only a couple items each. Had Allan and Gilbert included more items in their scale, the EFA may actually have resulted in two or more interpretable factors. In regard to the SBS mean score, this value for the US sample in the current study is higher than that reported by Allan and Gilbert (1997); however, this difference was not significant ($p > .05$).

Items in each of the two factors in the English version of the SBS convey meaning that is well supported in literature. Factor one consists of 10 items which was labeled as lack of assertiveness. Items in this category describe passive behaviors or behaviors that inhibit self-promotion (e.g., "I do what is expected of me even when I don't want to"). Submissiveness is partly defined in the research literature as a behavior that "involves increased tension and inhibition in situations of challenge or conflict (of interests) and where the chosen response is to back down or inhibit self-promotion" (Gilbert, 1992; Gilbert & Allen, 1994, p. 296). Regarding factor two, there are five items which convey distress, avoidance, and fear regarding involvements in social events and gatherings (e.g., "I blush when people stare at me"). Therefore, this factor was labeled as social avoidance. Literature also supports that submissiveness is associated with distress and fear of being judged, or rejected (Gilbert, 1992; Gilbert &

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Allen, 1994).

Interestingly, item two (i.e., "I do things because other people are doing them, rather than because I want to") did not load on either of the factors. As noted previously, individuals in a collectivistic society are more interdependent and value nurturance and compliance, and their goals are bound to the family and groups that they ascribe to (Ghorbani et al., 2003; Tafarodi & Smith, 2001; Lonner, 2007). However, in an individualistic culture, individuals tend to be self-oriented and independent (Ghorbani et al., 2003). Item two appears to fit well with values and worldviews of individuals in a collectivistic society. However, given that majority of the participants in the US sample are White, perhaps this item was not a good representation of how they conceptualize or define submissive behavior. As noted throughout this section, sample size can also be another explanation for low factor loadings (Chen, Sousa & West, 2005).

Iranian sample EFA. The EFA for the Iranian sample resulted in a one-factor solution while item one (i.e., "I agree that I am wrong even though I know that I'm not") did not load on the identified factor (submissiveness). Besides sample size being a major contributing factor in EFA and CFA (Chen, Sousa & West, 2005; Taasoobshirazi & Wang, 2016), worldview may have contributed to these EFA results (Matsumoto & van de Vijver, 2010). For instance, item two fit well in this sample but not in the US sample. However, the content of item one is focused more heavily on one's self than on the group and may have fit better with the values of individuals in an individualistic society. In other words, this item seems more tied to worldview and

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norms around personal traits and independent characteristics of individuals within the U.S., and therefore may be a good indicator or measurement of submissiveness in a U.S. population but not an Iranian population. This suggests that Iranians may perceive submissiveness differently as compared to western societies. This interpretation is also supported by inter-item correlations among the SBS items within the Iranian sample, which indicate that item one correlated poorly with the rest of the items.

It is also possible that language is also another factor related to item one not loading into either of the identified factors. As noted previously, independent reviewers had consensus on the backward translation of all items, except item one, which had to be re-translated. This may suggest that the content of the item one still did not fit well with how Iranians conceptualize submissiveness or the wording of this item may not have had a rich meaning in the Iranian culture. Therefore, translational issues are of important factors when conducting cross-cultural studies.

Differences in submissiveness among men, women, and different age groups

As has been stressed throughout this study, cultural norms and values are constantly changing in societies, and Iran is not an exception. The results of this study indicated that women participants were less submissive than men and this difference was statistically significant. This suggests that the Iranian women participants in this study are more assertive in expressing their needs and perhaps more confident about their role in society. Recent reports confirm this finding in that Iranian women are playing a significant role in social, cultural, and political fields in Iran (Ranjbarian, 2011). A report by Ranjbarian (2011) indicated that half of the students in universities

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in Iran are women and that their enrollment has risen compared to past years ("Are Iranian Women Overeducated?", 2008). A similar report indicated that 54% of master level students in Iran are women ("Women Students," 2016). Moreover, women have recently been appointed to cabinet minister, congressional, and other high level positions in Iran ("Iran Appoints first Female Cabinet Minister", 2009). However, the results of this study cannot be generalized to the entire Iranian population since the majority of the participants in this study are from the major, and most populated, metropolitan provinces of Tehran (the capital), Alborz (Tehran's neighboring state), and Esfahan, which together account for 60.4% of the participants in this study. Therefore, it is not clear if similar results would hold true for less the rest of the population in Iran. Further, level of submissiveness behavior displayed by individuals may be different at home, at work and other settings in society. Hence, the results should not be generalized to all contexts or settings in society.

While submissiveness was not different among men and women in the U.S., there was a significant difference in SBS between younger adults and participants who were 55 and older. One explanation could be that older adults are more experienced and perhaps over time have attained skills in expressing their needs assertively rather than being submissive. Perhaps, younger adults who are between 18 to 25, have not mastered their skills in this area. The results of this study also show that submissiveness decreases with age, which is also supported by the negative correlation between SBS and age in this study ($r = -.241, p < .01$). Interestingly, a study by Rushton and colleagues in 1989 indicated that there was no significant relationship

between age and assertiveness, which again, may support the hypothesis that societal norms and values change over time and that people may conceptualize submissiveness differently today (Rushton, Fulker, Neale, Nias, & Eysenck, 1989).

Relationships among Submissiveness, Anxiety, and Depression

To answer the second research question, correlational analysis was conducted to assess the relationship between submissiveness, anxiety, and depression. As discussed previously, the relationship between submissiveness, anxiety and depression in western countries is well documented in literature. Submissiveness is reported to be positively correlated with depression and anxiety (Allan & Gilbert, 1997; O'Connor et al., 2002). In this study, submissiveness in the Iranian sample was found to be positively associated with anxiety and depression, and this relationship was moderate. In contrast, in the US sample, although the relationships were also positive and significant, the magnitude of these relationships was mild. The relationship between SBS and anxiety within the US sample in this study is similar to that reported by other researchers in western countries. For instance, Alan and Gilbert (1997) found a mild but positive relationship between SBS and anxiety. However, they reported a moderate relationship between SBS and depression. O'Connor and colleagues (2002) also found a moderate relationship between submissiveness and depression. One reason why the magnitude of the relationship between SBS and depression in this study differs from those reported previously could be due to the age of participants. As noted previously, there was a significant different in submissiveness between young and older adults. Given that participants in the Alan and Gilbert study (1997) were students and young adults and

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very different from this study, it is possible to see a variation in the relationship between SBS and depression. Interestingly, it appears that the relationship between SBS and anxiety continues to be mild across time and studies. However, given the difference in sample size and age groups between this study and Allan and Gilbert (1997), further studies are needed to compare this relationship for corresponding age groups within U.S. population.

The relationship between submissiveness, anxiety, and depression for the Iranian sample in this study are very similar to that reported by Öngen (2006), who found that submissiveness was a significant predictor of depression among Turkish adolescents. Öngen (2006) reported a mild but positive relationship between submissiveness and depression among Turkish adolescents. Given that Turkey and Iran are neighboring countries and both societies are collectivistic in nature, it is interesting that this relationship is larger in magnitude among Iranian population. One reason for this difference may be the age of participants in these studies. Öngen (2006) mainly focused on adolescents in his study while this study has a wider age range and more diverse sample. Another possible reason for this difference may be due to cultural and personal values. While Turley and Iran are both collectivistic societies, ethnic groups within each of these countries vary significantly. For instance, the majority population in Turley is Turk ("Demographics of Turkey", n.d.). However, in Iran the majority ethnic group is Fars (63%), while there are Turk minority ethnic groups (18%) that are populated in the northwestern portion of Iran ("Demographics of Iran", n.d.). It is unknown what percentage of the participants in this study are Turks which makes it

difficult to compare the results of this study with that reported by Öngen (2006).

Overall, the results obtained in this study about the relationship between submissive

behavior, anxiety, and depression suggest that the direction of the relationships are

similar to that reported by western and eastern countries.

Simple linear regression was also utilized to explore the prediction of anxiety

and depression by submissiveness (i.e., Research Question 3). Congruent with the

results of the bivariate correlations, the results revealed that submissiveness is a

significant predictor of anxiety and depression within the Iranian and U.S. populations.

The variance accounted for by submissiveness was greater in the Iranian sample as

compared to the US sample.

As discussed throughout this paper, the aim of this study was to develop the

Persian version of the SBS and to investigate whether this version is equivalent to the

English version of the SBS. While the results indicated that the Persian version of the

SBS was reliable, the CFA results indicated that both versions of the SBS were poor

models within their intended samples (Iranian and US samples) and that the Persian

SBS was not equivalent to the English SBS. Given that the results of CFA revealed a

poor SBS model fit within Iranian and US samples, the correlation and regression

results should be interpreted with caution. Further studies are needed to identify items

that are reliable and valid in measuring submissiveness and lead to a good model fit.

Perhaps expanding the number of items in the SBS scale in order to further develop the

submissiveness construct, especially keeping in mind the undeveloped factors in the

original Allan and Gilbert (1997) research, would be helpful in more accurately

measuring the construct.

Limitations and Future Directions

There were some limitations in this research study that are important to note. As discussed previously one limitation in this study was sample size. Studies indicate that sample size is a critical factor in studies that utilize factor analysis (Chen, Curran, Bollen, Kirby, & Paxton, 2008; Chen, Sousa & West, 2005; Kenny, Kaniskan, & McCoach, 2014; Taasoobshirazi & Wang, 2016). Therefore, an important future direction would be to replicate this study with a larger sample size.

Furthermore, this study utilized a snowball sampling method to recruit participants in two different countries, possibly resulting in limited generalizability and increased potential for sampling bias. For instance, the female/male ratio in the samples in this study were unequal and the majority of participants were female. Also, this study required participants to participate in this study through internet, which relies on computer access. Moreover, given that the cultural orientation of people in Iran is collectivistic, and respect for family and friend is highly valued in this culture, it is possible that individuals who participated in this study were more likely to participate due to submissiveness, which would introduce some selection bias to the study. Gathering a larger sample size and using different recruitment methods, such as paper-pencil surveys in addition to online surveys, may result in a wider and more diverse sample.

Last, this study could benefit from a preliminary study that investigates how individuals in Iran and the U.S. conceptualize submissiveness. As discussed previously,

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given that the SBS was developed more than 20 years ago, and based on the study results, it seems essential to re-evaluate the applicability of SBS items in both countries.

Clinical Implications

This study yields several important clinical implications. First, clinicians are encouraged to use clinical measurements that are current, statistically reliable, valid, and normed for the intended population. Given the increasingly global nature of societies and increasing diversity within populations, measures that have been normed in the past may no longer be valid or interpretable. For instance, the different factor structure of the SBS found in this study in contrast to Allan and Gilbert's findings from 1977 suggest that people may conceptualize submissiveness differently. Some of the major psychological assessments that are available today have been developed and normed more than 20 years ago and need to be renormed to make sure they accurately measure the symptomology of our clients (Draguns, 1996; Friedman, Bolinskey, Levak, & Nichols, 2014; Millon, 1977). Meanwhile, counselors are encouraged to interpret the results of such assessments with caution, and not fully rely on assessments when making diagnoses.

Furthermore, this study clearly points out how the relationship between variables changes significantly between countries, cultures, and even ethnicities within a culture. This highlights the importance of individual difference in the field of counseling psychology and how easy it is to pathologize individuals based on our assumptions and knowledge based on a particular culture (Baker & Bell, 1999). Cross-cultural studies can prevent clinicians from making such assumptions and allow them to

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have a better understanding of their clients. As noted previously, both etic and emic

approaches in cross-cultural research are important in order to enhance our

understanding of individuals from different ethnic backgrounds (Berry, 1999;

Matsumoto & Juang, 2008). This study, which utilized the etic approach, helped to

better understand submissiveness in U.S. residents and Iranians. This study reminds

clinicians to use psychological assessments that are valid and normed for their clients of

color and clients with countries of origin from outside the U.S. Factors such as gender,

age, socioeconomic status, and social and cultural background are important factors that

therapists needed to be aware of when working with minority ethnic groups.

One of the findings of this study was that younger adults (18-25) in the US

sample were more submissive than older adults. Given that undergraduate students are

within this age range and may be learning new assertiveness skill after coming to

college, the SBS can be a helpful assessment tool to assist clinicians in university

counseling centers to identify and monitor submissive behavior in their clients.

In addition, this study reminds clinicians to constantly challenge their biases

about social norms, identities, and values within and between cultures and continue to

expand their multicultural knowledge. Clinicians who deviate from such practice may

cause harm to their clients, though unknowingly, which is considered a major ethical

concern in the field of counseling psychology (Matsumoto & Jones, 2009; Pope &

Vasquez, 2010).

Last but not least, this study also noted how challenging, and at the same time

valuable, it is to compare and contrast clinical and research measures as well as to

convert them from one language to another. However, emic studies are just as important as etic studies as they inform clinicians about cultures that we are less aware of or unfamiliar with. More importantly, developing psychological scales that are specific to a particular culture allow us to have a better understanding of the population's unique identities, values, and social norms, which we may not be able to find out through etic studies. Such practice can reaffirm our commitment to the social justice and multiculturalism in the field of counseling psychology and allows us to advocate for such movement in our field (Frey, 2013; Pope & Vasquez, 2010).

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Appendix A: Tables and Figures

Table 1

Key Variables' Means, Standard Deviations, and Alpha Coefficients –
Iranian Sample

Variable	Mean	SD	α
SBS	23.39	8.133	.792
DASS Anxiety	3.20	3.383	.883
DASS Depression	5.56	4.429	.885

Note. SBS = Submissive Behavior Scale

Table 2

Summary of Intercorrelations between Important Demographic, Predictor, and Criterion variables - Iranian Sample

	2	3	4	5	6	7	8
1. SBS	.469**	.532**	.176*	-0.104	-.153*	-0.062	-.173*
2. Anxiety	-	.549**	-0.022	-0.101	-0.076	-0.128	-.213**
3. Depression		-	0.049	-.178*	-0.136	-.146*	-.258**
4. Gender			-	-0.037	-.364**	0.100	.147*
5. MS				-	.165*	.390**	-0.017
6. ES					-	0.038	-0.076
7. Age						-	0.097
8. Income							-

Note. SBS = Submissive Behavior Scale; MS = Marital Status; ES = Employment Status

* $p < .05$ (two tail). ** $p < .001$ (two tail).

Table 3

Key Variables' Means, Standard Deviations, and Alpha Coefficients - the US Sample

Variable	Mean	*SD*	*α*
SBS	24.57	6.712	.767
DASS Anxiety	3.78	3.700	.856
DASS Depression	4.62	3.899	.898

Note. SBS = Submissive Behavior Scale

Table 4

Summary of Intercorrelations between Important Demographic, Predictor, and Criterion variables - US Sample

	2	3	4	5	6	7	8
1. SBS	.271**	.309**	-0.025	-.170*	0.040	-.241**	-0.118
2. Anxiety	-	.538**	-0.101	0.083	-0.037	-0.106	-0.132
3. Depression		-	-0.102	0.140	.161*	-0.055	-.231**
4. Gender			-	-.172*	-0.144	-0.063	0.027
5. MS				-	.164*	.297**	0.064
6. ES					-	0.144	-.170*
7. Age						-	.291**
8. Income							-

Note. SBS = Submissive Behavior Scale; MS = Marital Status; ES = Employment Status

* *p* < .05 (two tail). ** *p* < .001 (two tail).

Table 5

Confirmatory Factor Analysis using AMOS. Within group analysis.

Index	Iranian Sample	US Sample
χ^2 test	$\chi^2(104)=225.93$, p<.001	$\chi^2(104)=246.48$, p<.001
χ^2/df	2.17	2.37
TLI	0.67	0.5
CFI	0.75	0.6
RMSEA	0.08	0.09
AIC	321.93	342.48

Note. TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CFI = Bentler's Comparative Fit Index; AIC = Akaike's Information Criterion.

Table 6

Confirmatory Factor Analysis: Comparison of model fits across groups with fixed and freed parameters

Model	χ^2 test	$\Delta\chi^2$ test relative to less constrained model	χ^2/df	TLI	CFI	RMSEA
Unconstrained	$\chi^2(208)=472.42$, p<.001	-	2.27	0.6	0.69	0.06
Measurement weights	$\chi^2(223)=498.24$	$\Delta\chi^2(15)=25.82$, p=.04	2.23	0.61	0.68	0.06
Measurement intercepts	$\chi^2(239)=856.53$	$\Delta\chi^2(16)=358.29$, p<.001	3.58	0.19	0.28	0.09
Structural covariances	$\chi^2(240)=861.03$	$\Delta\chi^2(1)=4.5$, p=.03	3.58	0.18	0.28	0.09
Measurement residuals	$\chi^2(256)=951.11$	$\Delta\chi^2(16)=90.08$, p<.001	3.71	0.14	0.2	0.09

Note. TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CFI = Bentler's Comparative Fit Index.

Table 7

Principal Axis Factor Analysis of the SBS Items (Iranian Sample) - Factor Loading Matrix

Items	Factor 1
SBS 1: I agree that I am wrong even though I know I'm not.	0.249
SBS 2: I do things because other people are doing them, rather than because I want to.	**0.392**
SBS 3: I would walk out of a shop without questioning, knowing that I had been short changed.	**0.334**
SBS 4: I let others criticize me or put me down without defending myself.	**0.414**
SBS 5: I do what is expected of me even when I don't want to.	**0.476**
SBS 6: If I try to speak and others continue, I shut up.	**0.354**
SBS 7: I continue to apologize for minor mistakes.	**0.483**
SBS 8: I listen quietly if people in authority say unpleasant things about me.	**0.467**
SBS 9: I am not able to tell my friends when I am angry with them.	**0.487**
SBS 10: At meetings and gatherings, I let others monopolize the conversation.	**0.559**
SBS 11: I don't like people to look straight at me when they are talking.	**0.327**
SBS 12: I say 'thank you' enthusiastically and repeatedly when someone does a small favor for me.	**0.422**
SBS 13: I avoid direct eye contact.	**0.515**
SBS 14: I avoid starting conversations at social gatherings.	**0.536**
SBS 15: I blush when people stare at me.	**0.618**
SBS 16: I pretend I am ill when declining an invitation.	**0.446**

Note. SBS = Submissive Behavior Scale; One-factor solution without rotation.

Table 8

Principal Axis Factor Analysis of the SBS Items (US Sample) – Factor Loading Matrix

	Factor	
	1	2
SBS 1: I agree that I am wrong even though I know I'm not.	**.453**	-.008
SBS 2: I do things because other people are doing them, rather than because I want to.	.299	.100
SBS 3: I would walk out of a shop without questioning, knowing that I had been short changed.	**.521**	-.247
SBS 4: I let others criticize me or put me down without defending myself.	**.603**	-.074
SBS 5: I do what is expected of me even when I don't want to.	**.319**	.108
SBS 6: If I try to speak and others continue, I shut up.	**.486**	.049
SBS 7: I continue to apologize for minor mistakes.	**.435**	.106
SBS 8: I listen quietly if people in authority say unpleasant things about me.	**.616**	-.080
SBS 9: I am not able to tell my friends when I am angry with them.	**.464**	.135
SBS 10: At meetings and gatherings, I let others monopolize the conversation.	**.407**	.129
SBS 11: I don't like people to look straight at me when they are talking.	-.049	**.568**
SBS 12: I say 'thank you' enthusiastically and repeatedly when someone does a small favor for me.	**.405**	.074
SBS 13: I avoid direct eye contact.	-.011	**.719**
SBS 14: I avoid starting conversations at social gatherings.	.001	**.474**
SBS 15: I blush when people stare at me.	.082	**.497**
SBS 16: I pretend I am ill when declining an invitation.	.035	**.391**

Note. SBS = Submissive Behavior Scale; Rotation method: Promax

Table 9

CFA Developed from Prior Exploratory Factor Analysis.

Index	Iran (one-factor model)	U.S. (two-factor model)
χ² test	χ²(90)=260.20, p<.001	χ²(89)=156.51, p<.001
χ²/df	2.29	1.76
TLI	0.68	0.75
CFI	0.76	0.81
RMSEA	0.08	0.07
AIC	296.2	248.51

Note. TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CFI = Bentler's Comparative Fit Index; AIC = Akaike's Information Criterion.

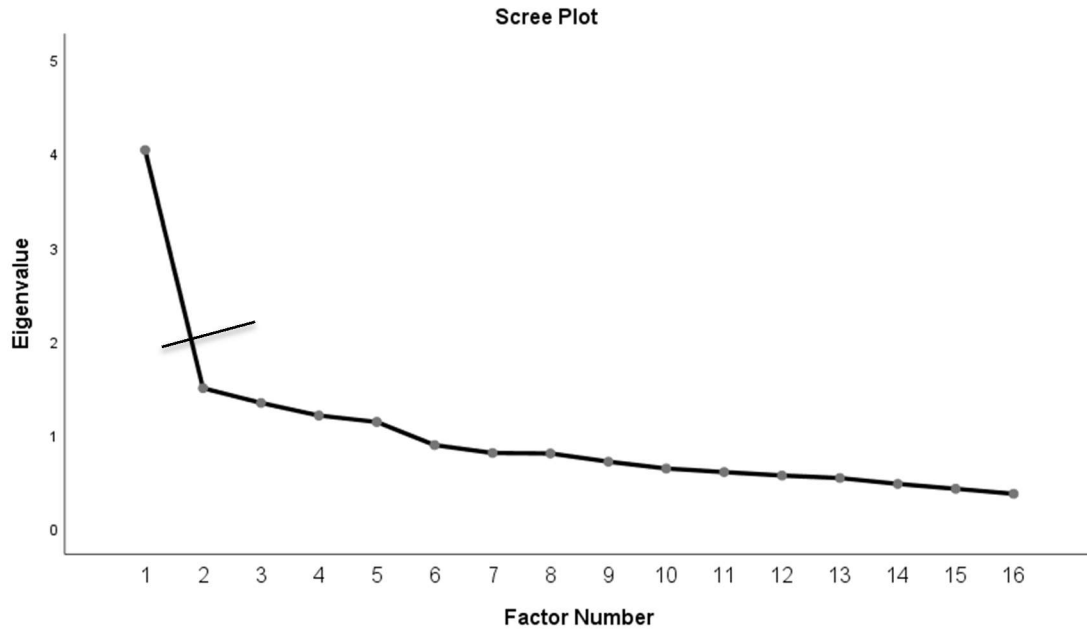Figure 1. Principal Axis Factor Analysis – Scree Plot for the Iranian Sample

Figure 1. One-factor solution for the Iranian sample.

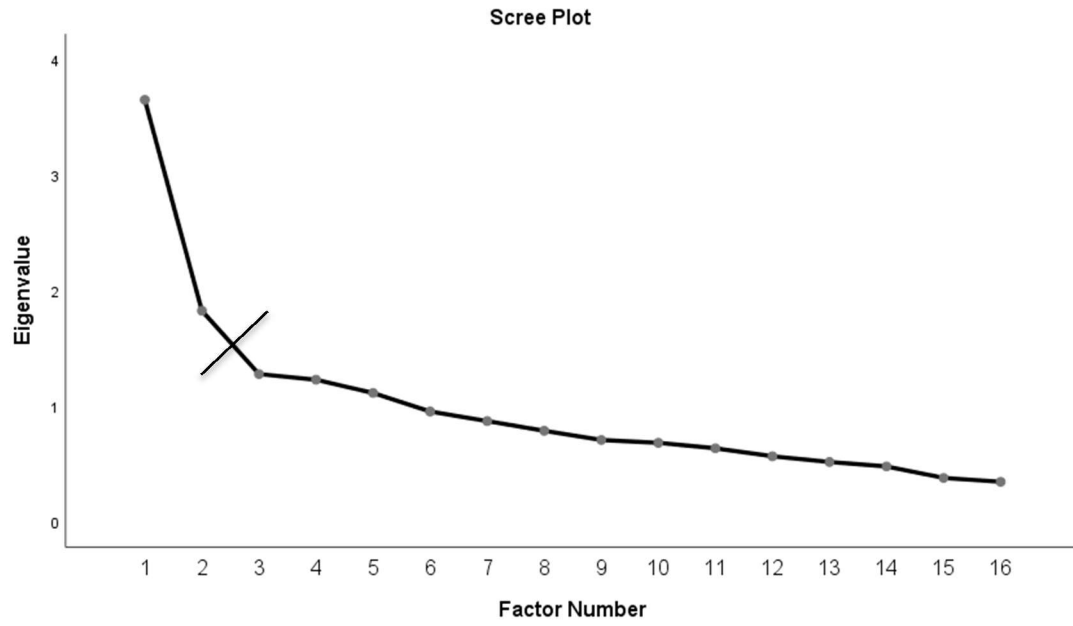Figure 2. Principal Axis Factor Analysis – Scree Plot for the US Sample

Figure 2. Two-factor solution for the US Sample.

Appendix B: Submissive Behavior Scale (SBS)

(English version followed by Farsi)

Below are a series of statements which describe how people act and feel about social situations. Circle the number to the right of the statements which best describes the degree to which a statement is **true** for you.

Please use the following scale:

0 = NEVER   1 = RARELY   2 = SOMETIMES   3 = MOSTLY   4 = ALWAYS

1.	I agree that I am wrong even though I know I'm not	0	1	2	3	4
2.	I do things because other people are doing them, rather than because I want to	0	1	2	3	4
3.	I would walk out of a shop without questioning, knowing that I had been short changed	0	1	2	3	4
4.	I let others criticise me or put me down without defending myself	0	1	2	3	4
5.	I do what is expected of me even when I don't want to	0	1	2	3	4
6.	If I try to speak and others continue, I shut up	0	1	2	3	4
7.	I continue to apologise for minor mistakes	0	1	2	3	4
8.	I listen quietly if people in authority say unpleasant things about me	0	1	2	3	4
9.	I am not able to tell my friends when I am angry with them	0	1	2	3	4
10.	At meetings and gatherings, I let others monopolise the conversation	0	1	2	3	4
11.	I don't like people to look straight at me when they are talking	0	1	2	3	4
12.	I say 'thank you' enthusiastically and repeatedly when someone does a small favour for me	0	1	2	3	4
13.	I avoid direct eye contact	0	1	2	3	4
14.	I avoid starting conversations at social gatherings	0	1	2	3	4
15.	I blush when people stare at me	0	1	2	3	4
16.	I pretend I am ill when declining an invitation	0	1	2	3	4

Submissive Behavior Scale (in Farsi)

مقیاس رفتار مطیعانه

عبارات زیر در خصوص افکار و رفتار شما در موقعیت های مختلف اجتماعی است. لطفا عبارات زیر را به دقت بخوانید و مشخص کنید هر عبارت، چقدر در مورد شما صدق می کند.

0 = هرگز   1 = به ندرت   2 = بعضی اوقات   3 = معمولا   4 = همیشه

1. من قبول میکنم که اشتباه می کنم، اگرچه می دانم که اشتباه نمیکنم
2. من کارهایی را انجام می دهم که دیگران انجام می دهند، نه اینکه خودم می خواهم
3. ممکن است بدون هیچ اعتراضی از مغازه خارج شوم، در حالی که می دانم پول کمی به من پس داده شده
4. من اجازه میدهم دیگران از من انتقاد کنند یا مرا تحقیر کنند بدون اینکه از خودم دفاع کنم
5. من کاری را انجام می دهم که از من انتظار دارند حتی وقتی که نمیخواهم انرا انجام دهم
6. اگر بخواهم صحبت کنم و دیگران به صحبت کردن ادامه بدهند، سکوت میکنم
7. من برای اشتباهات کوچک هم مدام عذرخواهی می کنم
8. اگر مقامات بالاتر حرف های ناخوشایندی درباره من بزنند، من در سکوت به حرف هایشان گوش میدهم
9. وقتی از دست دوستانم عصبانی هستم نمی توانم این موضوع را به آنها بگویم
10. در نشست و مهمانی ها، اجازه می دهم دیگران گفتگو را به انحصار خود درآورند
11. من دوست ندارم وقتی مردم صحبت می کنند مستقیما به من نگاه کنند
12. زمانی که کسی یک لطف کوچک برای من انجام می دهد، من با اشتیاق زیاد و مکرر می گویم "متشکرم"
13. من از نگاه کردن مستقیم به چشم دیگران پرهیز میکنم
14. من از شروع کردن گفتگوها در گردهمایی های اجتماعی پرهیز می کنم
15. زمانی که مردم به من خیره می شوند ، از خجالت سرخ می شوم
16. من وقتی که می خواهم دعوتی را نپذیرم وانمود می کنم که بیمارم

Appendix C: DASS-Depression and DASS-Anxiety Scales

(English version followed by Farsi)

Please read each statement and indicate how much each statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

0 = Did not apply to me at all
1 = Applied to me to some degree, or some of the time
2 = Applied to me to a considerable degree, or a good part of time
3 = Applied to me very much, or most of the time

DASS-Depression Scale

1. I couldn't seem to experience any positive feeling at all
2. I found it difficult to work up the initiative to do things
3. I felt that I had nothing to look forward to
4. I felt down-hearted and blue
5. I was unable to become enthusiastic about anything
6. I felt I wasn't worth much as a person
7. I felt that life was meaningless

DASS-Anxiety Scale

1. I was aware of dryness of my mouth
2. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion
3. I experienced trembling (e.g. in the hands
4. I was worried about situations in which I might panic and make a fool of myself
5. I felt I was close to panic
6. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)
7. I felt scared without any good reason

DASS-Depression and DASS-Anxiety Scales (Farsi)

لطفا عبارات زیررا به دقت بخوانید و یکی از گزینه هایی را که در طول هفته گذشته در مورد شما بیشتر صدق می کرده، علامت بزنید. پاسخ صحیح یا غلط وجود ندارد. وقت زیادی را صرف یک عبارت نکنید .

0 = اصلا در مورد من صدق نمی کرد
1 = تا حدودی یا بعضی وقت ها در مورد من صدق می کرد
2 = تا حد قابل توجهی یا بیشتر وقت ها در مورد من صدق می کرد
3 = خیلی زیاد یا اکثر مواقع در مورد من صدق می کرد

افسردگی

1.   اصلا احساس مثبتی نداشتم.
2.   شروع هر کار تازه ای برایم سخت بود.
3.   احساس می کردم چیزی ندارم که به آن امیدوار باشم.
4.   احساس دلتنگی و غمگینی می کردم.
5.   نمی تونستم خودم را به چیزی علاقمند کنم.
6.   احساس می کردم هیچ ارزشی ندارم.
7.   احساس می کردم که زندگی بی معنی است.

اضطراب

1.   احساس می کردم آب دهانم خشک شده است.
2.   نفس کشیدن برایم مشکل بود (برای مثال تنفس خیلی سریع یا احساس خفگی در هنگام عدم فعالیت).
3.   لرزش داشتم (بطور مثال در دست ها).
4.   نگران موقعیت هایی بودم که ممکن بود هول شده و دست و پا چلفتی به نظر برسم.
5.   احساس می کردم که نزدیک است از ترس وحشت کنم.
6.   در مواقعی که حتی فعالیت بدنی نداشتم ضربان قلب خود را احساس می کردم (برای مثال طپش قلب یا احساس نا منظم بودن ضربان با قلب).
7.   بدون دلیل احساس ترس می کردم.

Appendix D: Demographic Questions

(English version followed by Farsi)

How old are you?

- ○ Less than 18 years
- ○ 18 -25
- ○ 26-35
- ○ 36-45
- ○ 46-54
- ○ 55 and older

What is your gender? _____

What is your nationality or citizenship status in the U.S.?

- ○ American Citizen
- ○ Green Card Holder
- ○ Visa holder
- ○ Other _____

How did you become a citizen?

- ○ Born in the U.S.
- ○ Your parents are American Citizens
- ○ Citizen through Naturalization
- ○ Other _____

Where were you born?

- ○ In the U.S.
- ○ Other _____

What is your ethnicity?

- ❍ Native American
- ❍ White
- ❍ Black or African American
- ❍ Hispanic/Latino
- ❍ Asian
- ❍ Arab/Middle Eastern
- ❍ Other _____

What is your primary (native) language?

- ❍ English
- ❍ Spanish
- ❍ French
- ❍ Other _____

How long have you lived in the U.S.?

- ❍ less than 4 years
- ❍ Between 4 to 8 years
- ❍ Between 9 to 15 years
- ❍ All my life

Do you have a religion?

- ❍ Yes
- ❍ No

What is your religion?

- ❍ Christian
- ❍ Judaism
- ❍ Muslim - Shia
- ❍ Muslim - Sunni
- ❍ Zoroastrian

❍   Hinduism

❍   Other _____

Do you consider yourself as religious?

❍   Yes

❍   No

Do others consider you religious?

❍   Yes

❍   No

What is the highest level of education? If you are currently a student, please select the most recent degree
received.

❍   Never attended school
❍   Elementary school
❍   Middle School
❍   High school
❍   Some college credit, but never completed a degree
❍   Associates Degree
❍   Masters
❍   Ph.D./Doctorate
❍   Other Professional Degrees
❍   bachelor's degree

How much is your monthly income? (Household income)

❍   Less than a $1000 per month
❍   Between $1000 to $3000
❍   Between $3000 to $6000
❍   Between $6000 to $9000
❍   More than $9000

What is your marital status?

❍ Single

❍ Married

❍ Married but separated

❍ Divorced

❍ Other _____

What is your employment status?

❍ Employed

❍ Self-employed

❍ Student

❍ Retired

❍ Other _____

Demographic Questions (Farsi)

چند سال سن دارید؟

- زیر 18 سال
- 18-25
- 26-35
- 36-45
- 46-54
- 55 و بالاتر

جنسیت شما چیست؟ ـــــــــــــــــــــ

در چه کشوری بدنیا آمده اید؟

- ایران
- غیرهـــــــــــــــــــ

آیا تابحال در کشوری بجز ایران زندگی کرده اید؟

- بله
- خیر

در چه کشور یا کشورهایی زندگی کرده اید؟ ـــــــــــــــــــــــ

چند سال از زندگیتان را در خارج از ایران زندگی کرده اید؟

- کمتر از 4 سال
- 4 سال و بیشتر

در حال حاضر در کدام کشور اقامت دارید؟

- ایران
- غیره

اگر در ایران اقامت دارید، چند سال است که در این کشور زندگی می کنید؟

○ کمتر از 4 سال
○ 4 تا 8 سال
○ بین 8 تا 12 سال
○ بیش از 12 سال

در کدام استان ایران زندگی می کنید؟ ـــــــــــــــــــــ

بالاترین مدرک تحصیلی شما چیست؟ اگر در حال حاضر دانشجو هستید، لطفا اخرین

مدرک تحصیلی خود را که اخذ نموده اید، انتخاب کنید؟

○ هیچ سابقه تحصیلی ندارم
○ دبستان
○ راهنمایی
○ دبیرستان
○ چند واحد دانشگاهی بدون اخذ مدرک
○ کاردانی (فوق دیپلم)
○ کارشناسی (لیسانس)
○ کارشناسی ارشد (فوق لیسانس)
○ دکتری

میزان درامد ماهیانه شما چیست؟ (درآمد خانوادگی)

○ زیر 1 میلیون تومان
○ بین 1 تا 3 میلیون
○ بین 3 تا 6 میلیون
○ بین 6 تا 9 میلیون
○ بیش از 9 میلیون

Appendix E: IRB Approval Letter

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: November 29, 2017   **IRB#:** 8729

Principal Investigator: Yaser Dorri   **Approval Date:** 11/28/2017

Exempt Category: 2

Study Title: Development of a Persian version of Submissive Behavior Scale

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:
- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Aimee Franklin, Ph.D.
Chair, Institutional Review Board