Abstract

Validating the Burden of Psychiatric Illness Scale (BPIS): A Measure of the Self-Perceived Impact of Psychiatric Illness on Psychosocial Functioning and of Stress Related to Managing Psychiatric Illness

Introduction

Psychiatric illness can burden individuals in two ways: (1) by impairing psychosocial functioning and (2) necessitating illness-management, which may cause stress. While there is extensive research on the psychosocial functioning of individuals *with* psychiatric illness, there is very little research assessing the self-perceived impact that an individual's *psychiatric illness* has on their functioning and no existing measure assessing the self-perceived impact of psychiatric illness on functioning. Furthermore, while past research has investigated and developed measures assessing the stress of managing medical illness, little is known about and there is no existing measure that assesses the psychological impact of managing psychiatric illness. Filling this gap, the Burden of Psychiatric Illness Scale measures the self-perceived impact of psychiatric symptoms on functioning and stress associated with managing psychiatric illness, but its construct, differential, and concurrent validity has not yet been demonstrated. The primary aim of the study, therefore, was to demonstrate the construct, differential, and concurrent validity of the BPIS in adults with psychiatric illness and potentially revise the measure if warranted. In addition, this study explored the relationship of age and gender to stress related to managing psychiatric illness.

Method

Ninety-five adult participants with a psychiatric illness completed the BPIS, questions about their socio-demographic background, and surveys measuring financial stress, relationship stress, and work stress. Principal component analyses (PCA) were conducted on the BPIS to identify the core components of the scale and their relationship, PCA on the revised BPIS (BPIS-r) were conducted for subgroups (e.g., gender, SES) to establish differential validity, and Pearson-r correlations between the BPIS-r and thematically similar and empirically linked constructs were calculated to establish concurrent validity. In addition, Pearson-r correlations were run to assess whether age relates to stress of managing psychiatric illness and Mann Whitney U Tests were run to assess whether cisgender women report greater stress related to managing psychiatric illness than cisgender men. All analyses were then rerun on samples of just English-speaking individuals, excluding the Spanish speaking participants.

Results

Overall, we found that in a sample of 95 majority low SES, unemployed, Latino/a and Black adults with psychiatric illness, the BPIS demonstrated partial construct validity. The partial construct validity of the original BPIS led to a revised scale, in which the Interference with Functioning (IWF) subscale was trimmed to only include its three relationship items. The revised BPIS (BPIS-r) was used for the subsequent validation analyses and demonstrated good differential validity and partial convergent validity. Exploratory analyses using the Management of Psychiatric Health (MPH) subscale of the BPIS-r found that neither age or gender was associated with stress related to managing psychiatric illness. Finally, the analyses on samples of

just English-speaking individuals yielded similar results to those of the complete multilingual samples.

Conclusions

Through supporting the validity of the BPIS-r, this study has helped expand the concept of "illness burden" from the realm of medical illness to the realm of psychiatric illness. Future research should continue to assess and refine the BPIS-r's and BPIS's construct, differential, and concurrent-convergent validity. In addition, future research should use the BPIS-r to investigate the factors that predispose individuals to psychiatric interference and management stress, explore the outcomes of psychiatric interference and management stress, and develop interventions addressing psychiatric interference with functioning and stress related to mental health management. Clinically, providers can use the BPIS-r to identify the specific areas of functioning most negatively impacted by psychiatric symptoms and the specific mental-health management responsibilities placing the greatest burden on the client and customize treatment accordingly. In addition, given that the BPIS-r was validated on a sample of Latino/a and Black individuals and of individuals of low SES, the BPIS-r can be used to help reduce the burden of psychiatric illness among these vulnerable groups.

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Dedication

To Mommy and Abba, for being the best parents and grandparents in the world. You have given Elie, Nava, Elana, me, Tair, and Meirav a home full of warmth, love, and spiritual idealism and modelled the value of being *oseik b'tzorchei tzibbur*, of devoting ourselves to the community and its needs.

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Chapter I: Introduction

Overview of Burden of Psychiatric Illness

One out of eight people in the world has a mental illness (World Health Organization, 2022) and one out of five people in the United States has a mental illness (National Institute of Mental Health, 2022). People with mental illness have a 2.22 higher mortality rate than the general population, mental illness is associated with reducing people's lifespan by a median of 10 years, and 14.3% of all deaths worldwide can be linked to a mental disorder (Walker et al., 2015). In 2019, the United States spent $225 billion dollars on mental health care, which accounted for 5.5% of all healthcare spending in that year (Leonhardt, 2021; Open Minds, 2020). Mental illness is responsible for the loss of 12 billion work days every year and it is projected that in the year 2030 mental illness will be responsible for $16 billion's worth of lost economic productivity (Patel et al., 2018; Psychiatric Times, 2020). And according to the most recent data identified by this author (Oltmanns & Castonguay, 2013), mental illness is responsible for 47% of disability cases in developed nations and 28% of disability cases across all countries.

Psychiatric illness can burden individuals in two ways: (1) by impairing psychosocial functioning and (2) necessitating illness-management, which may cause stress. Regarding the former, impaired psychosocial functioning is a diagnostic criterion or consequence of almost every psychiatric disorder including depression, bipolar, and schizophrenia (American Psychiatric Association, 2013). Psychosocial functioning refers to an individual's ability to perform the tasks necessary to live "normally." Psychosocial functioning is often broken down into three general categories: (1) personal functioning (i.e., self-care, money management, and transportation), (2) social functioning (i.e., forming and/or maintaining relationships and interacting with others appropriately), and (3) work functioning (i.e., capacity to seek and/or

keep a job). A significant amount of research has confirmed that individuals with psychiatric illness report impaired psychosocial functioning in all three categories (Bowie et al., 2006; Brewster et al., 2017; Eack et al., 2007; Goldstein et al., 2017; Hajek et al., 2017; Harrow et al., 2004; Jung et al., 2017; Kessing et al., 2016; Lars et al.,1998; Lee et al., 2017; Mograbi et al., 2018; Mutai et al., 2016; Nakamura et al., 2017; Pennarts et al., 2014; Perivoliotis et al.,2004; Pontone et al., 2016; Rempfer et al., 2003; Shindel, 2017; Träger et al., 2017; Sousa et al., 2009; Vaz et al., 2002; Viertiö et al., 2012; Wada et al., 2005; Wong et al., 2015). In addition to interfering with functioning, a psychiatric disorder may be associated with patient stress related to the responsibilities entailed in managing the disorder, just like medical illnesses are associated with patient stress related to the responsibilities entailed in managing the illnesses (Mohammed et al. 2015, Sav et al., 2015, Sav et al., 2017, Tran et al., 2015). Stress caused by the burden of managing psychiatric illness may then add to the burden of the disorder.

Self-Perceived Impact of Psychiatric Illness on Psychosocial Functioning

While there is extensive research on the psychosocial functioning of individuals with psychiatric illness, as cited above, there is very little research assessing the self-perceived impact that an individual's psychiatric illness has on their functioning and there is no validated measure that assesses the self-perceived impact of psychiatric illness on functioning. Numerous studies have investigated how individuals with depression (Brewster et al., 2017; Goldstein et al., 2017; Hajek et al., 2017; Jung et al., 2017; Kessing et al., 2016; Kim et al., 2015; Lee et al., 2017; Mograbi et al., 2018; Nakamura et al., 2017; Pontone et al., 2016; Shindel, 2017; Sousa et al., 2009; Träger et al., 2017; Wada et al., 2005; Wong et al., 2015), bipolar disorder (Pennarts et al., 2014), and schizophrenia (Bowie et al., 2006; Eack et al., 2007; Harrow et al., 2004; Perivoliotis

et al., 2004; Rempfer et al., 2003; Vaz et al., 2002; Viertiö et al., 2012), respectively, perform in various key psychosocial domains (i.e., interpersonal, personal and domestic, and work). These studies measured the psychosocial functioning of individuals with psychiatric illness in a variety of ways: studies measured psychosocial functioning through having informants report on each subject's competence (Mograbi et al., 2018; Nakamura et al., 2017); through subjects' self-report (Eack et al., 2007; Hajek et al., 2017; Harrow et al., 2004; Jung et al., 2017; Kessing et al., 2016; Kim et al., 2015; Lee et al., 2017; Mograbi et al., 2018; Pennarts et al., 2014; Perivoliotis et al., 2004; Pontone et al., 2016; Shindel, 2017; Sousa et al., 2009; Viertiö et al., 2012; Wada et al., 2005; Wong et al., 2015); through having the participant perform one or more psychosocial tasks (Bowie et al., 2006; Brewster et al., 2017; Goldstein et al., 2017; Rempfer et al., 2003; Träger et al., 2017; Vaz et al., 2002; Wada et al., 2005); and through physiological measures (Shindel, 2017). Overall, these studies suggest that individuals with psychiatric illness manage their psychosocial responsibilities less well than individuals without psychiatric illness. While these studies examined the psychosocial functioning of individuals *with* specific psychiatric disorders, they did not ask about the specific *impact that individuals' psychiatric conditions have* on their ability to perform in various key psychosocial domains.

Only one measure, The Medical Outcome Survey Short-Form (SF-36; Ware & Sherbourne, 1992), a widely used measure of quality-of-life related to one's medical condition(s) (Hawthorne et al., 2007), asks participants about the *specific* impact that their psychiatric conditions have on their ability to perform in key psychosocial domains. The SF-36 has been translated into many languages and validated across international cultures, including cultures from all six inhabited continents (e.g., Apolone et al., 1998; Arovah et al., 2020; Hawthorne et al., 2007; Lins-Kusterer, 2019; Mbada et al., 2015; Shayan et al., 2020). The SF-36 is limited by

the fact that its items assessing emotion-based impairment either ask about physical health and emotional health together in a single double-barreled question (so it was not clear whether a positive response indicated interference caused by physical problems, emotional problems, or both) or used a binary "yes or no" response scale (which means that this question can tell us *if* emotional problems interfere with functioning but not to what extent). To date, no scale exists which assesses emotional health separately from physical health or the extent of perceived interference from emotional symptoms.

Stress of Managing Psychiatric Illness

While past research has investigated the stress of managing medical illness and developed measures assessing the burden of medical management, little is known about the psychological impact of managing *psychiatric* illness and no existing measure assesses the stress of managing psychiatric illness. Managing a chronic medical illness, which includes scheduling appointments with healthcare professionals, traveling to appointments, meeting with providers, paying for healthcare, managing medications, researching treatments, completing paperwork, and making behavioral change, is associated with the experience of stress by patients (Mohammed et al. 2015, Sav et al., 2015, Sav et al., 2017, Tran et al., 2015). Stress caused by the responsibilities of managing chronic medical illness leads to various negative outcomes including: poor medication adherence, worsening of chronic illness, general diminished physical and psychological health, inefficient use of resources (e.g., paying high hospital bills in response to worsening condition due to non-adherence), diminished work and social functioning, and stress on informal caregivers (e.g., family members, romantic partners), and these outcomes in turn increase the stress of medical management (Sav et al., 2015, Sav et al., 2017, Tran et al., 2015).

In addition to documenting the stress of medical management, researchers have also created instruments to measure stress related to medical management. Sav et al. (2017) list seven existing self-report measures that assess the burden of managing medical illness, e.g., the Treatment Burden Questionnaire (TBQ, Tran et al., 2012) and the Patient Experience with Treatment and Self-Management Scale (PETS, Eton et al., 2016). These measures included items assessing stress from medication management, traveling to appointments, attending appointments, and financial costs. If managing *medical* illness causes stress, managing *psychiatric* illness likely also causes stress, and may cause similar negative outcomes. However, there is no existing validated measure assessing the burden of managing psychiatric illness. Moreover, individuals who are racial and ethnic minorities (Riley, 2012) and individuals of low socioeconomic status (SES; Kawaii-Bogue et al., 2017; Langheim, 2014) face unique societal stressors (e.g., racism, housing insecurity) and barriers to health care. Societal stressors may compound the extent to which psychiatric symptoms interfere with functioning, and barriers to healthcare may make individuals more likely to experience stress related to managing their psychiatric illness. It is therefore particularly important to have a valid measure that assesses the extent to which psychiatric symptoms interfere with functioning and stress related to managing a psychiatric illness for individuals of Black and Latino/a backgrounds.

The Burden of Psychiatric Illness Scale

Developed by Shpigel (2018; Shpigel et al., 2021), the Burden of Psychiatric Illness Scale (BPIS, originally called the Psychiatric Related Stress Scale) measures the perceived burden that psychiatric illness places on the individual with the illness. As it relates to the BPIS, "burden" has two dimensions: (1) the extent to which psychiatric symptoms interfere with functioning and (2) stress related to the tasks of managing a psychiatric illness. The measure,

accordingly, consists of two subscales. The first subscale, the *Psychiatric Interference with Functioning Subscale* (*IWF*, five items), asks individuals to rate to what extent their psychiatric illness interferes with their interpersonal relationships (social, family, and romantic, e.g., "My mental health condition(s) negatively affects my relationship with friends"), personal and domestic responsibilities, and work responsibilities using a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, and 5 = Strongly Agree). The second subscale, the *Management of Psychiatric Health Subscale* (*MPH,* four items), asks individuals to rate how much stress they experience from managing their psychiatric condition. Specifically, items assess stress related to traveling to appointments with mental health professionals (e.g., "It is stressful for me to travel to an appointment at the Adult Outpatient Psychiatric Clinic [where you meet with the your psychiatrist and/or therapist]"), participating in psychotherapy, and procuring psychotropic medications, as well as the stress of managing one's psychiatric condition relative to the stress of managing one's medical condition using a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, and 5 = Strongly Agree). The complete text of the scale can be found in Shpigel (et al., 2021). The full scale demonstrated good internal consistency reliability in the parent study (α= 0.71, Shpigel, 2018; Shpigel et al., 2021), which consisted of 95 adults of primarily Latino/a (n = 68, 71.6%) and Black (n = 25, 26.3%) backgrounds receiving outpatient care for mood, psychotic, and/or anxiety disorders. The good internal consistency reliability indicates that all of the items get at a similar construct. The IWF subscale demonstrated internal consistency reliability (α = 0.52) that, although considered "poor" according to convention (e.g., Vaske, 2008), is acceptable given the small number of items (Field, 2013), and the MPH subscale demonstrated good internal consistency reliability (α = 0.79).

While the reliability of the BPIS was examined in Shpigel (2018) and Shpigel et al. (2021), the scale has not been validated. Thus, it is unknown (1) whether the nine items in fact divide into two clusters corresponding to the two subscales and whether these two clusters are related, (2) whether this division of items holds true for specific subgroups (e.g., gender, psychiatric diagnosis), and (3) whether the items and subscales correlate with thematically similar constructs (e.g., does the IWF item about psychiatric symptoms interfering with romantic relationships correlate with a measure of spouse/partner strain?) and empirically linked constructs (e.g., does stress from psychiatric illness management correlate with a measure of work stress?). All three of these analyses would indicate whether or not the scale measures the intended subconstructs (i.e., psychiatric symptoms interfering with functioning and stress from managing a psychiatric disorder) and overarching construct (i.e., burden of psychiatric illness).

Factors Related to Stress of Managing Psychiatric Illness

Only one study, this author's unpublished predoctoral thesis (Friedman, 2020), has examined stress related to managing psychiatric illness. In addition to looking at the overall prevalence of stress related to managing psychiatric illness in its sample, the study also examined stress from managing psychiatric illness by socioeconomic status. The study found that, in a sample of 81 majority low SES, unemployed, Latino/a and Black adults with psychiatric illness, most individuals did not endorse stress related to their management of psychiatric health, and stress related to management of psychiatric health did not vary by SES level. Friedman (2020) proposed that strong family and community support in the Latinx community (Calzada, Fernandez, and Cortes, 2010; De la Cancela & Guzman, 1991) and African American community (Priest, Smith, Woods, & Roberson, 2020) and prior acclimation to treatment may account for why most individuals in the study did not endorse stress related to management of

their psychiatric health. In addition, he suggests that the main barriers to psychiatric care faced by individuals of lower SES in general, such as time availability and availability of mental healthcare services, may have been less relevant to the study's sample, which may account for why stress related to management of psychiatric health did not vary by SES level. Therefore, future investigations, he proposes, should continue to examine stress related to management of psychiatric health and whether this stress varies by SES level.

Age predicts levels of stress related to managing medical illness (Sav et al., 2015), with older people experiencing greater levels of stress. It is therefore possible that stress related to managing psychiatric illness also varies by age, with older people experiencing greater levels of stress. In addition, women report experiencing greater levels of stress relating to managing medical illness than men (Sav et al., 2015). It is therefore also possible that women experience higher levels of stress related to managing psychiatric illness than men. However, the Friedman (2020) study did not look at stress related to managing psychiatric illness by age or gender and no other study was identified to date that examined these research questions. While beyond the scope of this study, future research should continue to examine whether stress related to management of psychiatric health varies by SES level.

Summary and Study Aims

In summary, while there is extensive research on the psychosocial functioning of individuals *with* psychiatric illness (e.g., Bowie et al., 2006; Wong et al., 2015), there is very little research assessing the self-perceived impact that an individual's *psychiatric illness* has on their functioning and no existing validated measure assessing the self-perceived impact of psychiatric illness on functioning. Furthermore, while past research has investigated the stress of managing medical illness and developed measures assessing the stress of medical management

(e.g., Mohammed et al. 2015; Sav et al., 2017), little is known about the psychological impact of managing psychiatric illness, and there is no existing measure that assesses the psychological impact of managing psychiatric illness. Filling this gap, the Burden of Psychiatric Illness Scale (BPIS; Shpigel et al., 2021) measures the self-perceived impact of psychiatric symptoms on functioning and stress associated with managing psychiatric illness, but its construct, differential, and concurrent validity has not yet been demonstrated. In addition, given that stress related to managing medical illness has shown to be higher among those at older ages than those at younger ages (Sav et al., 2015) and to be higher among women than men (Sav et al., 2015), stress related to managing psychiatric illness may also increase with age and be higher among women than men. However, the relationships of stress of managing psychiatric illness with age and gender have not yet been explored empirically.

Study Aims and Hypotheses

In order to address the gaps in the literature described above, the following aims were pursued:

Primary Aim 1: To assess the construct validity of the two subscales of the BPIS (i.e., IWF, MPH) and of the total BPIS scale and potentially revise the measure if warranted to improve its validity.

Hypothesis 1: We hypothesized that the items on the BPIS would form two linear components, with the five items of the IWF scale loading onto one factor and the four items of the MPH scale loading onto a second factor, and that these two components will correlate with each other.

Primary Aim 2: To assess the differential validity of the two subscales of the BPIS and of the total scale for gender, ethnicity, SES, and psychiatric diagnosis subgroups. We examined this question for subgroups that have a sample size equal to or greater than 50.

Hypothesis 2: We predicted that the BPIS subscales and total scale would show differential validity for specific gender, ethnic, SES, and psychiatric diagnosis subgroups, specifically for: female participants, participants who identified as Latino/a, individuals with a household income of <$10,000, and individuals with either of the two more impairing disorders in the study (i.e., individuals with schizophrenia or bipolar disorders; Lars et al., 1998).

Primary Aim 3: To assess the concurrent-convergent validity of the two subscales of the BPIS.

Hypothesis 3: We predicted that the BPIS subscales would show concurrent-convergent validity: (1) each IWF item would correlate with general stress levels in the corresponding domain (e.g., the IWF Item about psychiatric symptoms interfering with romantic relationships will correlate with spouse/partner strain; the IWF item about psychiatric interference with work will correlate with work stress). (2) The MPH subscale as a whole would correlate with relationship, financial, and work stress levels given that, when it comes to managing medical illness, low family and social support predisposes individuals to stress related to managing their illness, financial cost of care is one of the major causes of stress related to illness management, and stress from managing one's illness makes maintaining a job more difficult (Sav et al., 2015; Sav et al., 2017).

Exploratory Aim: To examine factors that may relate to the level of stress that individuals with psychiatric illness report from managing their psychiatric illness (i.e., age, gender).

*Hypothesis 4***.** Age is related to level of stress related to managing medical illness, with older people reporting greater levels of stress (Sav et al., 2015). We therefore expected that age would similarly relate to stress related to managing psychiatric illness, with older individuals reporting greater levels of stress.

*Hypothesis 5***.** Women report experiencing greater levels of stress relating to managing medical illness than men (Sav et al., 2015). We therefore expected that cisgender females would report higher levels of stress related to managing psychiatric illness than cisgender males.

Chapter II: Research Methods and Design

Overview of Research Design

The investigator conducted a secondary analysis of data from a cross-sectional survey study that examined smoking and stress among patients at the Adult Outpatient Psychiatric Clinic at Lincoln Medical Center in downtown Bronx, New York. The title of the parent study was: "The Relationship Between Psychosocial Stressors and Cigarette Smoking Among Latino/a and African American Adults with Psychiatric Illness" (Shpigel, 2018; Shpigel et al., 2021). This study was approved by both the Albert Einstein College of Medicine (PI: Andrea H. Weinberger, PhD; IRB # 2016-6780**)** and the Lincoln Medical Center (PI: Enmanuel Mercedes, PhD; IRB # 17-001) Institutional Review Boards.

Participants/Data Source

The sample was made up of 95 adults who were patients at the Adult Outpatient Psychiatric Clinic at Lincoln Medical Center in downtown Bronx, New York. All participants had a diagnosis of a psychiatric illness. At the time of data collection, most patients at Lincoln Hospital identified as Latino/a (65.1%) and non-Latino/a Black (28.8%) and the majority were of lower SES and enrolled in a public assistance program (Office of Strategic Planning, Community & Public Affairs, 2016).

Inclusion criteria. In order to participate in the parent study, individuals had to (1) self-report a current psychiatric illness which, if they granted consent, was later verified by review of medical records; (2) have the capacity to provide informed consent; (3) be 18 years old or older; (4) speak English or Spanish; and (5) self-identify as Latino/a or Black. There were no additional inclusion criteria for the present study.

Exclusion criteria. Individuals who (1) were incapable of providing informed consent, (2) demonstrated that they were contemplating suicide or were currently going through a manic or psychotic episode, or (3) were unable to speak English or Spanish were not eligible to participate in the parent study. There were no additional exclusion criteria for the present study.

Procedures

Participants were recruited for the parent study from the waiting room of the Adult Outpatient Psychiatric Clinic (Unit 7B) at Lincoln Hospital and were offered $15 and a metro card if they completed all the questionnaires. After completing informed consent procedures, participants filled out a number of surveys, including questions about their socio-demographic background, the Financial Stress Scale (Slopen et al., 2013), the Relationship Stress Scale (Slopen et al., 2013), the Work Stress Scale (Slopen et al., 2013), and the BPIS (see above for more details). In addition, if consent was given, Research Assistants reviewed each participant's electronic medical record to obtain additional information about patient's psychiatric diagnosis/diagnoses. Measures from the parent study that are included in the current secondary analysis are listed below.

Measures were also translated into Spanish and there was a Spanish speaking research assistant on site to administer the study to Spanish-speaking individuals for a portion of the data collection period (see Shpigel, 2018 for more details). Spanish measures were IRB approved and the administration of Spanish measures followed IRB-approved procedures. In total, 80 participants completed the measures in English while 15 participants completed the measures in Spanish.

Measures

Socio-demographic Background. Participants reported their age; gender; country of origin and age of immigration if not born in the United States; education; race; ethnicity; sexual orientation; relationship status (e.g., married, living with a partner); employment status (e.g., currently working); annual household income (which was used in the present study as an indicator of SES), and number of children. Individuals who identified as female, individuals who identified as Latino/a, and individuals with a reported annual household income of <$10,000 were made into their own subgroups for Aim 2.

To measure race, participants were asked to self-identify as one of five options: Black (of Latino/a descent), Black (of non-Latino/a descent), White (of Latino/a descent), White (of non-Latino/a descent), or Other. If participants chose "Other," they were asked to write in their racial identity. To measure ethnicity, participants were first asked if they identify as Latino/a. Individuals who identifed as Latino/a were asked to choose which specific Latino/a identity they identified with the most. Participants were given a list of eight identities (e.g., Mexican, Puerto Rican, Honduran) as well as "Other" from which to choose. Individuals who chose "Other" were asked to fill in their specific Latino/a identity.

Psychiatric Diagnosis. Participants were asked to report the specific psychiatric condition for which they were receiving mental health services and, if consent was given, this diagnosis was confirmed by checking the participant's electronic medical record. All participants provided consent to confirm the diagnosis in the electronic medical records. Participants with the diagnoses of bipolar disorder and schizophrenia disorder were classified into one group called "individuals with a more impairing psychiatric disorder" while individuals with depressive disorders, anxiety disorders, trauma & stressor related disorders, personality disorders,

neurodevelopmental disorders, and mood disorders not otherwise specified were classified into a second group called "individuals a with less impairing psychiatric disorder." This classification was used for Aim 2, which assessed the differential validity of the BPIS for the subgroup of "individuals with a more impairing psychiatric disorder."

Financial Stress Scale. The Financial stress scale ($\alpha = 0.79$; Slopen et al., 2013; Walen & Lachman, 2000) measures to what extent individuals have enough money to cover their cost of living. The scale consists of two items, with the first item having a response option range of 1 to 3 (1 = Not enough money, 2 = Just enough money, and 3 = More money than you need) and the second item having a response option range of 1 to 4 (1 = Very difficult, 2 = Somewhat difficult, 3 = Not very difficult, 4 = Not at all difficult). As recommended by Slopen et al. (2012), the score on each item was first standardized into a Z score so that each item had equal influence on the total score of the scale. Then, the Z scores for each item were added together to yield a total score.

The Relationship Stress Scale. The Relationship Stress Scale comprises four subscales that measure stress in different relationship domains, with each subscale using a response option range of 1 to 4 or 1 to 5 and anchored according to the question (Slopen et al., 2013; Walen & Lachman, 2000). Walen and Lachman (2000) and Slopen et al. (2013) did not report internal consistency reliability results for the total scale but did report internal consistency reliability for the subscales, which are reported below. As described above for the Financial Stress Scale, the score on each subscale for The Relationship Stress Scale was first standardized into a Z score so that each subscale had equal influence on the total score of the scale. Then, the Z scores for each subscale were added together to yield a total score. In addition to using the total scale, this study also used the three subscales below independently.

The Spouse/Partner Strain Subscale. The Spouse/Partner Strain Subscale (α = 0.81; Slopen et al., 2013; Walen & Lachman, 2000) measures the perceived quality of the romantic relationship in terms of the partner's performance in the relationship (e.g., partner's level of caring, appreciation). The scale consists of six questions, which have response options ranging from 1 to 4 (1 = A lot, 2 = Some, 3 = A little, 4 = Not at all).

The Family Strain Subscale. The Family Strain Subscale (α = 0.80; Slopen et al., 2013; Walen & Lachman, 2000) measures how much stress an individual experiences in their family relationships in terms of frequency of negative events (e.g., criticized by a family member). The scale consists of four items, which have response options ranging from 1 to 4 (1 = Often, 2 = Sometimes, 3 = Rarely, 4= Never).

The Friend Strain Subscale. The Friend Strain Subscale (α = 0.79; Slopen et al., 2013; Walen & Lachman, 2000) measures how much stress an individual experiences in their friendships in terms of frequency of negative events (e.g., criticized by a friend). The scale consists of four items, which have response options ranging from 1 to 4 (1 = Often, 2 = Sometimes, 3 = Rarely, 4= Never).

Work Stress Scale. The Work stress scale measures the quality of individual's workplace experience (Karasek, 1985; Slopen et al., 2013). Karasek (1985) and Slopen et al. (2013) did not report the internal consistency reliability for the total scale but did report internal consistency reliability for the subscales, which are reported below. The scale, which consists of 6 subscales and 20 items in total, asks subjects to rate the sophistication of the work that they do, to what degree they have autonomy regarding what they do at work, their workload, to what degree they receive horizontal (from colleagues) and vertical (from superiors) support, to what extent they feel physically safe at work, and to what extent they feel that their job is secure (i.e.,

that they will not be fired). The lower the level of job sophistication, autonomy, support, physical safety, and job security, and the higher the workload, the lower the quality of the individual's workplace experience.

The Demands Subscale of the Work Stress Scale. The Demands Subscale ($\alpha = 0.74$; Karasek, 1985; Slopen et al., 2013), one of the six subscales that makeup the Work Stress Scale, will be also be used as an independent measure. The Demands Subscale measures the burden of work responsibilities in terms of frequency of demanding work circumstances (e.g., working intensively, too many tasks). The subscale consists of four items, with response options ranging from 1 to 5 (1= All of the time, 2 = Most of the time, 3 = Some of the time, 4 = Rarely, 5 = Never).

The Burden of Psychiatric Illness Scale (BPIS). Please see pages 5 – 7 for a description of the BPIS.

Data Analysis Plan

As a summary of the data analysis plan, principal component analyses (PCA) were conducted to identify the core components of the scale and their relationship, PCA on subgroups (e.g., gender, SES) were conducted to establish differential validity, and Pearson-r correlations between the BPIS and thematically similar and empirically linked constructs were calculated to establish concurrent validity. In addition, Pearson-r correlations were run to assess whether age relates to stress of managing psychiatric illness and Mann Whitney U Tests were run to assess whether cisgender women report greater stress related to managing psychiatric illness than cisgender men. See below for more details about each analysis.

Preliminary analyses.

Descriptive statistics. The means and standard deviations of all continuous measures (e.g., age, the BPIS*)* were reported for the overall sample and according to gender, race/ ethnicity, SES, and psychiatric diagnosis. The frequencies and percentages of all categorical measures (e.g., education, psychiatric diagnosis) were reported for the overall sample and according to gender, race/ethnicity, SES, psychiatric diagnosis, and language.

Testing assumption of normality for PCA and Pearson-r. All variables to be included in a PCA and Pearson-r were checked for the assumption of normality by visually inspecting the data (i.e., looking at frequency histograms, probability-probability plots, quantile-quantile plots, and box plots); considering measures of central tendency (i.e., mean, median, and mode), dispersion (i.e., range, interquartile range, standard deviation, and standard error of the mean), skew-ness, and kurtosis; and by running significance tests for skew-ness and kurtosis (i.e., Kolmogrov-Smirnov test and Shapiro-Wilk test) (Field, 2013). Principal component analyses and Pearson-r tests were able to proceed even though the assumption of normality was not met as: (1) Component recovery is valid even when the assumption of normality is not met (Tabachnick & Fidell, 2013) and (2) Given that the $n = 95$ and thus the degrees of freedom for Pearson-r (93) > 30, correlations would be considered valid even if the assumption of normality was not met.

Sample size for PCA for the full sample. Traditionally, two rules of thumb proposed for minimum sample size for PCA are (1) n ≥ 100 or (2) (i) 3 or more variables with loadings ≥ .8 or (ii) 4 or more variables with loadings ≥ .6, which indicate reliable results even for $n < 100$ people (Guadagnoli & Velicer, 1988; Stevens, 1996). In this sample, $n = 95$ and we anticipated high variable loadings given the thematic convergence of items for the IWF and MPH subscales (i.e., all IWF items relate to psychiatric symptoms interfering with daily activities, all MPH items

relate to the stress of managing psychiatric illness), which both indicated that the data should produce a reliable component structure.

Sample size for PCA on subgroups. A sample size of ≥ 50 has been considered the smallest sample size sufficient for reliable factor recovery (Velicer & Fava, 1998), a minimal *n/p (sample to variable)* ratio of 3:1 - 6:1 has also been suggested (Cattel, 1978), and more recent studies have demonstrated that factors can even be reliably recovered in $n < 50$ if certain conditions are met, including low number of components, high variable loadings, and high communalities (de Winter et al., 2009). In this study, the sample size of all subgroups being tested was 50 or greater (66, 64, and 50), *n/p* ratio is 5.56:1 or >, a small number of components was anticipated (i.e., 2 components corresponding to the two subscales), and high variable loadings and communalities were expected given that the nine items converge onto two themes. It was reasoned, accordingly, that these data subsets would allow for reliable component recovery.

Preliminary analyses for PCA. In order to determine if the full sample was large enough to conduct a PCA, we ran the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, with a minimum cutoff of >.5 (Field, 2013). To determine whether the variables were capable of yielding components based for the full sample data, we conducted Bartlett's Test for Sphericity. A statistically significant outcome indicates that the individual items do not form an identity matrix, are thus not completely independent of each other, and therefore could form clusters (i.e., components). We also conducted the KMO and Bartlett's Test on the variables for the four subsamples that were tested: female participants, participants who identify as Latino/a, participants who earned < $10,000 in annual household income, and participants who met *DSM-5* diagnostic criteria for bipolar disorder or schizophrenia.

Statistical analyses.

Aim 1. In order to assess the construct validity of the two subscales of the BPIS, we conducted a PCA with an oblique Promax rotation, given that the two anticipated components (corresponding to the BPIS subscales) related to the common theme of burden of psychiatric illness and thus were likely to correlate. We also ran a PCA with an oblique Direct Oblimin rotation to see if it would produce a component structure that more closely aligned with hypothesis 1 – that is, that the items on the BPIS would form two linear components, with the five items of the IWF scale loading onto one factor and the four items of the MPH scale loading onto a second factor, and that these two components will correlate with each other – than the Promax rotation. In addition, in order to help achieve the hypothesized two-component structure, we ran a PCA specifying that SPSS extract only two factors, so all variable loadings were forced onto two components.

We used the following four approaches to determine how many factors to keep: (1) Kaiser's criterion, which recommends keeping factors with an eigenvalue > 1; (2) scree plot landings, which recommends keeping factors that land before the last inflection point on the scree plot of factors (e.g., if there were two inflection points, factors that landed after the first inflection point but before the second inflection point were considered); (3) Horn's Parallel Analysis, which recommends keeping factors whose eigenvalues are greater than their corresponding Horn's Parallel Analysis percentiles; and (4) Velicer's minimum average partial (MAP) test, which recommends keeping factors with average squared partial correlations (Velicer, 1976) and average 4^{th} power correlations (Velicer et al., 2000) that are greater than the smallest averages of each type. In situations where the average squared partial correlation (Velicer, 1976) and average 4^{th} power correlation (Velicer et al., 2000) outcomes did not align –

e.g., the factor's average 4^{th} power partial correlation was greater than the smallest average 4^{th} power partial correlation but the factor's average squared partial correlation was not greater than the smallest average squared partial correlation - the 4^{th} Power approach was followed. The 4^{th} Power approach was followed because it represents the newer Revised MAP Test (Velicer et al., 2000).

To determine whether two components better explained the variance of the variables than one component, we generated a Total Variance Explained Table to compare (1) the percentage of total variance of items explained if we limited the number of components to 1 to (2) the percentage of total variance of items explained if we allowed for 2 components. When the data yielded more than 2 components, we compared the Total Variance Explained of two factors versus three factors, and three factors versus four factors to determine if additional components yielded a stronger overall component structure. A pattern matrix (with correlations less than .2 suppressed) and a component loading plot (a visual representation of the pattern matrix) were also generated to identify which variables loaded more onto each component and thus to determine whether, as predicted, the IWF items loaded more strongly onto the anticipated IWF component and the MPH items loaded more strongly onto the anticipated MPH component. Items with particularly weak loadings (< .4) were discarded. Cronbach's Alpha was then calculated to ascertain internal consistency reliability of the revised scale and then the steps of Aim 1 were repeated to ascertain the construct validity of the revised scale. The revised scale was then used for the analyses for aims 2 and 3.

Finally, a component correlation matrix was generated to determine if the components correlate with each other. The size of the standardized correlation coefficients was used to understand the meaning of the correlations, e.g., a correlation of close to 0 between the two

components would be understood to mean that the components are unrelated whereas a correlation approaching 1 would be understood to mean that the two components capture the same subconstruct.

Aim 2. To assess the differential validity of the subscales of the BPIS and total scale by gender, ethnicity, SES, and psychiatric diagnosis, we conducted a PCA on four subgroups from these categories with large enough sample sizes (i.e., $n \geq 50$) to allow for reliable factor recovery. Specifically, we conducted a PCA on the subgroups of female participants ($n = 66$), participants who identify as Latino/a ($n = 68$), participants who earned less than $10,000 in annual household income ($n = 64$), and participants who met *DSM-5* diagnostic criteria for the two disorders in the study associated with the highest degree of impairment ($n = 50$, with Schizophrenia Spectrum and Other Psychotic Disorders *n = 32* and Bipolar and Related Disorders, $n = 18$). In order to help achieve a two-component structure, it was specified that SPSS should extract only two factors, so all variable loadings were forced onto two components. We then followed the same procedures that were applied in Aim 1. Hypothesis 2 was considered supported if the PCA yielded the same two-component structure described in Aim 1 for each of the four subgroups.

Aim 3. To assess the concurrent-convergent validity of the BPIS subscales, we completed two sets of analyses. In the first set of analyses, we computed the Pearson-r correlations of three of the five IWF items with general levels of stress in their corresponding domains: (i) the IWF item about psychiatric interference in romantic relationships with The Spouse/Partner Strain Subscale, (ii) the IWF Item about psychiatric interference in family relationships with The Family Strain Subscale, and (iii) the IWF Item about psychiatric interference in friend relationships with The Friend Strain Subscale. Two items were not included in the analyses of

concurrent-convergent validity. First, we had also planned to compute the Pearson-r correlation of the IWF item about psychiatric interference with work with the Demands Subscale of the Work Stress Scale. However, the IWF item about psychiatric interference with work was trimmed from the revised scale due to weak factor loadings (see Results) and therefore it was not included in the concurrent-convergent validity analyses. Second, the item about psychiatric symptoms interfering with personal responsibilities did not have a corresponding measure in the parent study assessing general stress in the domain of personal responsibility and, further, ended up being trimmed from the revised scale due to weak factor loadings (see Results). Therefore, the item about psychiatric symptoms interfering with personal responsibilities was not included in the concurrent-convergent validity analyses.

In the second set of analyses, we computed the Pearson-r correlations of the MPH with the (i) Financial Stress, (ii) Relationship Stress, and (iii) Work Stress scales, respectively. The sizes of the standardized correlation coefficients were used to understand the meaning of the correlations, e.g., a correlation of close to 0 between the IWF item about romantic relationships and the Partner Strain scale would be understood to mean that the scale does not capture the intended construct, whereas a correlation approaching 1 would be understood to mean that the IWF item is capturing stress in romantic relationships in general rather the specific interference caused by psychiatric symptoms. Hypothesis 3 was considered supported if each of the four IWF items significantly correlated to their corresponding scales and the MPH significantly correlated to the Financial Stress, Relationship Stress, and Work Stress scales.

Exploratory Aim 4.

Aim 4a. To assess whether age predicts stress of managing psychiatric illness, we ran Pearson-r correlations. The continuous predictor variable was age and the five continuous

criterion variables were each participant's mean score on the MPH subscale and individual scores on the four items that makeup the MPH. We conducted an individual Pearson-r correlation for each of the five dependent variables.

Aim 4b. To assess whether cisgender women experience greater stress related to managing psychiatric illness than cisgender men, we ran Mann Whitney U Tests comparing the two genders (i.e., cisgender female and cisgender male). Gender served as the two-level independent variable (cisgender female and cisgender male) and participants' mean MPH subscale scores and individual scores on the four items that makeup the MPH served as the five dependent variables.

Rerunning all analyses with just English-speaking participants. All analyses were rerun on just the English-speaking participants (n = 80), excluding the Spanish-speaking participants (n = 15). Analyses on subgroups were rerun including just the English-speaking participants within each subgroup.

Chapter III: Results

Preliminary Analyses

Of the one hundred participants who consented and were enrolled in the study, five were excluded from the analysis for the parent study and also for this study: one participant for failure to complete the questionnaire, two participants because their patient status could not be confirmed, and two participants because one person completed the study three times (i.e., one set of data was kept while the other two sets were removed). Eighty participants filled out the English version of the questionnaire and 15 participants filled out the Spanish version of the questionnaire (Shpigel, 2018; Shpigel et al., 2021).

Demographic characteristics for the full sample. Table 1 shows the sample characteristics for the full sample. The majority of participants were female, heterosexual, and Latino/a. In terms of race, 15.8% participants identified as Black Latino/a, 36.8% identified as White Latino/a, 26.3% identified as Black non-Latino/a, and 21.2% identified as Multiracial/Other. Participants' average age was 46.2 (SD = 13.6) years old. The majority of participants had either not earned a high school degree or reported a high school degree as their highest attained level of education whereas only a minority of participants reported completing some college, an associate's degree, a bachelor's degree, or post-college education. The overwhelming majority of participants reported currently not having a job. The majority of participants earned less than $10,000 in annual household income. Regarding psychiatric diagnosis, the majority of participants met *DSM-5* diagnostic criteria for Depressive Disorders, Bipolar and Related Disorders, or Schizophrenia Spectrum and Other Psychotic Disorders.

Demographic characteristics by SES level. Table 1 shows sample characteristics for the two SES groups (income of <$10,000 per year versus ≥$10,000 per year). The two SES groups

did not significantly differ on age, gender, sexual orientation, race, ethnicity, country of origin, psychiatric diagnosis, disorders-by-impairment, or number of children. While we were not able to conduct significance testing for marital status and employment status because of the violation of the expected frequency assumption, the two SES groups appeared similar with regard to marital status and employment status. The two SES groups also did not differ significantly on highest level of education, though it should be noted that only 62.5% of individuals earning < $10,000 of yearly household income reported that they graduated high school/earned a GED or reported higher levels of education compared to 80.0% of individuals earning ≥ $10,000 of yearly household income.

Demographic characteristics by gender. Table 2 shows sample characteristics by gender identity. Given the sample's distribution of gender identities, participants were broken down into two groups: female (which included 66 cisgender women and 1 transgender woman) and male (which included 28 cisgender men). The two gender groups did not differ on age, sexual orientation, race, ethnicity, country of origin, education, SES level (as measured by annual household income), or disorders-by-impairment. While we were not able to conduct significance testing for marital status and employment status because of the violation of the expected frequency assumption, the two groups also appeared similar with regard to marital status and employment status. The two gender groups differed significantly on number of children, with female individuals reporting an average of 2.1 children (*SD* = 2.0) and male individuals reporting an average of 0.9 children (*SD* = 1.3). In addition, the two gender groups differed significantly on psychiatric diagnosis, with female participants having a higher percentage who met criteria for depressive disorders and bipolar and related disorders and male participants having a higher percentage who met criteria for schizophrenia spectrum and other

psychotic disorders.

Demographic characteristics by ethnicity. Table 3 shows sample characteristics for the two ethnic categories of Latino/a and non-Latino/a. The two ethnicity groups did not differ on age, gender, sexual orientation, education, SES level (as measured by annual household income), psychiatric diagnosis, or number of children. While we were not able to conduct significance testing on employment status because of the violation of the expected frequency assumption, the two groups also appeared similar with regard to employment status. The two ethnicity groups differed significantly on a combined measure of race and ethnicity, with only 23.6% of individuals in the Latino/a category identifying as Black (either as Black Latino/a or Black non-Latino/a) compared to 88.9% of individuals in the non-Latino/a category. In addition, the two ethnicity groups differed significantly on country of origin, with a little over half of individuals in the Latino/a category reporting being born in the United States compared to the overwhelming majority of individuals in the non-Latino/a category. There was also a marginally significant difference between the two ethnicity groups on disorders-by-impairment, with just under half of individuals in the Latino/a category reporting a more impairing disorder (i.e., schizophrenia or bipolar disorders) compared to two thirds of individuals in the non-Latino/a category. While we were not able to conduct significance testing on marital status because of violation of the expected frequency assumption, the two groups also appeared to differ with regard to marital status, with only 16.2.% of individuals in the Latino/a category reporting being married/living with partner compared to 77.8% of individuals in the non-Latino/a category. Finally, it should be noted that ten individuals who self-identified as non-Latino/a also endorsed a Latino/a nationality on the Latino/a nationality item.

Demographic characteristics according to disorders-by-impairment. Table 4 shows

sample characteristics for the two disorders-by-impairment groups (individuals with more impairing psychiatric disorders versus individuals with less impairing disorders). The two disorders-by-impairment groups did not differ on gender, sexual orientation, race, marital status, education, employment status, SES level (as measured by annual household income), or number of children. However, the two groups differed significantly on age, with individuals with more impairing disorders being almost three years older on average than individuals with less impairing disorders. In addition, there was a marginally significant difference between the groups on ethnicity, with 64% of individuals in the more impairing disorders group identifying as Latino/a compared to 80% of individuals in the less impairing disorders group.

Demographic characteristics by language. Supplemental Table 2 shows sample characteristics for the two language groups (English-speaking participants versus Spanish-speaking participants). The two language groups did not significantly differ on age. While we were not able to conduct significance testing for gender, sexual orientation, Latino/a nationality, marital status, employment status, and annual household income because of the violation of the expected frequency assumption, the two language groups appeared similar with regard to these variables. The two language groups differed significantly on country of origin, with 70.0% of English-speaking participants being born in the United States compared to 46.7% of Spanish-speaking participants, and on age of immigration (if not born in the United States), with English-speaking participants on average immigrating at 12.6 years (*SD = 11.4)* and Spanish-speaking participants on average immigrating at 24.5 years (*SD = 18.4)*. In addition, the two language groups differed significantly on disorders by impairment, with 57.5% of English-speaking participants reporting a more impairing disorder (i.e., schizophrenia or bipolar disorders) compared to 26.7% of Spanish-speaking participants. In addition, the two language groups had

marginally significant differences on race, with 46.3% of English-speaking participants identifying as Black compared to 20.0% of Spanish-speaking participants, and on number of children, with Spanish-speaking individuals reporting an average of 2.5 children *(SD = 1.8)* and English-speaking individuals reporting an average of 1.6 children *(SD = 1.6)*. While we were not able to conduct significance testing because of the violation of the expected frequency assumption, the two language groups appeared to differ on ethnicity, education, and psychiatric diagnosis: on ethnicity, 100.0% of Spanish-speaking individuals identified as Latino/a compared to 66.3% of English-speaking individuals. On education, 71.3% of English-speaking individuals reported that they graduated high school/earned a GED or reported higher levels of education compared to 46.7% of Spanish-speaking individuals. Finally, on psychiatric diagnosis, 37.5% of English-speaking participants had a diagnosis of schizophrenia spectrum and other psychotic disorders compared to 13.3% of Spanish-speaking individuals.

Comparing groups on the BPIS. As illustrated in Tables 5 – 8 and Supplemental Table 3, no differences were found on the BPIS subscales or total scale by gender, SES, ethnicity, disorders-by-impairment, or language subgroups.

Testing assumption of normality for the BPIS subscales and total scale. Supplemental Table 1 shows measures of central tendency, dispersion, skewness, and kurtosis for the BPIS subscales and total scale. As stated in the Methods section, principal component analyses and Pearson-r tests can proceed even if the assumption of normality is not met as: (1) Component recovery is valid even when the assumption of normality is not met (Tabachnick & Fidell, 2013) and (2) Given that the $n = 95$ and thus the degrees of freedom for Pearson-r (93) > 30, correlations will be valid even if the assumption of normality is not met.

Normality of IWF subscale. The platykurtic appearance of the data (i.e., of frequency

histograms, probability-probability plots, quantile-quantile plots, and box plots) and the significant result of the test for kurtosis (i.e., Shapiro-Wilk test) indicated that the IWF subscale data were not normally distributed. See Supplemental Figure 1 for the histogram of the IWF subscale data.

Normality of MPH subscale. The positively skewed and platykurtic appearance of the data (i.e., of frequency histograms, probability-probability plots, quantile-quantile plots, and box plots), the divergence of measures of central tendency (i.e., means, medians, and modes), and significant results of tests for skewness and kurtosis (i.e., Kolmogrov-Smirnov tests and Shapiro-Wilk tests) indicated that MPH subscale data were not normally distributed. See Supplemental Figure 2 for the histogram of the MPH subscale data.

Normality of BPIS total score.

Normality of unweighted BPIS total score. The positively skewed appearance of the data (i.e., of frequency histograms, probability-probability plots, quantile-quantile plots, and box plots), the divergence of measures of central tendency (i.e., means, medians, and modes), and marginally significant results of the test for skewness (i.e., Kolmogrov-Smirnov test) indicated that the data were not normally distributed. See Supplemental Figure 3 for the histogram of the unweighted BPIS total score data.

Normality of weighted BPIS total score. The normal appearance of the data (i.e., of a frequency histogram, probability-probability plot, quantile-quantile plot, and box plot) and insignificant results of tests for skewness and kurtosis (i.e., Kolmogrov-Smirnov test and Shapiro-Wilk test) indicated that the data of the weighted BPIS total score were normally distributed. See Supplemental Figure 4 for the histogram of the weighted BPIS total score data. As noted above, because the MPH data were not normally distributed, we tested hypothesis 5,

which predicted that cisgender females would have higher MPH scores than cisgender males, using the non-parametric Mann-Whitney U Test.

Aim 1: Construct Validity

PCA on the full BPIS for the full sample. A PCA with a Promax rotation was conducted on the full BPIS for the full sample to establish the scale's construct validity. The minimum cut off for variable loadings was ≥ .4.

Preliminary analyses for PCA. As illustrated in Table 9, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was adequate, indicating that the sample size was large enough to conduct a PCA. In addition, Bartlett's Test for Sphericity was statistically significant, indicating that the variables are capable of yielding components.

Number of components to be kept. See Table 10 for the eigenvalues, Horn's Parallel Analysis percentiles, scree plot landings, and average partial correlations of the PCA conducted on the full BPIS for the full sample. The PCA with an oblique Promax rotation yielded four factors with eigenvalues > 1, indicating that, according to Kaiser's criterion, four factors should be kept. However, only the first two components landed before the last inflection point on the scree plot (see Figure 1), indicating that only Components 1 and 2 should be kept. Horn's Parallel Analysis and Velicer's minimum average partial (MAP) test were then also conducted to help clarify how many components should be kept. After running Horn's Parallel Analysis, we found that only the eigenvalues for Components 1 and 2 were larger than their corresponding percentiles (see Table 10), indicating that only the first two components should be kept.
The results of the MAP test revealed that only Component 1 had an average squared partial correlation and an average 4^{th} power correlation that were greater than the smallest averages, indicating that only one component should be kept (see Table 10). As illustrated in

Table 11, the first two components explained most of the variance, supporting a two-component structure.

Components loadings and correlations.

Component loadings. The pattern matrix (see Table 12) and component loading plot (see Figure 2) revealed that Component 1 had loadings from three of the four variables of the MPH subscale (i.e., the subscale that measures stress related to managing one's psychiatric illness), specifically, from the items about travel stress, stress of medication procurement, and stress of attending appointments. Components 2 and 3 each had loadings from the variables of the IWF subscale (i.e., the subscale that measures how psychiatric disorders may interfere with functioning), specifically, Component 2 had loadings from the two items about psychiatric symptoms interfering with family relationships and with friend relationships while Component 3 had loadings from the two items about psychiatric symptoms interfering with romantic relationships and personal responsibilities. The two remaining BPIS items – the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition and the IWF item about psychiatric symptoms interfering with job performance – did not have loadings ≥ the minimum cut off of .4 onto any of the first three components. If a minimum cut off of .3 is applied, the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition would load onto Component 3.

Component correlations. As illustrated in Table 13, Components 1, 2, and 3 were significantly or marginally significantly ($p = 0.05$) correlated, indicating that the three components form one overarching construct (i.e., burden of psychiatric illness). The sizes of the correlation coefficients were appropriate (i.e., they were not close to 0 or approaching 1), indicating that the three components, while related, capture distinct subconstructs (i.e., stress

related to the management of psychiatric illness, psychiatric symptom interference with family and friend relationships, and psychiatric symptom interference with romantic relationships and personal responsibilities).

Running PCA with a Direct Oblimin rotation. We then ran a PCA with a Direct Oblimin rotation to see if it would produce a component structure that more closely aligned with hypothesis 1. The results of the PCA with the Direct Oblimin rotation were comparable to those of the PCA with the Promax rotation. Loadings were almost identical and the number of components did not change.

Running PCA for just English-speaking speaking participants. We then ran a PCA with just the English-speaking participants (*n = 80)*, excluding the Spanish-speaking participants (*n = 15),* to see if these analyses would yield similar results.

Preliminary analyses for PCA. KMO was adequate and Bartlett's Test for Sphericity was significant for the English-speaking subsample.

Number of components to be kept. The number of components indicated by each approach for the English-speaking participants followed the same pattern as those for the full sample.

Component loadings. As illustrated in Supplemental Table 4, the component loadings for the English-speaking participants were comparable to those for the full sample. The component loadings for the English-speaking participants differed slightly from those of the full sample in that, for the English-speaking participants, the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition also loaded onto component 3, in addition to the items about psychiatric symptoms interfering with romantic relationships and personal responsibilities.

Component correlations. As illustrated in Supplemental Table 5, The component correlations for the English-speaking participants were comparable to those for the full sample. The component correlations for the English-speaking participants differed slightly from those of the full sample in that, for the English-speaking participants, Components 1 and 4 had a negative correlation coefficient whereas for the full sample the correlation coefficient between those 2 components was positive.

PCA on the full BPIS for the full sample with variables forced onto 2 components. We then examined whether the five items of the IWF scale would load onto one factor and the four items of the MPH scale would load onto a second factor if all items were forced onto only two components. Specifically, we ran a PCA with a Promax rotation specifying that SPSS extract only two factors.

Components loadings and correlations.

Component loadings. The pattern matrix (see Table 14) and component loading plot (see Figure 3) revealed that all four variables of the MPH scale loaded onto Component 1. Three of the five variables from the IWF scale loaded onto Component 2, namely, the three items about psychiatric symptoms interfering with family, friend, and romantic relationships. However, the other two IWF variables, which ask about psychiatric symptoms interfering with job performance and personal responsibilities, did not have loadings ≥ the minimum cut off of .4 onto either component. If a .3 cut off is applied, the item about psychiatric symptoms interfering with personal responsibilities would load onto Component 1. In addition, the item about psychiatric symptoms interfering with job performance would negatively load onto Component 1, meaning that scores on this item were inversely correlated with the scores on the other items that make up Component 1.

Component correlations. As illustrated in Table 15, Components 1 and 2 were significantly correlated, indicating that the two components form one overarching construct (i.e., burden of psychiatric illness). The size of the correlation coefficient was appropriate (i.e., it was not close to 0 or approaching 1), indicating that the two components, while related, capture distinct subconstructs (i.e., stress related to management of psychiatric illness and psychiatric symptom interference with family, friend, and romantic relationships).

Running PCA with a Direct Oblimin rotation. The results of the PCA with two factors forced and with the Direct Oblimin rotation were comparable to those of the two-factor PCA with the Promax rotation. Loadings were almost identical and the number of components did not change. Therefore, based on the .4 minimum cut off, items 3 and 5 (i.e., items about interference with job performance and personal responsibilities) were trimmed from the BPIS.

Running PCA for just the English-speaking speaking participants.

Component loadings. As illustrated in Supplemental Table 6, the results of the PCA with two factors forced for just the English-speaking participants were comparable to those for the full sample. The component correlations for the English-speaking participants differed slightly from those of the full sample in that, if a .3 cut off is applied, the item about psychiatric symptoms interfering with job performance would also load onto Component 2.

Component correlations. Like with the two components for the full sample, Components 1 and 2 were significantly correlated for the subsample of English-speaking individuals and the size of the correlation coefficient was appropriate.

Internal consistency reliability of the revised BPIS (BPIS-r) for the full sample. Cronbach's Alpha of the revised total scale was acceptable ($\alpha = 0.74$). The Cronbach's Alpha of the revised IWF subscale was questionable ($\alpha = 0.63$), which was determined to be acceptable

given the small number of items (Field, 2013) and as it represents an improvement of .11 from the internal consistency reliability of the original IWF (α = 0.52).

Internal consistency reliability of the revised BPIS (BPIS-r) for English-speaking individuals. The internal consistency reliability ratings of the revised total scale and revised IWF of the BPIS-r for the English-speaking subsample were almost identical to those of the BPIS-r on the full sample and were in the same qualitative ranges: Cronbach's Alpha of the revised total scale was acceptable (α = 0.75) and Cronbach's Alpha of the revised IWF subscale was questionable (α = 0.67).

PCA on the BPIS-r for the full sample. A PCA with a Promax rotation was then conducted on the BPIS-r for the full sample. The minimal cut off for variables loadings was ≥ .4.

Preliminary analyses for PCA. As illustrated in Table 9, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was adequate, indicating that the sample size was large enough to conduct a PCA. In addition, Bartlett's Test for Sphericity was statistically significant, indicating that the variables are capable of yielding components.

Number of components to be kept. All four approaches – the eigenvalues (according to Kaiser's criterion), scree plot, Horn's Parallel Analysis, and average partial correlations (i.e., MAP analysis) – indicated that 2 components should be kept (see Table 16 and Figure 2). As illustrated in Table 17, the first two components explained most of the variance, supporting a two-component structure.

Components loadings and correlations.

Component loadings. As shown in Table 18 and Figure 5, all four items on the MPH subscale loaded onto Component 1. The two IWF items about psychiatric symptoms interfering with family and friend relationships loaded onto Component 2. The IWF item about psychiatric

symptoms interfering with romantic relationships did not load onto either component. If a .3 minimum cut off is applied, the item about interference in romantic relationships would load onto Component 2.

Component correlations. As illustrated in Table 19, Components 1 and 2 were significantly correlated, indicating that the two components form one overarching construct (i.e., burden of psychiatric illness). The size of the correlation coefficient was appropriate (i.e., it was not close to 0 or approaching 1), indicating that the two components, while related, capture distinct subconstructs (i.e., stress related to management of psychiatric illness and psychiatric symptom interference with family, friend, and romantic relationships).

Running PCA for just English-speaking participants.

Preliminary analyses for PCA. KMO was adequate and Bartlett's Test for Sphericity was significant for the English-speaking subsample.

Number of components to be kept. Just as with the full sample, all four approaches indicated that 2 components should be kept for the English-speaking subsample.

Component loadings. As illustrated in Supplemental Table 7, the results of the PCA on the BPIS-r for the English-speaking participants (n = 80) were comparable to those for the full sample. The loadings for the English-speaking participants were slightly stronger in that all three IWF relationship items – including the item about psychiatric symptoms interfering with romantic relationships – loaded onto Component 2 using a .4 minimum cutoff whereas for the full sample the romantic relationships item only loaded onto component 2 if a .3 minimum cutoff is applied.

Component correlations. Like with the two components for the full sample, Components 1 and 2 were significantly correlated for the subsample of English-speaking participants and the size of the correlation coefficient was appropriate.

See Table 20 for a summary of the number of components that should be kept according to each of the four approaches – eigenvalues (i.e., Kaiser's Criteria), scree plot landings, Horns Parallel Analysis, and average partial correlations (i.e., MAP analysis) – for the PCA on the full BPIS and the PCA on the BPIS-r for the full sample. The BPIS-r was used for the analyses for aims 2 and 3.

Aim 2: Differential Validity

PCA with a Promax rotation was conducted on the BPIS-r for four subgroups – (1) female participants, (2) Latino/a participants, (3) participants with less than $10,000 in annual household income, and (4) participants with a more impairing psychiatric disorder – to establish the scale's differential validity. In order to help achieve the hypothesized two-component structure, it was specified that SPSS extract only two factors, so all variable loadings were forced onto two components. The minimal cut off for variables loadings was ≥ .4.

Preliminary analyses for PCA on four subgroups. KMO was adequate and Bartlett's Test for Sphericity was significant for all subgroups (see Table 21).

Preliminary analyses for PCA on English-speaking subsamples of four subgroups. KMO was adequate and Bartlett's Test for Sphericity was significant for all English-speaking subsamples of the four subgroups.

PCA on the BPIS-r for four subgroups and English-speaking subsamples.

Number of components to be kept.

Female participants. See Table 22 for the eigenvalues, Horn's Parallel Analysis percentiles, scree plot landings, and average partial correlations of the PCA conducted on the BPIS-r for female participants. For the female subgroup, the eigenvalues (according to Kaiser's criterion), scree plot (see Figure 6), and average partial correlations (i.e., MAP analysis) indicated that 2 components should be kept. Horn's Parallel Analysis indicated that only 1 component should be kept. As illustrated in table 23, the first two components explained most of the variance, supporting a two-component structure.

English-speaking female participants. The number of components indicated by each approach for the English-speaking female participants followed the same pattern as those for the full female subgroup.

Latino/a participants. See Table 26 for the eigenvalues, Horn's Parallel Analysis percentiles, scree plot landings, and average partial correlations of the PCA conducted on the BPIS-r for Latino/a participants. For the Latino/a subgroup, the eigenvalues (according to Kaiser's criterion), scree plot (see Figure 8), and Horn's Parallel Analysis indicated that 2 components should be kept. The average partial correlations (i.e., MAP analysis) indicated that only 1 component should be kept. As illustrated in table 27, the first two components explained most of the variance, supporting a two-component structure.

English-speaking Latino/a participants. The number of components indicated by each approach for the English-speaking Latino/a participants followed a similar pattern as those for the full female subgroup. The only difference was that the 4th Power Average Partial Correlation (MAP) test indicated that 2 components should be kept rather than 1.

Participants who earned less than $10,000 in annual household income. See Table 30 for the eigenvalues, Horn's Parallel Analysis percentiles, scree plot landings, and average partial

correlations of the PCA conducted on the BPIS-r for participants who earned less than $10,000 in annual household income. For the subgroup of participants who earned less than $10,000 in annual household income, the eigenvalues (according to Kaiser's criterion) indicated that 3 components should be kept. The scree plot (see Figure 10) and average partial correlations (i.e., MAP analysis) indicated that 2 components should be kept. Horn's Parallel Analysis indicated that 1 component should be kept. As illustrated in Table 31, the first two components explained most of the variance, supporting a two-component structure.

English-speaking participants who earned less than $10,000 in annual household income. The number of components indicated by each approach for the English-speaking participants who earned less than $10,000 in annual household income followed the same pattern as those for the full subgroup of participants who earned less than $10,000 in annual household income.

Participants with a more impairing psychiatric disorder. See Table 34 for the eigenvalues, Horn's Parallel Analysis percentiles, scree plot landings, and average partial correlations of the PCA conducted on the BPIS-r for participants with a more impairing psychiatric disorder. For the subgroup of individuals with a more impairing psychiatric disorder, the eigenvalues (according to Kaiser's criterion) and scree plot (see Figure 12) indicated that 3 components should be kept. Horn's Parallel Analysis and the average partial correlations (i.e., MAP analysis) indicated that only 2 components should be kept. As illustrated in Table 35, the first two components explained most of the variance, supporting a two-component structure.

English-speaking participants with a more impairing psychiatric disorder. The number of components indicated by each approach for the English-speaking participants with a more

impairing psychiatric disorder followed a similar pattern as those for the full subgroup. The only difference was that scree plot indicated that 5 components should be kept rather than 3.

Components loadings.

Female participants. See Table 24 and Figure 7 for the pattern matrix and component loading plot for female participants. For the subgroup of female participants, all four items on the MPH subscale loaded onto Component 1. The two IWF items about psychiatric symptoms interfering with family and friend relationships loaded onto Component 2. The IWF item about psychiatric symptoms interfering with romantic relationships did not load onto either component. If a .3 minimum cut off is applied, the item about interference in romantic relationships would load onto Component 1.

English-speaking female participants. As illustrated in Supplemental Table 8, the component loadings for the English-speaking female participants were generally comparable to those for the full subgroup of female participants. The component loadings for the English-speaking female participants differed slightly from those of the full female subgroup in that, in addition to the 4 MPH items which loaded onto Component 1, two IWF items also loaded onto component 1. Specifically, the IWF item about psychiatric symptoms interfering with romantic relationships had a positive loading onto Component 1 and the item about psychiatric symptoms interfering with friend relationships had a negative loading onto Component 1, meaning that scores on this item were inversely correlated with the scores on the other items that make up the component. Moreover, in addition to the two IWF items about psychiatric symptoms interfering with family and friend relationships which loaded onto Component 2, the MPH item about travel stress also loaded onto Component 2 and the item about the stress of managing a psychiatric illness in relation managing a medical illness negatively loaded onto Component 2, meaning that

scores on this item were inversely correlated with the scores on the other items that make up Component 2. Finally, if a .3 cutoff is applied, the item about the stress of medication procurement would load onto Component 2 as well.

Latino/a participants. As illustrated in Table 28 and Figure 9, the component loadings for Latino/a participants followed the same pattern as those for female participants, with one exception. Specifically, the item about interference in romantic relationships did not load onto Component 1 even when a .3 minimum cut off was applied.

English-speaking Latino/a participants. As illustrated in Supplemental Table 9, the component loadings for the English-speaking Latino/a participants were comparable to those for the full subgroup. The loadings for the English-speaking Latino/a participants were slightly stronger in that all three IWF relationship items – including the item about psychiatric symptoms interfering with romantic relationships – loaded onto Component 2.

Participants who earned less than $10,000 in annual household income. As illustrated in Table 32 and Figure 11, for the subgroup of individuals who earned less than $10,000 in annual household income, all four items on the MPH subscale loaded onto Component 1. All three remaining IWF items – about psychiatric symptoms interfering with family, friend, and romantic relationships – loaded onto Component 2.

English-speaking participants who earned less than $10,000 in annual household income. As illustrated in Supplemental Table 10, the component loadings for the English-speaking participants who earned less than $10,000 in annual household income were comparable to those for the full subgroup. The component loadings for the English-speaking participants were slightly weaker in that the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition did not load onto Component 1. However,

if a minimum cut off of .3 is applied, the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition would load onto Component 2.

Participants with a more impairing psychiatric disorder. As illustrated in Table 36 and Figure 13, the component loadings for participants with a more impairing psychiatric disorder followed the same pattern as those for participants who earned less than $10,000 in annual household income.

English-speaking participants with a more impairing psychiatric disorder. As illustrated in Supplemental Table 11, the component loadings for the English-speaking participants with a more impairing psychiatric disorder were comparable to those for the full subgroup. The component loadings for the English-speaking participants were slightly weaker in that the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition did not load onto Component 1. However, if a minimum cut off of .3 is applied, the MPH item about the stress of managing a psychiatric condition in relation to managing a medical condition would load onto Component 1. Moreover, the item about psychiatric symptoms interfering with romantic relationships – in addition to loading onto Component 2 - also negatively loaded onto Component 1, meaning that scores on this item were inversely correlated with the scores on the other items that make up the component.

Components correlations.

Female participants. See Table 25 for the component correlation matrix for female participants. For female participants, Components 1 and 2 were significantly correlated, indicating that the two components form one overarching construct (i.e., burden of psychiatric illness). The size of the correlation coefficient was appropriate (i.e., it was not close to 0 or approaching 1), indicating that the two components, while related, capture distinct subconstructs

(i.e., stress related to management of psychiatric illness and psychiatric symptom interference with family and friend relationships).

English-speaking female participants. Like with the full subgroup of female participants, Components 1 and 2 were significantly correlated for English-speaking females and the size of the correlation coefficient was appropriate.

Latino/a participants. As illustrated in Table 29, for Latino/a participants, Components 1 and 2 were significantly correlated and the size of the correlation coefficient was appropriate.

English-speaking Latino/a participants. Like with the full subgroup of Latino/a participants, Components 1 and 2 were also significantly correlated for English-speaking Latino/a participants and the size of the correlation coefficient was appropriate.

Participants who earned less than $10,000 in annual household income. As illustrated in Table 33, for participants who earned less than $10,000 in annual household income, Components 1 and 2 were significantly correlated and the size of the correlation coefficient was appropriate.

English-speaking participants who earned less than $10,000 in annual household income. Like with the full subgroup of participants who earned less than $10,000 in annual household income, Components 1 and 2 were also significantly correlated for English-speaking participants who earned less than $10,000 in annual household income and the size of the correlation coefficient was appropriate.

Participants with a more impairing psychiatric disorder. As illustrated in Table 37, for the subgroup of individuals with more impairing disorders, Components 1 and 2 were not significantly correlated, which did not support the prediction that the two components would be related.

English-speaking participants with a more impairing psychiatric disorder. Like with the full subgroup of individuals with more impairing disorders, Components 1 and 2 were also not significantly correlated for English-speaking participants with more impairing disorders.

See Table 38 for a summary of the number of components that should be kept according to each of the four approaches – eigenvalues (i.e., Kaiser's Criteria), scree plot landings, Horns Parallel Analysis, and average partial correlations (i.e., MAP analysis) – for the four subgroups of female participants, Latino/a participants, participants with less than $10,000 in annual household income, and participants with a more impairing psychiatric disorder.

Aim 3: Convergent Validity

Concurrent-Convergent validity of the revised Interference with Functioning (IWF) subscale. All three remaining Interference with Functioning (IWF) items significantly correlated with general stress levels in their respective domains, i.e., in the domains of romantic relationships, family relationships, and friend relationships (see Table 39). The sizes of the correlation coefficients were appropriate (i.e., they were not close to 0 or approaching 1), indicating that the individual items are related but still distinct from the general stress domains.

Concurrent-Convergent validity of the Management of Psychiatric Health (MPH) subscale. The Management of Psychiatric Health (MPH) subscale significantly correlated with the Relationship Stress scale but did not significantly correlate with the Financial Stress or Work Stress scales, respectively (see Table 40). The size of the correlation coefficient between the MPH and Relationship Stress scale was appropriate (i.e., it was not close to 0 or approaching 1), indicating that the MPH subscale captures a construct that is related to but still distinct from general relationship stress.

Concurrent-Convergent validity for the English-speaking subsample. The concurrent-convergent validity results for the English-speaking subsample followed the same pattern as those for the full sample.

Aim 4: Factors Related to the Stress of Managing Psychiatric Illness

Aim 4a. As illustrated in Table 41, the Pearson-r correlations between age and the MPH subscale and its four items were not statistically significant, indicating that age was not associated with the level of stress individuals reported related to managing their psychiatric illness.

Aim 4b. As illustrated in Table 42, the Mann Whitney U analyses did not yield any significant differences between cisgender women and cisgender men on the MPH or its 4 items, indicating that the two genders did not differ in terms of how much stress they reported related to managing their psychiatric illness.

Aim 4 results for the the English-speaking subsample. The Aim 4 results for the English-speaking subsample followed the same pattern as those for the full sample.

Chapter IV: Discussion

The aim of the study was to evaluate the construct, differential, and concurrent validity of the Burden of Psychiatric Illness Scale (BPIS), which examines the extent to which individuals' psychiatric illness interferes with their psychosocial functioning and how much stress they experience from managing their psychiatric condition. Overall, in a sample of 95 majority low SES, unemployed, Latino/a and Black adults with psychiatric illness, the BPIS demonstrated partial construct validity, as indicated by the results of Aim 1. The BPIS's partial construct validity led to a revised scale, in which the Interference with Functioning (IWF) subscale was trimmed to only include its three relationship items. The revised BPIS (BPIS-r) was then used for

Aims 2 and 3 and demonstrated good differential validity and partial convergent validity. Regarding the BPIS-r's differential validity, similar results were found for the four subgroups examined. In addition to the study's primary aim of examining the BPIS's validity, an exploratory aim was also pursued, which examined factors that may relate to stress related to managing psychiatric illness (i.e., age and gender). It was found that neither age or gender was associated with stress related to managing psychiatric illness. All analyses were rerun on samples of just English-speaking individuals, excluding the Spanish speaking participants, and yielded similar results to those of the complete multilingual samples. A more detailed discussion of the results for each aim is below.

Aim 1: Construct Validity

It was hypothesized that the items on the BPIS would form two linear components, with the five items of the IWF scale loading onto one factor and the four items of the MPH scale loading onto a second factor. This hypothesis was partially supported. In the initial PCA, two of the four approaches indicated that two components should be kept while the two other approaches indicates that either four components or just one component should be kept. Three of the four MPH items loaded onto Component 1, supporting the construct validity of the MPH subscale. The fourth variable on the MPH subscale, which asks about the stress of managing a psychiatric condition in relation to managing a medical condition, did not load onto Component 1.

The initial PCA results were less supportive of the IWF subscale's validity than they were of the MPH subscale's validity. Specifically, four of the five IWF items split into two components and the fifth did not load onto either of those two components. Items about psychiatric symptoms interfering with family relationships and with friend relationships loaded

onto Component 2, while items about psychiatric symptoms interfering with romantic relationships and personal responsibilities loaded onto Component 3. The fifth IWF item about psychiatric symptoms interfering with job performance did not load onto either of the two IWF components. Possible explanations for why the items of IWF scale split into two components will be discussed below.

The initial PCA results, accordingly, suggested three latent variables: a variable about the stress related to the various responsibilities of managing a psychiatric illness, a variable about psychiatric symptoms interfering with family and friend relationships, and a variable about psychiatric symptoms interfering with romantic relationships and personal responsibilities. The three components were either significantly or marginally significantly correlated with each other, indicating that the three components form one overarching construct (i.e., burden of psychiatric illness).

When forced to load all variables onto only two components, the PCA yielded a component structure that was more similar to the hypothesized structure. Specifically, all four MPH items – including the item about psychiatric stress relative to medical stress – loaded onto Component 1. In addition, the three IWF items about psychiatric symptoms interfering with relationships (i.e., family, friend, and romantic) loaded onto Component 2. The two IWF items about interference with job performance and personal responsibilities did not load onto either component and were therefore excluded in the later analyses. The BPIS-r scale, thus, suggested two latent variables: one variable about the stress related to the various responsibilities of managing a psychiatric illness and a second variable about psychiatric symptoms interfering with personal relationships. The two components were significantly correlated, indicating that the two components form one overarching construct (i.e., burden of psychiatric illness).

The Cronbach's Alpha and PCA of the BPIS-r for the full sample mostly supported the internal consistency reliability and validity of the revised scale. The Cronbach's Alpha of the revised total scale was acceptable and the Cronbach's Alpha of the revised IWF subscale was questionable, which was acceptable given the small number of items (Field, 2013) and represented an improvement of .11 from the internal consistency reliability of the original IWF. All four PCA approaches indicated that two components should be kept. In terms of component loadings, all four MPH items loaded onto Component 1, while two of the three remaining IWF items, namely family and friend relationships, loaded onto Component 2. The item about psychiatric symptoms interfering with romantic relationships did not load onto either component if a .4 minimum cut off was applied but did load onto Component 2 if a .3 minimum cut off was applied. The two components were significantly correlated, indicating that the two components form one overarching construct (i.e., burden of psychiatric illness).

There are a number of possible explanations for the unexpected results in Aim 1. First, in the initial PCA, the fourth variable on the MPH subscale, which asks about the stress of managing a psychiatric condition in relation to managing a medical condition, did not load onto the component with the other three MPH items (i.e., Component 1). This finding is not surprising given that this fourth variable differs from the first three in that it does not ask individuals to directly report stress related to managing their psychiatric illness but rather about psychiatric management stress in relation to medical management stress. In addition, it is not known which medical conditions participants used in the comparison requested by this item. Therefore, participants who endorsed similar levels of psychiatric stress on the other three MPH items may have used different medical conditions as their comparison and, as a result, given varying responses. For example, two individuals may have experienced similarly high levels of stress

related to managing their psychiatric illness but the patient with the more burdensome medical illness might disagree with this item (as managing their medical illness is still more stressful) while the individual with the less burdensome medical illness would agree with this item (as managing their psychiatric illness is more stressful). How and what individuals use to compare medical conditions and psychiatric illness would be a useful area of future research.

Second, in the initial PCA, the fifth IWF item about psychiatric symptoms interfering with job performance did not load onto either of the two IWF components. This may relate to the high unemployment rate of the participants: the overwhelming majority (90.1%) reported currently not having a job. Accordingly, there was no job performance for psychiatric symptoms to interfere with and people could thus report high levels of interference in other domains (i.e., relationships and personal responsibilities) without reporting interference in job performance. As a result, the item about symptoms interfering with job performance did not hang together with the other four IWF items.

Third, in the initial PCA, the IWF subscale split into two components: (1) a component about psychiatric symptoms interfering with family and friend relationships and (2) a component about psychiatric symptoms interfering with romantic relationships and personal responsibilities. Family and friend relationships may pair together as an independent component because of the Latino/a value of *Familismo* (Sue et al., 2019) and African American emphasis on kinship bonds and fictive kin (Sue et al., 2019). Both traditions emphasize the centrality of family and close friend relationships. For many Latino/a and African American individuals, family and friend relationships might be especially linked constructs and thus the items about psychiatric interference with family and friend relationships hung together more tightly with each other than with the other two IWF items. This resulted in two subcomponents of psychiatric interference

with functioning: interference in family and friend relationships and interference in romantic relationships and personal responsibilities. If culture influenced which variables hung together, it may be that people from other races/ethnicities would have different results, and this question should be examined in future research with larger samples of people from a range of races/ethnicities.

Fourth, in the forced two-factor PCA, the items about psychiatric symptoms interfering with personal responsibilities and job performance did not hang together with the three items about psychiatric interference in family, friend, and romantic relationships. It may be that interpersonal relationships constitute an integrated sphere of life that is distinct from personal responsibilities and job performance. Therefore, the relationships items hung together more strongly to each other than they did to the items about personal responsibilities and job performance.

Aim 2: Differential Validity

It was hypothesized that the BPIS subscales would demonstrate differential validity for specific gender, ethnic, SES, and psychiatric diagnosis subgroups, specifically for: female participants, participants who identified as Latino/a, individuals with a household income of <$10,000, and individuals with either of the two more impairing disorders in the study (i.e., individuals with schizophrenia or bipolar disorders; Lars et al., 1998). Overall, the BPIS-r showed good differential validity across these groups.

The PCAs for the four different subgroups yielded component structures that closely resembled the structure of the BPIS-r for the full sample, with slight variations between groups in terms of the number of the components indicated and the loading of the romantic relationship item. Specifically, in terms of number of components, for the subgroups of female participants

and of Latino/a participants, respectively, the majority of approaches (three out of four) indicated that two components should be kept while the fourth approach indicated that one component should be kept. For the subgroups of individuals with more impairing disorders and of individuals who earned less than $10,000 in annual income, respectively, two of four approaches indicated that two components should be kept. For the subgroup of individuals with more impairing disorders, the other two approaches indicated that three components should be kept. For the subgroup of individuals who earned less than $10,000 in annual income, one of the other two approaches indicated that three components should be kept while the other indicated that only one component should be kept.

In terms of loadings, for all four subgroups, all four MPH items loaded onto Component 1 and, for the subgroups of individuals with more impairing disorders and of individuals who earned less than $10,000 in annual income, all three IWF items about psychiatric symptoms interfering with relationships (i.e., family, friend, and romantic) loaded onto Component 2. For the subgroups of female participants and of Latino/a participants, two of the three IWF relationship items, namely family and friend relationships, loaded onto Component 2 but the item about psychiatric symptoms interfering with romantic relationships did not.

The high rate of participants not in romantic relationships (76%) may help explain why interference in romantic functioning did not hang together with family and friend relationships for the subgroups of female participants and of Latino/a participants. Interference with romantic relationships was not relevant to the majority of the sample and thus higher psychiatric inference with family and friend relationships did not necessarily go together with higher psychiatric interference in romantic relationships. It should be noted that this explanation does not account for why interference in romantic relationships failed to hang together with interference in family

and friend relationships among female and Latino/a participants but *did* hang together among individuals who earned less than $10,000 in annual income and among individuals with more impairing disorders. In addition, *Familismo* and the centrality of family and close friend relationships may also help explain why, among the Latino/a subgroup, interference with romantic relationships did not hang together with interference in family and close friend relationships. Family and friend relationships might be especially linked constructs and thus the items about psychiatric interference with family and friend relationships hung together more tightly with each other than they did with the item about psychiatric interference with romantic relationships.

Ethnic and gender identity, accordingly, may have influenced which IWF items hung together, specifically, whether psychiatric interference with romantic relationships was linked with psychiatric interference with friend and family relationships. Therefore, for the subgroups of individuals with more impairing disorders and of individuals who earned less than $10,000 in annual income, the item about interference with romantic relationships hung together with the items about interference with family and friend relationships. However, for the Latino/a and female subgroups, the item about interference with romantic relationships did not hang together with the items about interference with family and friend relationships. Future studies comparing the BPIS-r's component structure for cisgender female participants to its component structure for participants of other gender identities (e.g., cisgender male, transgender male, transgender female, nonbinary) could help uncover whether gender identity contributed to family and friend relationships items hanging together among cisgender female participants. Likewise, future studies comparing the BPIS-r's component structure for Latino/a participants to its component

structure for non-Latino/a participants could help uncover whether culture contributed to family and friend relationships items hanging together among Latino/a participants.

In terms of component correlations, while the two components were significantly correlated for female participants, Latino/a participants, and individuals who earned less than $10,000 in annual income, the two components were not significantly correlated for individuals with more impairing disorders. It may be that the component about stress related to the management of psychiatric health did not correlate with the component about psychiatric symptoms interfering with functioning among individuals with more impairing disorders because of the higher baseline frequency and complexity of the tasks required to manage schizophrenia and bipolar disorder. The tasks entailed in managing these more impairing disorders – e.g., traveling to appointments with mental health professionals, participating in psychotherapy, and procuring psychotropic medications – may be inherently burdensome, independent of the extent to which the disorders interfere with individual's functioning. As a result, the component about the stress of managing psychiatric health did not correlate with the component about the extent to which psychiatric symptoms interfered with functioning.

Aim 3: Convergent Validity

It was predicted that the BPIS subscales would show concurrent-convergent validity. Regarding the IWF subscale, it was predicted that each IWF item would correlate with general stress levels in the corresponding domain (e.g., the IWF item about psychiatric symptoms interfering with romantic relationships would correlate with spouse/partner strain). This part of the hypothesis was supported, as all three IWF items included in the BPIS-r – items about psychiatric symptoms interfering with family, friend, and romantic relationships – significantly correlated with general stress levels in their respective domains. The small to medium sizes of

the correlations indicated that, while each IWF item touches on its intended domain (e.g., the IWF item about psychiatric symptoms interfering with romantic relationships relates to romantic relationship stress), they also capture a distinct aspect (e.g., romantic stress due to *psychiatric symptoms*) that is more specific than the general domain (e.g., than romantic stress in general). Regarding the MPH subscale, it was predicted that the MPH subscale as a whole would correlate with relationship, financial, and work stress levels. This hypothesis was partially supported, as the MPH subscale significantly correlated with the Relationship Stress scale but did not significantly correlate with the Financial Stress or Work Stress scales, respectively. The small coefficient of the MPH subscale and the Relationship Stress scale correlation indicates that the MPH subscale captures a construct that is related to, but still distinct from, general relationship stress.

It is likely that the stress of managing a psychiatric illness, as captured in the MPH, did not correlate with work stress (as captured by the Work Stress scale) because the overwhelming majority of the sample (90.1%) reported currently not having a job. Higher levels of stress related to mental health management did not correlate with higher levels of stress at work because most patients did not have work to be stressed about. Future research should assess the concurrent validity of the MPH subscale on a sample with a higher percentage of employed individuals. This could clarify whether, among individuals currently holding a job, stress related to the management of psychiatric health is linked to their work stress, which could enhance the concurrent validity of the MPH subscale.

It may also be that the stress of managing a psychiatric illness, as captured in the MPH, did not correlate with financial stress (as captured by the Financial Stress scale) because psychiatric care did not impose a financial burden. Specifically, at the time of data collection,

most patients at Lincoln Hospital were enrolled in a public assistance program (e.g., Medicaid; Office of Strategic Planning, Community & Public Affairs, 2016).) and it is the author's impression that New York City has relatively robust socialized medical care (i.e., Medicaid) for individuals of lower SES. Thus, managing a psychiatric illness did not necessarily correlate with increased financial stress. Future research should assess the concurrent validity of the MPH subscale on samples that vary more with regard to SES. As two examples, it would be useful to examine concurrent validity in a sample with a higher percentage of higher SES individuals (i.e., people who may not be eligible for government financial support for their medical care) and in a sample with a higher percentage of individuals of low SES who receive less government financial support for their medical care than those in this sample. Assessing the concurrent validity on these samples could clarify whether, among individuals with less or no government support for their medical care, stress related to the management of psychiatric health is linked to their financial stress, which could enhance the concurrent validity of the MPH subscale.

Exploratory aim

It was predicted that age would relate to stress related to managing psychiatric illness, with older individuals reporting greater levels of stress. This hypothesis was not supported, as age did not predict how much stress individuals reported related to managing their psychiatric illness. That age did not predict stress levels related to the management of psychiatric illness may imply that older and younger individuals experience similar amounts of this type of stress.

In addition, it was predicted that cisgender females would report higher levels of stress related to managing psychiatric illness than cisgender males. This hypothesis was also not supported, as the two genders did not differ in terms of how much stress they reported related to managing their psychiatric illness. That the two genders did not differ in terms of stress levels

related to the management of psychiatric illness may imply that cisgender females and cisgender males experience similar amounts of this type of stress.

It is also possible that age and gender did not relate to stress related to managing psychiatric illness because of the small sample size. The study may have been insufficiently powered to reveal a correlation between age and psychiatric management stress and to bring out differences between gender groups regarding levels of psychiatric management stress. In addition, the Management of Psychiatric Health (MPH) questionnaire may be missing specific domains relevant to the management of psychiatric health. Specifically, the MPH only asks about three of the six dimensions of medical illness management illness identified by Sav et al. (2017): while the scale asks about the domains of medication management, healthcare (e.g., attending appointments, researching treatment options), and time/travel, the scale does not ask about the domains of financial costs, administrative tasks (e.g., scheduling, paperwork) and lifestyle (e.g., behavioral change). As a result, the MPH may not have captured the full construct of stress related to the management of psychiatric illness, which may have also weakened the statistical power to identify relationships and uncover differences.

There may also be reasons specific to each of the variables – i.e., age and gender – that could explain the unexpected results regarding stress related to the management of psychiatric illness. Regarding age, Sav et al. (2015) suggest that older people experience greater levels of stress related to managing medical illness because they are more likely to become ill and also generally have more medical conditions. In this study, individuals older than the sample's median age (47.5 years old) did not differ from individuals younger than the sample's median age in terms of percentage of individuals with more than one psychiatric disorder. Among both age groups, respectively, 97.9% of patients had only one psychiatric diagnosis whereas 2.1% had

two diagnoses. That older individuals did not have more psychiatric conditions than younger individuals may explain why older individuals did not report experiencing greater stress related to managing their psychiatric illness than younger individuals.

In addition, when it comes to the management of *chronic* medical conditions in particular, younger adults actually experience greater stress than older adults, which may relate to older adults accepting illness management as part of older age and thus being better able to cope with the stress of illness management (Sav et al., 2017). Older adults' strength of coping with the management of chronic medical illness may also help them cope with the management of psychiatric illness, which is often chronic. Older adults' ability to cope with chronic illness may keep their psychiatric management stress levels similar to that of younger adults, which could explain why older adults did not report more stress related to the management of their psychiatric illness than younger adults.

Regarding the variable of gender, women are generally more comfortable discussing their emotions (see for example, Levant et al., 2009), are more willing to participate in both behavioral and pharmacological mental health treatment (Chatmon, 2020), and report less stigma surrounding mental health treatment than men (Chatmon, 2020). These factors – i.e., greater comfort discussing their emotions, increased willingness to participate in treatment, and lower stigma – may make women more prepared than men to manage a mental health condition and thus buffer against their increased risk for stress related to illness management, which is seen in gender disparities regarding medical stress (Sav et al., 2015). Women's relative preparedness for mental health treatment may explain why they did not report higher levels of stress related to the management of their psychiatric illness than men in this study.

Rerunning Analyses With Just English-Speaking Participants

All analyses were rerun on samples of just English-speaking individuals, excluding the Spanish speaking individuals, and yielded similar results to those of the complete multilingual sample. That the results did not meaningfully change after removing the Spanish-speaking participants provides preliminary and indirect evidence that the findings of this study also apply to Spanish-speaking individuals.

Clinical Implications

This investigator considered whether to recommend the BPIS versus the BPIS-r for clinical – as well as research – purposes. Because the analyses indicated the BPIS-r has greater validity than the BPIS, this investigator recommends using the BPIS-r. However, as will be discussed below (see Future Research Directions), it may be useful to reevaluate the validity of the BPIS in future research.

The BPIS-r provides a short self-report instrument that enables providers to assess the extent that psychiatric symptoms interfere with patient functioning and of the stress created by managing their psychiatric illness. Assessment of individual items would allow providers to identify the specific areas of functioning most negatively impacted by psychiatric symptoms (e.g., family relationships) and the specific mental-health management responsibilities placing the greatest burden on the client and customize treatment accordingly (e.g., if picking up medication is indicated as a source of stress, the clinician might arrange for the client to pick up psychotropic medications from the therapist or help arrange medications to be delivered to the home).

In addition, this study validated the BPIS-r on a sample that was overwhelmingly made up of Latino/a and Black individuals and of individuals of low SES, who both face increased

societal stressors and barriers to healthcare compared to non-Latino/a White individuals and individuals of higher SES groups. Societal stressors may compound the extent to which psychiatric symptoms interfere with functioning and barriers to healthcare may predispose individuals to experiencing stress related to managing their psychiatric illness. By using the BPIS-r to assess the burden of psychiatric illness on individuals from diverse backgrounds, researchers and clinicians can identify and work to reduce this burden among these vulnerable groups. The BPIS was also translated into Spanish, so the BPIS-r can be administered to Spanish speaking individuals. Though it was not validated specifically for people who speak Spanish, we found indirect evidence that the BPIS-r may also be valid for Spanish-speaking individuals.

Limitations

This study has a number of limitations. First, the poor internal consistency reliability of the original IWF was unideal for conducting a PCA, and the questionable internal consistency reliability of the revised IWF may suggest weak cohesion among its three items. Moreover, a larger number of variables (i.e., survey items; de Winter et al., 2009) and larger sample size (Tabachnick & Fidell, 2013) may have increased the likelihood of producing a reliable component structure. The sample was also unique in terms of having chronic and severe mental illness, which may limit generalizability. In addition, we were only be able to investigate the BPIS-r's differential validity for subgroups that have $n \geq 50$, specifically, female participants (n = 66), participants who identify as Latino/a (n = 50), participants who earned less than $10,000 in annual household income (n = 64), and participants who met *DSM-5* diagnostic criteria for the two disorders in the study associated with the highest degree of impairment (n = 50; Schizophrenia Spectrum and Other Psychotic Disorders, n = *32* and Bipolar and Related Disorders, n = 18). We were not able to assess the differential validity for subgroups that had $n <$

50, including Black individuals, Non-Latino/a White individuals or other Non-Latino/a or Non-Black individuals, males, individuals with diagnoses other than Schizophrenia Spectrum and Other Psychotic Disorders and Bipolar and Related Disorders, and individuals with annual household income > $10,000. In addition, results may not generalize to all Latino/a nationality sub-groups (e.g., Cuban, Dominican), as almost half of the Latino/a group was made up of individuals of Puerto Rican origin (45.3%). Similarly, validity results may not generalize to Latino/a and Black individuals living in other geographic areas. Relatedly, the unique demographic characteristics of the sample – especially participants' overall high unemployment rate and low educational attainment– could limit the generalizability of validity findings within subgroups (e.g., the findings may not apply to Latino/a or female individuals who are employed or have higher educational attainment). We were also not able to assess the differential validity of groups of intersecting identities (e.g., people who are female and Latino/a or people who are Latino/a and have low income) because of insufficient sample sizes for those groups. Finally, this study only evaluated the concurrent validity of the BPIS-r in the entire sample but not in specific subgroups.

The study also has limitations related to the nature of the data, the BPIS items, and measures available for concurrent validity. Specifically, all information was self-reported by participants and was thus subject to participants' biases. In addition, as mentioned above, the Management of Psychiatric Health (MPH) questionnaire only asks about three of the six dimensions of medical illness management illness identified by Sav et al. (2017) and does not ask about the domains of financial costs, administrative tasks (e.g., scheduling, paperwork) and lifestyle (e.g., behavioral change). Finally, the original study did not include variables of health

outcomes (such as medication adherence, missed days of work) and overall quality of life, such as the SF-36, which could have enhanced the assessment of the scale's concurrent validity.

Future Research Directions

As mentioned above, this study's analyses indicate that the BPIS-r has greater validity than the BPIS and thus this investigator recommends using the BPIS-r over the original BPIS as a clinical and research measure. However, future efforts to improve the validity of the BPIS-r should also consider reevaluating the validity of the original BPIS, as more favorable research conditions (as discussed below, such as larger sample sizes) could be more successful in demonstrating the validity of the original BPIS. All suggestions below about improving the validity of the BPIS-r, thus, may also apply to the original BPIS, so the suggestions also mention the original BPIS.

In order to improve the BPIS-r's and BPIS's construct validity, in addition to implementing the future research directions mentioned above, future studies should validate the BPIS on a larger sample size. This would enhance the reliability of the component structure (Tabachnick & Fidell, 2013). The MPH subscale in particular would also benefit from additional items that ask about the domains of financial costs, administrative tasks (e.g., scheduling, paperwork), and lifestyle (e.g., behavioral change). Including items touching on these domains would expand the scope of the MPH to include all six dimensions of medical illness management illness identified by Sav et al. (2017). Introducing additional items could also increase the MPH's internal consistency reliability and increase confidence in the reliability of the component structure (de Winter et al., 2009).

In order to enhance the BPIS-r's and BPIS's differential validity, future research should explore how the scale would act in a sample of people with a larger range of mental health

illnesses. In addition, future studies should assess the scales' validity for subgroups of Black individuals, non-Latino/a White individuals or other non-Latino/a or non-Black individuals, males, individuals with diagnoses other than Schizophrenia Spectrum and Other Psychotic Disorders and Bipolar and Related Disorders, individuals with dual diagnoses, and individuals with annual household income > $10,000. In addition, future studies should assess the scales' validity on specific Latino/a nationality sub-groups (e.g., Cuban, Dominican, Puerto Rican) to ascertain the validity of the scales for these specific subgroups. The validity of the BPIS-r and the BPIS would also be enhanced by assessing their validity on groups of intersecting identities (e.g., people who are female and Latino/a or people who are Latino/a and have low income). The Spanish versions of BPIS and BPIS-r should also be validated on a Spanish-speaking sample to more closely examine whether the scales are valid for Spanish-speaking individuals.

Future studies could also enhance the concurrent-convergent validity of the BPIS-r and BPIS by examining the relationship between the scales and variables of health outcomes (such as medication adherence, missed days of work) and overall quality of life, such as the SF-36. In addition, future research could further the concurrent-convergent validity of the BPIS-r and BPIS by examining their concurrent-convergent validity by specific subgroups (e.g., gender, ethnicity, SES).

In addition to furthering the validity of the BPIS-r and the BPIS, researchers can use the BPIS-r to investigate factors that may predispose individuals to or are associated with psychiatric interference and psychiatric management stress (e.g., low social support, low SES, comorbid psychiatric and/or medical disorders, frequency of therapy, and the number and types of psychiatric medications) and the outcomes of psychiatric interference and management stress (e.g., poor treatment adherence, worsening of psychiatric illness and functioning, stress on

caregivers). Characterizing the extent to which psychiatric illness interferes with functioning and managing psychiatric illness creates stress using the BPIS-r could also inform the development of interventions, and the BPIS-r could also be used to measure the efficacy of such interventions.

Conclusion

Through these efforts to validate the BPIS-r, a survey about how psychiatric symptoms interfere with functioning and how managing symptoms cause stress, this study has helped expand the concept of "burden illness" from the realm of medical illness to the realm of psychiatric illness. Overall, we found that in a sample of 95 majority low SES, unemployed, Latino/a and Black adults with psychiatric illness, the BPIS demonstrated partial construct validity. The partial construct validity of the original BPIS resulted in a revised scale, in which the IWF scale was trimmed to only include its three relationship items. The revised BPIS (BPIS-r), which was used for the subsequent validation analyses, demonstrated good differential validity and partial convergent validity. The MPH subscale of the BPIS-r was then used to examine the relationship between stress related to managing psychiatric illness and related factors and it was found that neither age or gender was associated with stress of psychiatric management. All analyses were rerun on samples of just English-speaking individuals, excluding the Spanish speaking participants, and yielded similar results to those of the complete multilingual samples, offering preliminary evidence that this study's findings hold for Spanish-speaking individuals. Future research should continue to assess and refine the BPIS-r's and BPIS's construct, differential, and concurrent-convergent validity. In addition, future research should use the BPIS-r to investigate the factors that predispose individuals to psychiatric interference and management stress, explore the outcomes of psychiatric interference and management stress, and develop interventions addressing psychiatric interference with

functioning and stress related to mental health management. Clinically, providers can use the BPIS-r to identify the specific areas of functioning most negatively impacted by psychiatric symptoms and the specific mental-health management responsibilities placing the greatest burden on the client and customize treatment accordingly. In addition, given that the BPIS-r was validated on a sample of Latino/a and Black individuals and of individuals of low SES, the BPIS-r can be used to help reduce the burden of psychiatric illness among these vulnerable groups.

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Tables

Table 1

Means and Standard Deviations for Continuous Demographic Variables and Frequencies and Percentages for Categorical Demographic Variables for the Full Sample and Split by Socioeconomic Status (SES) as Assessed by Annual Household Income

		Income Level (n = 94) [a]		
Variable	Full Sample (n = 95) M ± SD or n (%)	< $10,000 ($n$ = 64) M ± SD or n (%)	≥ $10,000 ($n$ = 30) M ± SD or n (%)	p-value
Age (years)	46.2 ± 13.6	45.4 ± 12.6	47.7 ± 15.6	.454
Gender [b]				.651
Male	28 (29.5)	20 (31.3)	8 (26.7)	
Female	66 (69.5)	43 (67.2)	22 (73.3)	
Transgender female	1 (1.10)	1 (1.6)	0 (0.0)	
Sexual Orientation [c]				.255
Heterosexual	76 (80.0)	49 (76.6)	26 (86.7)	
Homosexual	6 (6.3)	3 (4.7)	2 (10.0)	
Bisexual	6 (6.3)	5 (7.8)	1 (3.3)	
Other	7 (7.4)	7 (10.9)	0 (00.0)	
Race & Ethnicity				.231
Black Latino/a	15 (15.8)	11 (17.2)	4 (13.3)	
Black non-Latino/a	25 (26.3)	17 (26.6)	8 (26.7)	
White Latino/a	35 (36.8)	26 (40.6)	8 (26.7)	
Multiracial/Other	20 (21.1)	10 (15.6)	10 (33.3)	
Ethnicity				.429
Latino/a	68 (71.6)	44 (68.8)	23 (76.7)	
Non-Latino/a	27 (28.4)	20 (31.3)	7 (23.3)	
Latino/a Nationality [d]				.548
Cuban	2 (2.1)	2 (3.1)	0 (0.0)	
Dominican	11 (11.6)	5 (7.8)	6 (20.0)	
Mexican	5 (5.3)	3 (4.7)	2 (6.7)	
Puerto Rican	43 (45.3)	29 (45.3)	13 (43.3)	
Salvadorian	3 (3.2)	2 (3.1)	1 (3.3)	
Honduran	1 (1.1)	1 (1.6)	0 (0.0)	
Other	8 (8.4)	6 (9.4)	2 (6.7)	
Country of Birth [e]				.921

Cuba	1 (1.1)	1 (1.6)	0 (0.0)	
Dominican Republic	6 (6.3)	4 (6.3)	2 (6.7)	
El Salvador	2 (2.1)	1 (1.6)	1 (3.3)	
Mexico	2 (2.1)	2 (3.1)	0 (0.0)	
Puerto Rico	12 (12.6)	8 (12.5)	4 (13.3)	
United States	63 (66.3)	42 (65.6)	20 (66.7)	
Other	9 (9.5)	6 (9.4)	3 (10.0)	
Age of Immigration (if not born in United States)	15.5 ± 13.9	17.8 ± 15.6	9.4 ± 5.3	.057
Marital Status				[f]
Married/Living with Partner	14 (14.7)	10 (15.6)	4 (13.3)	
Single, Separated, Divorced, Widowed	76 (80.0)	49 (76.6)	26 (86.7)	
Other (includes boyfriend or girlfriend)	5 (5.3)	5 (7.8)	0 (0.0)	
# of Children	1.7 ± 1.9	1.5 ± 1.6	2.1 ± 2.4	.284
Education [g]				.181
Less than high school	31 (32.6)	24 (37.5)	6 (20.0)	
High School/GED	31 (32.6)	18 (28.1)	13 (43.3)	
Some College	19 (20.0)	13 (20.3)	6 (20.0)	
Associate's Degree	5 (5.3)	4 (6.3)	1 (3.3)	
Bachelor's Degree	6 (6.3)	3 (4.7)	3 (10.0)	
Post-College	2 (2.1)	2 (3.1)	1 (3.3)	
Employment Status				[h]
Employed	11 (11.6)	8 (12.5)	3 (10.0)	
Unemployed	84 (88.4)	56 (87.5)	27 (90.0)	
Psychiatric Diagnosis [i j]				.971
Schizophrenia Spectrum and Other Psychotic Disorders	32 (39.5)	21 (38.2)	10 (33.3)	
Depressive Disorders	31 (32.6)	21 (32.8)	10 (33.3)	
Bipolar and Related Disorders	18 (18.9)	13 (20.3)	5 (16.7)	
Anxiety Disorders	6 (6.3)	5 (7.8)	1 (3.3)	
Trauma & Stressor Related Disorders	3 (3.2)	2 (3.1)	1 (1.3)	
Personality Disorders	2 (2.1)	0 (0.0)	2 (6.7)	
Neurodevelopmental Disorders	2 (2.1)	1 (1.6)	1 (1.3)	
Mood Disorders NOS [k]	1 (1.1)	1 (1.6)	0 (0.0)	
Disorders by Impairment				.777
More Impairing Disorders [l]	50 (52.6)	34 (53.1)	15 (50.0)	
Less Impairing Disorders [m]	45 (47.4)	30 (46.9)	15 (50.0)	

Note. Key: p-Value is for the comparison of the demographic variable by SES level.
For categorical variables, Pearson Chi-Square Test for Association was computed to determine if differences existed among demographic variables by socioeconomic status. For continuous

variables, Independent Samples T-Test was computed to determine if differences existed among demographic variables by socioeconomic status.

[a] 1 participant did not fill in their Annual Household income and therefore the sample size for income level was $n = 94$.

[b] For the Chi-Square analysis, the 1 transgender female was combined the 66 cisgender females, making the group sample $n = 67$.

[c] For the Chi-Square analysis, Sexual Orientation was stratified into two categories: Heterosexual and Non-Heterosexual.

[d] For the Chi-Square analysis, Latino/a Nationality was stratified into two categories: Puerto Rican and Non-Puerto Rican.

[e] For the Chi-Square analysis, Country of Birth was stratified into two categories: United States and Non-United States.

[f] Expected frequencies assumption was violated, and was still violated even after Marital Status was collapsed into two Categories – (1) Married/Living with Partner and (2) Single, Separated, Divorced, Widowed, and Other (includes boyfriend or girlfriend). Therefore, the Chi-Square test was not conducted.

[g] For the Chi-Square analysis, education was stratified into three categories: less than high school, high school or GED, and more than high school (i.e., Some College, Associate's Degree, Bachelor's Degree, Post-College).

[h] Expected frequencies assumption was violated. Therefore, the Chi-Square test was not conducted.

[i] Schizophrenia spectrum and other psychotic disorders consisted of schizophrenia and schizoaffective disorder. Depressive disorders consisted of major depressive disorder and dysthymia. Bipolar and related disorders consisted of bipolar I and bipolar II disorders. Anxiety disorders consisted of generalized anxiety disorder and panic disorder. Trauma- and stressor-related disorders consisted of post-traumatic stress disorder. Diagnoses of personality disorders were not documented in participants' medical records. Neurodevelopmental disorders consisted of attention deficit/hyperactivity disorder.

[j] For the Chi-Square analysis, psychiatric diagnosis was stratified into four categories: (1) Schizophrenia Spectrum and Other Psychotic Disorders, (2) Bipolar and Related Disorders, (3) Depressive Disorders, and (4) All Other Disorders, which included Anxiety Disorders, Trauma & Stressor Related Disorders, Personality Disorders, Neurodevelopmental Disorders, and Mood Disorders NOS.

[k] One participant's record indicated a *DSM-IV-TR* diagnosis of Mood Disorder Not Otherwise Specified, which could not be equated to a *DSM-5* diagnosis.

[l] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders and (2) individuals with Bipolar and Related Disorders.

[m] This category is comprised of individuals with (1) Depressive Disorders, (2) Anxiety Disorders, (3) Trauma & Stressor Related Disorders, (4) Personality Disorders, (5) Neurodevelopmental Disorders, and (6) Mood Disorders NOS.

Table 2

Means and Standard Deviations for Continuous Demographic Variables and Frequencies and Percentages for Categorical Demographic Variables Split by Gender

	Gender (n = 95)		
Variable	Female [a] (n = 67) M ± SD or n (%)	Male (n = 28) M ± SD or n (%)	p-value
Age (years)	45.6 ± 12.8	47.8 ± 15.4	.488
Sexual Orientation [b]			.144
Heterosexual	51 (76.1)	25 (89.3)	
Homosexual	4 (6.0)	2 (7.1)	
Bisexual	6 (9.0)	0 (00.0)	
Other	6 (9.0)	1 (3.6)	
Race & Ethnicity			.357
Black Latino/a	9 (13.4)	6 (21.4)	
Black non-Latino/a	18 (26.9)	7 (25.0)	
White Latino/a	23 (34.3)	12 (42.9)	
Multiracial/Other	17 (25.4)	3 (10.7)	
Ethnicity			.633
Latino/a	47 (70.1)	21 (75.0)	
Non-Latino/a	20 (29.9)	7 (25.0)	
Latino/a Nationality [c]			.376
Cuban	1 (1.5)	1 (3.6)	
Dominican	11 (16.4)	0 (0.0)	
Mexican	4 (6.0)	1 (3.6)	
Puerto Rican	28 (41.8)	15 (53.6)	
Salvadorian	1 (1.5)	2 (7.1)	
Honduran	1 (1.5)	0 (0.0)	
Other	6 (9.0)	2 (7.1)	
Country of Birth [d]			.787
Cuba	0 (0.0)	1 (3.6)	
Dominican Republic	6 (9.0)	0 (0.0)	
El Salvador	1 (1.5)	1 (3.6)	
Mexico	2 (3.0)	0 (0.0)	
Puerto Rico	8 (11.9)	4 (14.3)	
United States	45 (67.2)	18 (64.3)	
Other	5 (7.5)	4 (14.3)	

Age of Immigration (if not born in United States)	14.1 ± 12.1	17.9 ± 17.3	.515
Marital Status			[e]
Married/Living with Partner	9 (13.4)	5 (17.9)	
Single, Separated, Divorced, Widowed	55 (82.1)	21 (75.0)	
Other (includes boyfriend or girlfriend)	3 (4.5)	2 (7.1)	
# of Children	2.1 ± 2.0	0.9 ± 1.3	.004
Education [f]			.803
Less than high school	22 (32.8)	9 (32.1)	
High School/GED	23 (34.3)	8 (28.6)	
Some College	12 (17.9)	7 (25.0)	
Associate's Degree	4 (6.0)	1 (3.6)	
Bachelor's Degree	4 (6.0)	2 (7.1)	
Post-College	2 (3.0)	1 (3.6)	
Employment Status			[g]
Employed	7 (10.4)	4 (14.3)	
Unemployed	60 (89.6)	24 (85.7)	
Annual Household Income			.651
< $10,000	44 (65.7)	20 (71.4)	
≥ $10,000	22 (32.8)	8 (28.6)	
Psychiatric Diagnosis [h i]			.025[h]
Schizophrenia Spectrum and Other Psychotic Disorders	17 (25.4)	15 (53.6)	
Depressive Disorders	25 (37.3)	6 (21.4)	
Bipolar and Related Disorders	16 (23.9)	2 (7.1)	
Anxiety Disorders	4 (6.0)	2 (7.1)	
Trauma & Stressor Related Disorders	2 (3.0)	1 (3.6)	
Personality Disorders	2 (3.0)	0 (0.0)	
Neurodevelopmental Disorders	1 (1.5)	1 (3.6)	
Mood Disorders NOS [j]	0 (0.0)	1 (3.6)	
Disorders by Impairment			.308
More Impairing Disorders [k]	33 (49.3)	17 (60.7)	
Less Impairing Disorders [l]	34 (50.7)	11 (39.3)	

Note. Key: p-value is for the comparison of the demographic variable by Gender.
For categorical variables, Pearson Chi-Square Test for Association was computed to determine if differences existed among demographic variables by Gender.
For continuous variables, Independent Samples T-Test was computed to determine if differences existed among demographic variables by Gender.
[a] This group consisted of 66 cisgender women and 1 transgender woman.
[b] For the Chi-Square analysis, Sexual Orientation was stratified into two categories: Heterosexual and Non-Heterosexual.
[c] For the Chi-Square analysis, Latino/a Nationality was stratified into two categories: Puerto Rican and Non-Puerto Rican.

[d] For the Chi-Square analysis, Country of Birth was stratified into two categories: United States and Non-United States.
[e] Expected frequencies assumption was violated, and was still violated even after Marital Status was collapsed into two Categories – (1) Married/Living with Partner and (2) Single, Separated, Divorced, Widowed, and Other (includes boyfriend or girlfriend). Therefore, the Chi-Square test was not conducted.
[f] For the Chi-Square analysis, education was stratified into three categories: less than high school, high school or GED, and more than high school (i.e., Some College, Associate's Degree, Bachelor's Degree, Post-College).
[g] Expected frequencies assumption was violated. Therefore, the Chi-Square test was not conducted.
[h] Schizophrenia spectrum and other psychotic disorders consisted of schizophrenia and schizoaffective disorder. Depressive disorders consisted of major depressive disorder and dysthymia. Bipolar and related disorders consisted of bipolar I and bipolar II disorders. Anxiety disorders consisted of generalized anxiety disorder and panic disorder. Trauma- and stressor-related disorders consisted of post-traumatic stress disorder. Diagnoses of personality disorders were not documented in participants' medical records. Neurodevelopmental disorders consisted of attention deficit/hyperactivity disorder.
[i] For the Chi-Square analysis, psychiatric diagnosis was stratified into four categories: (1) Schizophrenia Spectrum and Other Psychotic Disorders, (2) Bipolar and Related Disorders, (3) Depressive Disorders, and (4) All Other Disorders, which included Anxiety Disorders, Trauma & Stressor Related Disorders, Personality Disorders, Neurodevelopmental Disorders, and Mood Disorders NOS.
[j] One participant's record indicated a *DSM-IV-TR* diagnosis of Mood Disorder Not Otherwise Specified, which could not be equated to a *DSM-5* diagnosis.
[k] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders and (2) individuals with Bipolar and Related Disorders.
[l] This category is comprised of individuals with (1) Depressive Disorders, (2) Anxiety Disorders, (3) Trauma & Stressor Related Disorders, (4) Personality Disorders, (5) Neurodevelopmental Disorders, and (6) Mood Disorders NOS.

Table 3

Means and Standard Deviations for Continuous Demographic Variables and Frequencies and Percentages for Categorical Demographic Variables by Ethnicity

	Ethnicity (*n* = 95)		
Variable	Latino/a (*n* = 68) M ± SD or n (%)	Non-Latino/a (*n* = 27) M ± SD or n (%)	p-value
Age (years)	47.4 ± 14.5	43.4 ± 10.8	.202
Gender [a]			.633
Male	21 (30.9)	7 (25.9)	
Female	46 (67.6)	20 (74.1)	
Transgender female	1 (1.5)	0 (0.0)	
Sexual Orientation [b]			.172
Heterosexual	52 (76.5)	24 (88.9)	
Homosexual	4 (5.9)	2 (7.4)	
Bisexual	6 (8.8)	0 (00.0)	
Other	6 (8.8)	1 (3.7)	
Race & Ethnicity			<.001
Black Latino/a	15 (22.1)	0 (00.0)	
Black non-Latino/a	1 (1.5)	24 (88.9)	
White Latino/a	35 (51.5)	0 (00.0)	
Multiracial/Other	17 (25.0)	3 (11.1)	
Country of Birth [c]			.003
Cuba	1 (1.5)	0 (0.0)	
Dominican Republic	6 (8.8)	0 (0.0)	
El Salvador	2 (2.9)	0 (0.0)	
Mexico	2 (2.9)	0 (0.0)	
Puerto Rico	12 (17.6)	0 (0.0)	
United States	39 (57.4)	24 (88.9)	
Other	6 (8.8)	3 (11.1)	
Age of Immigration (if not born in United States)	14.0 ± 13.6	26.0 ± 13.9	.167
Marital Status			[d]
Married/Living with Partner	11 (16.2)	21 (77.8)	
Single, Separated, Divorced, Widowed	55 (80.9)	3 (11.1)	

Other (includes boyfriend or girlfriend)	2 (2.9)	3 (11.1)	
# of Children	1.8 ± 1.8	1.7 ± 2.3	.284
Education [e]			.522
Less than high school	24 (35.3)	7 (25.9)	
High School/GED	20 (29.4)	11 (40.7)	
Some College	14 (20.6)	5 (18.5)	
Associate's Degree	2 (2.9)	3 (11.1)	
Bachelor's Degree	5 (7.4)	1 (3.7)	
Post-College	3 (3.4)	0 (0.0)	
Employment Status			[f]
Employed	10 (14.7)	1 (3.7)	
Unemployed	58 (85.3)	26 (96.3)	
Annual Household Income [g]			.429
< $10,000	44 (64.7)	20 (74.1)	
≥ $10,000	23 (33.8)	7 (25.9)	
Psychiatric Diagnosis [h i]			.377
Schizophrenia Spectrum and Other Psychotic Disorders	20 (29.4)	12 (44.4)	
Depressive Disorders	25 (36.8)	6 (22.2)	
Bipolar and Related Disorders	12 (17.6)	6 (22.2)	
Anxiety Disorders	6 (8.8)	0 (0.0)	
Trauma & Stressor Related Disorders	2 (2.9)	1 (3.7)	
Personality Disorders	1 (1.5)	1 (3.7)	
Neurodevelopmental Disorders	2 (2.9)	0 (0.0)	
Mood Disorders NOS [j]	0 (0.0)	1 (3.7)	
Disorders by Impairment			.084
More Impairing Disorders [k]	32 (47.1)	18 (66.7)	
Less Impairing Disorders [l]	36 (52.9)	9 (33.3)	

Note. Key: p-value is for the comparison of the demographic variable by Ethnicity.
For categorical variables, Pearson Chi-Square Test for Association was computed to determine if differences existed among demographic variables by Ethnicity.
For continuous variables, Independent Samples T-Test was computed to determine if differences existed among demographic variables by Ethnicity.
[a] For the Chi-Square analysis, the 1 transgender female was combined the 66 cisgender females, making the group sample $n = 67$.
[b] For the Chi-Square analysis, Sexual Orientation was stratified into two categories: Heterosexual and Non-Heterosexual.
[c] For the Chi-Square analysis, Country of Birth was stratified into two categories: United States and Non-United States.
[d] Expected frequencies assumption was violated, and was still violated even after Marital Status was collapsed into two Categories – (1) Married/Living with Partner and (2) Single, Separated, Divorced, Widowed, and Other (includes boyfriend or girlfriend). Therefore, the Chi-Square test was not conducted.

[e] For the Chi-Square analysis, education was stratified into three categories: less than high school, high school or GED, and more than high school (i.e., Some College, Associate's Degree, Bachelor's Degree, Post-College).
[f] Expected frequencies assumption was violated. Therefore, the Chi-Square test was not conducted.
[g] 1 participant did not fill in their Annual Household income and therefore the sample size for income level was $n = 94$.
[h] Schizophrenia spectrum and other psychotic disorders consisted of schizophrenia and schizoaffective disorder. Depressive disorders consisted of major depressive disorder and dysthymia. Bipolar and related disorders consisted of bipolar I and bipolar II disorders. Anxiety disorders consisted of generalized anxiety disorder and panic disorder. Trauma- and stressor-related disorders consisted of post-traumatic stress disorder. Diagnoses of personality disorders were not documented in participants' medical records. Neurodevelopmental disorders consisted of attention deficit/hyperactivity disorder.
[i] For the Chi-Square analysis, psychiatric diagnosis was stratified into four categories: (1) Schizophrenia Spectrum and Other Psychotic Disorders, (2) Bipolar and Related Disorders, (3) Depressive Disorders, and (4) All Other Disorders, which included Anxiety Disorders, Trauma & Stressor Related Disorders, Personality Disorders, Neurodevelopmental Disorders, and Mood Disorders NOS.
[j] One participant's record indicated a *DSM-IV-TR* diagnosis of Mood Disorder Not Otherwise Specified, which could not be equated to a *DSM-5* diagnosis.
[k] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders and (2) individuals with Bipolar and Related Disorders.
[l] This category is comprised of individuals with (1) Depressive Disorders, (2) Anxiety Disorders, (3) Trauma & Stressor Related Disorders, (4) Personality Disorders, (5) Neurodevelopmental Disorders, and (6) Mood Disorders NOS.

Table 4

Means and Standard Deviations for Continuous Demographic Variables and Frequencies and Percentages for Categorical Demographic Variables Split by Psychiatric Disorders According to Degree of Impairment (Disorders by Impairment)

	Disorders by Impairment (*n* = 95)		
Variable	More Impairing Disorders [a] (*n* = 50) M ± SD or n (%)	Less Impairing Disorders [b] (*n* = 45) M ± SD or n (%)	p-value
Age (years)	47.5 ± 11.0	44.8 ± 16.1	.011
Gender [c]			.308
Male	17 (34.0)	11 (24.4)	
Female	32 (64.0)	34 (75.6)	
Transgender female	1 (2.0)	0 (0.0)	
Sexual Orientation [d]			.304
Heterosexual	42 (84.0)	34 (75.6)	
Homosexual	3 (6.0)	3 (6.7)	
Bisexual	2 (4.0)	4 (8.9)	
Other	3 (6.0)	4 (8.9)	
Race & Ethnicity			.738
Black Latino/a	7 (14.0)	8 (17.8)	
Black non-Latino/a	15 (30.0)	10 (22.2)	
White Latino/a	19 (38.0)	16 (35.6)	
Multiracial/Other	9 (18.0)	11 (24.4)	
Ethnicity			.084
Latino/a	32 (64.0)	36 (80.0)	
Non-Latino/a	18 (36.0)	9 (20.0)	
Latino/a Nationality [e]			.667
Cuban	1 (2.0)	1 (2.2)	
Dominican	4 (8.0)	7 (15.6)	
Mexican	1 (2.0)	4 (8.9)	
Puerto Rican	23 (46.0)	20 (44.4)	
Salvadorian	2 (4.0)	1 (2.2)	
Honduran	0 (0.0)	1 (2.2)	
Other	6 (12.0)	2 (4.4)	
Country of Birth [f]			.945

Cuba	1 (2.0)	0 (0.0)	
Dominican Republic	1 (2.0)	5 (11.1)	
El Salvador	1 (2.0)	1 (2.2)	
Mexico	0 (0.0)	2 (4.4)	
Puerto Rico	7 (14.0)	5 (11.1)	
United States	33 (66.0)	30 (66.7)	
Other	7 (14.0)	2 (4.4)	
Age of Immigration (if not born in United States)	15.2 ± 13.7	15.7 ± 14.8	.934
Marital Status [g]			.831
Married/Living with Partner	7 (14.0)	7 (15.6)	
Single, Separated, Divorced, Widowed	42 (84.0)	34 (75.6)	
Other (includes boyfriend or girlfriend)	1 (2.0)	4 (8.9)	
# of Children	1.5 ± 1.7	2.0 ± 2.1	.215
Education [h]			.956
Less than high school	16 (32.0)	15 (33.3)	
High School/GED	17 (34.0)	14 (31.1)	
Some College	10 (20.0)	9 (20.0)	
Associate's Degree	4 (8.0)	1 (2.2)	
Bachelor's Degree	2 (4.0)	4 (8.9)	
Post-College	1 (2.0)	2 (4.4)	
Employment Status			.250
Employed	4 (8.0)	7 (15.6)	
Unemployed	46 (92.0)	38 (84.4)	
Annual Household Income			.777
< $10,000	34 (68.0)	30 (66.7)	
≥ $10,000	15 (30.0)	15 (33.3)	

Note. Key: p-value is for the comparison of the demographic variable by Disorders by Impairment.

For categorical variables, Pearson Chi-Square Test for Association was computed to determine if differences existed among demographic variables by Disorders by Impairment.

For continuous variables, Independent Samples T-Test was computed to determine if differences existed among demographic variables by *Disorders by Impairment*.

[a] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders (32, 64.0%) and (2) individuals with Bipolar and Related Disorders (18, 36.0%).

[b] This category is comprised of individuals with (1) Depressive Disorders (31, 68.9%), (2) Anxiety Disorders (6, 13.3%), (3) Trauma & Stressor Related Disorders (3, 6.7%), (4) Personality Disorders (2, 4.4%), (5) Neurodevelopmental Disorders (2, 4.4%), and (6) Mood Disorders NOS (1, 2.2%).

[c] For the Chi-Square analysis, the 1 transgender female was combined the 66 cisgender females, making the group sample $n = 67$.

[d] For the Chi-Square analysis, Sexual Orientation was stratified into two categories: Heterosexual and Non-Heterosexual.
[e] For the Chi-Square analysis, Latino/a Nationality was stratified into two categories: Puerto Rican and Non-Puerto Rican.
[f] For the Chi-Square analysis, Country of Birth was stratified into two categories: United States and Non-United States.
[g] For the Chi-Square analysis, Marital Status was stratified into two categories: (1) Married/Living with Partner and (2) Single, Separated, Divorced, Widowed, and Other (includes boyfriend or girlfriend).
[h] For the Chi-Square analysis, education was stratified into three categories: less than high school, high school or GED, and more than high school (i.e., Some College, Associate's Degree, Bachelor's Degree, Post-College).

Table 5

Means and Standard Deviations for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score for the Full Sample and by Socioeconomic Status (SES) as Assessed by Annual Household Income

		Income Level (n = 94) [a]		
Variable	Full Sample (n = 95) M ± SD or n (%)	< $10,000 ($n$ = 64) M ± SD or n (%)	≥ $10,000 ($n$ = 30) M ± SD or n (%)	p-value
BPIS				
IWF Mean Score	2.53 ± .80	2.51 ± .82	2.59 ± .75	.651
MPH Mean Score	2.68 ± 1.05	2.73 ± 1.05	2.57 ± 1.08	.487
Total Mean Score Unweighted [b]	2.60 ± .73	2.61 ± .74	2.58 ± .72	.864
Total Mean Score Weighted [c]	2.60 ± .75	2.62 ± .76	2.58 ± .74	.803

Note. Key: p-Value is for the comparison of the BPIS by SES level. Independent Samples T-Test was computed to determine if BPIS scores differed by socioeconomic status.

[a] 1 participant did not fill in their Annual Household income and therefore the sample size for income level was n = 94.

[b] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH (4 items) on the total mean score.

[c] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

Table 6

Means and Standard Deviations for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score by Gender

.

	Gender (n = 95)		
Variable	Female [a] (n = 67) M ± SD or n (%)	Male (n = 28) M ± SD or n (%)	p-value
BPIS			
IWF Mean Score	2.53 ± .80	2.52 ± .80	.969
MPH Mean Score	2.72 ± 1.05	2.59 ± 1.07	.583
Total Mean Score Unweighted [b]	2.61 ± .76	2.56 ± .68	.708
Total Mean Score Weighted [c]	2.62 ± .77	2.56 ± .69	.683

Note. Key: p-Value is for the comparison of the BPIS by Gender. Independent Samples T-Test was computed to determine if BPIS scores differed by Gender.

[a] This group consisted of 66 cisgender women and 1 transgender woman.

[b] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH subscale (4 items) on the total mean score.

[c] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

Table 7

Means and Standard Deviations for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score by Ethnicity

.

	Ethnicity (*n* = 95)		
Variable	Latino/a (*n* = 68) M ± SD or n (%)	Non-Latino/a (*n* = 27) M ± SD or n (%)	p-value
BPIS			
IWF Mean Score	2.54 ± .77	2.50 ± .87	.862
MPH Mean Score	2.64 ± 1.02	2.80 ± 1.15	.506
Total Mean Score Unweighted [a]	2.58 ± .71	2.63 ± .80	.748
Total Mean Score Weighted [b]	2.59 ± .72	2.65 ± .81	.706

Note. Key: p-Value is for the comparison of the BPIS by Ethnicity. Independent Samples T-Test was computed to determine if BPIS scores differed by Ethnicity.

[a] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH subscale (4 items) on the total mean score.

[b] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

Table 8

Means and Standard Deviations for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score by Psychiatric Disorders According to Degree of Impairment

	Disorders by Impairment (n = 95)		
Variable	More Impairing Disorders [a] (n = 50) M ± SD or n (%)	Less Impairing Disorders [b] (n = 45) M ± SD or n (%)	p-value
BPIS			
IWF Mean Score	2.63 ± .83	2.43 ± .76	.225
MPH Mean Score	2.74 ± 1.04	2.63 ± 1.07	.617
Total Mean Score Unweighted [c]	2.68 ± .76	2.52 ± .70	.291
Total Mean Score Weighted [d]	2.69 ± .78	2.53 ± .72	.317

Note. Key: p-Value is for the comparison of the BPIS by Disorders by Impairment. Independent Samples T-Test was computed to determine if BPIS scores differed by Disorders by Impairment.
[a] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders (32, 64.0%) and (2) individuals with Bipolar and Related Disorders (18, 36.0%).
[b] This category is comprised of individuals with (1) Depressive Disorders (31, 68.9%), (2) Anxiety Disorders (6, 13.3%), (3) Trauma & Stressor Related Disorders (3, 6.7%), (4) Personality Disorders (2, 4.4%), (5) Neurodevelopmental Disorders (2, 4.4%), and (6) Mood Disorders NOS (1, 2.2%).
[c] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH subscale (4 items) on the total mean score.
[d] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

Table 9

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test for Sphericity Outcomes for the Full Burden of Psychiatric Illness Scale (BPIS) and the Revised BPIS (BPIS-r) for the Full Sample (n = 95)

Subgroup	KMO Measure of Sampling Adequacy	Bartlett's Test for Sphericity
Full BPIS	.652	$p < .001$
BPIS-r	.690	$p < .001$

Table 10

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	3.056 [a]	1.657753 [b]	Before [c]	.0868 [d]	.0271 [e]
2	1.470 [a]	1.393984 [b]	Before [c]	.0613	.0108
3	1.192 [a]	1.272270	After	.0645	.0138
4	1.054 [a]	1.134812	After	.0907	.0337
5	.733	1.034775	After	.1194	.0579
6	.657	.948602	After	.2124	.1393
7	.347	.853700	After	.2847	.1553
8	.298	.766568	After	.4551	.3233
9	.193	.661024	After	1.0000	1.0000

Notes.

[a] The component's eigenvalue is > 1, indicating that the component should be kept.

[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.

[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.

[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.

[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 11

Total Variance Explained by Component for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	33.953	33.953
2	16.335	50.288
3	13.245	63.534
4	11.708	75.242
5	8.147	83.389
6	7.305	90.694
7	3.850	94.544
8	3.315	97.859
9	2.141	100.00

Table 12

Pattern Matrix with Promax Rotation (with correlations less than .2 suppressed) for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

	Rotated Component Coefficients			
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships	Component 3: Psychiatric Interference with Romantic Relationships and Personal Responsibilities	Component: 4 [a]
(6) Travel Stress	**.934**			
(8) Medication Procurement Stress	**.903**			
(7) Appointment Attendance Stress	**.819**			
(2) Family Relationship Interference		**.929**		
(1) Friends Relationship Interference		**.919**		
(4) Romantic Relationship Interference			**.804**	
(5) Personal Responsibilities Interference			**.725**	-.233
(3) Job Interference			.236	**-.894**
(9) Psychiatric Management vs. Medical Management			*.390*	**.625**

Note.

Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.

Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

[a] No central theme could be identified and therefore no descriptive title was provided.

Table 13

Component Correlation Matrix for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample

Component	1	2	3	4
1	1.000			
2	.266 [a]	1.000		
3	.316 [a]	.202 [b]	1.000	
4	.280 [a]	.051	.109	1.000

Note.
[a] Statistically Significant p-value at the $p < .01$ level.
[b] Marginally Significant p-value at $p = .05$ level.

Table 14

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.860**	
(8) Medication Procurement Stress	**.813**	
(7) Appointment Attendance Stress	**.794**	
(9) Psychiatric Management vs. Medical Management	**.584**	
(3) Job Interference	*-.383*	.281
(5) Personal Responsibilities Interference	*.306*	.258
(2) Family Relationship Interference		**.879**
(1) Friends Relationship Interference		**.875**
(4) Romantic Relationship Interference		**.476**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Table 15

Component Correlation Matrix with 2 Components Forced for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

Component	1	2
1	1.000	
2	.337 [a]	1.000

Note. Key:
[a] Statistically Significant p-value at the $p < .01$ level.

Table 16

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	2.887 [a]	1.523 [b]	Before [c]	.1260 [d]	.0453 [e]
2	1.433 [a]	1.329 [b]	Before [c]	.0996 [d]	.0235 [e]
3	.987	1.179	After	.0774	.0164
4	.816	1.044	After	.1469	.0739
5	.354	.949	After	.2893	.1725
6	.302	.846	After	.4891	.3588
7	.221	.738	After	1.0000	1.0000

Note. Key:
[a] The component's eigenvalue is > 1, indicating that the component should be kept.
[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.
[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.
[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.
[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 17

Total Variance Explained by Component for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	41.237	41.237
2	20.472	61.709
3	14.097	75.807
4	11.663	87.470
5	5.060	92.530
6	4.318	96.848
7	3.152	100.000

Table 18

Pattern Matrix with Promax Rotation (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships
(6) Travel Stress	**.886**	
(8) Medication Procurement Stress	**.845**	
(7) Appointment Attendance Stress	**.843**	
(9) Psychiatric Management vs. Medical Management	**.522**	
(2) Family Relationship Interference		**.931**
(1) Friends Relationship Interference		**.912**
(4) Romantic Relationship Interference		*.353*

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Table 19

Component Correlation Matrix with 2 Components Forced for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

Component	1	2
1	1.000	
2	.304 [a]	1.000

Note. Key:
[a] Statistically Significant p-value at the $p < .01$ level.

Table 20

The Number of Components to be Kept from the Principal Component Analyses (PCA) for the Full Burden of Psychiatric Illness Scale (BPIS) and on the Revised BPIS (BPIS-r) for the Full Sample (n = 95) According to Four Approaches

	How many components should be kept?	
Approach	PCA on Full BPIS for the Full Sample	PCA on BPIS-r for the Full Sample
Eigenvalues (Kaiser's Criterion)	4	2
Scree Plot	2	2
Horns Parallel Analysis	2	2
Average Partial Correlations	1	2

Table 21

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test for Sphericity Outcomes for the Revised Burden of Psychiatric Illness (BPIS) Scale for Female Participants (n = 66), Latino/a Participants (n = 68), Participants with Less than $10,000 in Annual Household Income (n = 64), and Participants with a More Impairing Psychiatric Disorder (n = 50)

Subgroup	KMO Measure of Sampling Adequacy	Bartlett's Test for Sphericity
Female Participants	.684	$p < .001$
Latino/a Individuals	.673	$p < .001$
Participants with Less than $10,000 in Annual Household Income	.683	$p < .001$
Participants with a More Impairing Psychiatric Disorder	.603	$p < .001$

Table 22

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	3.254 [a]	1.658 [b]	Before [c]	.1666 [d]	.0629 [e]
2	1.300 [a]	1.395	Before [c]	.1096 [d]	.0257 [e]
3	.951	1.121	After	.1035	.0246
4	.802	1.073	After	.1795	.0709
5	.303	.926	After	.2521	.1676
6	.235	.809	After	.4300	.3378
7	.155	.684	After	1.0000	1.0000

Note. Key:

[a] The component's eigenvalue is > 1, indicating that the component should be kept.

[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.

[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.

[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.

[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 23

Total Variance Explained by Component for Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	46.487	46.487
2	18.577	65.064
3	13.581	78.645
4	11.453	90.097
5	4.329	94.426
6	3.352	97.779
7	2.221	100.000

Table 24

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships
(7) Appointment Attendance Stress	.843	.205
(8) Medication Procurement Stress	.810	
(6) Travel Stress	.775	
(9) Psychiatric Management vs. Medical Management	.732	-*.348*
(4) Romantic Relationship Interference	*.318*	
(1) Friends Relationship Interference		.973
(2) Family Relationship Interference		.894

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Table 25

Component Correlation Matrix with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

Component	1	2
1	1.000	
2	.395 [a]	1.000

Note. Key:
[a] Statistically Significant p-value at the $p < .01$ level.

Table 26

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	2.895 [a]	1.643 [b]	Before [c]	.1271 [d]	.0421 [e]
2	1.478 [a]	1.374 [b]	Before [c]	.0941 [d]	.0217
3	.936	1.221	After	.0848	.0217
4	.775	1.053	After	.1746	.0784
5	.392	.946	After	.2607	.1456
6	.325	.820	After	.4298	.3343
7	.199	.685	After	1.0000	1.0000

Note. Key:

[a] The component's eigenvalue is > 1, indicating that the component should be kept.

[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.

[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.

[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.

[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 27

Total Variance Explained by Component for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	41.351	41.351
2	21.116	62.467
3	13.372	75.839
4	11.073	86.912
5	5.598	92.510
6	4.646	97.156
7	2.844	100.000

Table 28

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships
(6) Travel Stress	**.865**	
(8) Medication Procurement Stress	**.805**	
(7) Appointment Attendance Stress	**.785**	
(9) Psychiatric Management vs. Medical Management	**.668**	
(2) Family Relationship Interference		**.940**
(1) Friends Relationship Interference		**.937**
(4) Romantic Relationship Interference		.236

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.

Table 29

Component Correlation Matrix with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

Component	1	2
1	1.000	
2	.284 [a]	1.000

Note. Key:
[a] Statistically Significant p-value at the $p < .05$ level.

Table 30

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	2.857 [a]	1.705 [b]	Before [c]	.1208 [d]	.0412 [e]
2	1.375 [a]	1.391	Before [c]	.0967 [d]	.0223 [e]
3	1.022 [a]	1.212	After	.0771	.0152
4	.825	1.054	After	.1472	.0675
5	.387	.927	After	.2655	.1795
6	.304	.826	After	.4174	.3094
7	.231	.686	After	1.0000	1.0000

Note. Key:
[a] The component's eigenvalue is > 1, indicating that the component should be kept.
[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.
[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.
[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.
[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 31

Total Variance Explained by Component for Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	40.809	40.809
2	19.643	60.453
3	14.606	75.059
4	11.779	86.838
5	5.526	92.363
6	4.338	96.701
7	3.299	100.000

Table 32

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.907**	
(8) Medication Procurement Stress	**.850**	
(7) Appointment Attendance Stress	**.816**	
(9) Psychiatric Management vs. Medical Management	**.444**	
(2) Family Relationship Interference		**.932**
(1) Friends Relationship Interference		**.883**
(4) Romantic Relationship Interference		**.403**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.

Table 33

Component Correlation Matrix with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

Component	1	2
1	1.000	
2	.335 [a]	1.000

Note. Key:
[a] Statistically Significant p-value at the $p < .01$ level.

Table 34

Component Eigenvalues, Horn's Parallel Analysis Percentiles, Scree Plot Landings, and Average Partial Correlations for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)

				Average Partial Correlations	
Component	Eigenvalue	Horn's Parallel Analysis Percentiles	Land Before or After Last Inflection Point on Scree Plot	Squared	4th Power
1	2.707 [a]	1.787 [b]	Before [c]	.1204 [d]	.0476 [e]
2	1.683 [a]	1.454 [b]	Before [c]	.1251 [d]	.0354 [e]
3	1.021 [a]	1.256	Before [c]	.0894	.0217
4	.787	1.085	After	.1740	.0708
5	.360	.925	After	.2629	.1438
6	.279	.761	After	.4282	.3449
7	.162	.636	After	1.0000	1.0000

Note. Key:
[a] The component's eigenvalue is > 1, indicating that the component should be kept.
[b] The component's eigenvalue is greater than the corresponding Horn's Parallel Analysis percentile, indicating that the component should be kept.
[c] Landing before the last inflection point on the scree plot indicates that the component should be kept.
[d] The component's average squared partial correlation was greater than the smallest average squared partial correlation, indicating that the component should be kept.
[e] The component's average 4th power correlation was greater than the smallest average 4th power correlation, indicating that the component should be kept.

Table 35

Total Variance Explained by Component for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)

Component	% of Variance Explained	Cumulative % of Variance Explained
1	38.667	38.667
2	24.047	62.714
3	14.587	77.300
4	11.245	88.545
5	5.147	93.693
6	3.987	97.680
7	2.320	100.000

Table 36

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.907**	
(8) Medication Procurement Stress	**.858**	
(7) Appointment Attendance Stress	**.829**	
(9) Psychiatric Management vs. Medical Management	**.465**	
(2) Family Relationship Interference		**.923**
(1) Friends Relationship Interference		**.887**
(4) Romantic Relationship Interference		**.529**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.

Table 37

Component Correlation Matrix with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)

Component	1	2
1	1.000	
2	.228	1.000

Table 38

The Number of Components to be Kept from the Principal Component Analyses (PCA) on the Revised Burden of Psychiatric Illness Scale (BPIS-r) on the Subgroups of Female Participants (n = 66), Latino/a Participants (n = 68), Participants with Less than $10,000 in Annual Household Income (n = 64), and Participants with a More Impairing Psychiatric Disorder (n = 50) According to Four Approaches

	How many components should be kept?			
Approach	Female Participants	Latino/a Participants	*Participants with < $10,000 in Annual Household Income*	*Participants with a More Impairing Psychiatric Disorder*
Eigenvalues (Kaiser's Criterion)	2	2	3	3
Scree Plot	2	2	2	3
Horns Parallel Analysis	1	2	1	2
Average Partial Correlations	2	1 [a]	2	2

Note. Key:
[a] As shown in Table 26, while the Squared Average Partial Correlations indicated that 2 components should be kept, the 4th Power Average Partial Correlations indicated that only 1 component should be kept. Because the 4th Power approach represents the newer Revised MAP Test (2000), the 4th Power approach was followed.

Table 39

Pearson-r Correlations of the Three Items on The Interference With Functioning (IWF) Subscale of the Revised Burden of Psychiatric Illness Scale (BPIS-r) with General Levels of Stress in Their Corresponding Domains for the Full Sample (N = 95)

IWF Item & Measure of General Stress in the Corresponding Domain	*degrees of freedom (df)*	*r*
Psychiatric Interference in Romantic Relationships & The Spouse/Partner Strain Subscale	92	.541 [a]
Psychiatric Interference in Family Relationships & The Family Strain Subscale	92	.437 [a]
Psychiatric Interference in Friend Relationships & The Friend Strain Subscale	92	.253 [b]

Note. Key:
[a] Statistically Significant p-value at the $p < .001$ level.
[b] Statistically Significant p-value at $p < .05$ level.

Table 40

Pearson-r Correlations of the Management of Psychiatric Health (MPH) Subscale of the Burden of Psychiatric Illness Scale (BPIS) with the Financial Stress, Relationship Stress, and Work Stress Scales for the Full Sample (N = 95)

MPH Subscale & Related Scale	*degrees of freedom (df)*	*r*
MPH & Financial Stress Scale	93	-.028
MPH & Relationship Stress scale	91	.269 [a]
MPH & Work Stress scale	92	-.052

Note. Key:
[a] Statistically Significant p-value at the $p < .01$ level.

Table 41

Pearson-r Correlations of Participants' Ages with the Management of Psychiatric Health (MPH) Subscale and Its Four Items for the Full Sample (N = 95)

MPH Variable	*degrees of freedom (df)*	*r*
Total MPH Subscale	93	-.045
(6) Travel Stress	93	-.059
(7) Appointment Attendance Stress	93	.006
(8) Medication Procurement Stress	93	.019
(9) Psychiatric Management vs. Medical Management	93	-.105

Table 42
Management of Psychiatric Health (MPH) Subscale and Its Four Items by Gender

MPH Variable	Median	Mean Rank	Mann Whitney U	Asymptotic Significance (2-sided)
Total MPH Subscale				
Full sample	2.50			
By Gender			989.00	.590
Cisgender Women	2.50	48.48		
Cisgender Men	2.63	45.18		
(6) Travel Stress				
Full sample	3.00			
By Gender			922.50	.990
Cisgender Women	3.00	47.48		
Cisgender Men	3.00	47.55		
(7) Appointment Attendance Stress				
Full sample	2.00			
By Gender			940.50	.888
Cisgender Women	2.00	47.75		
Cisgender Men	2.00	46.91		
(8) Medication Procurement Stress				
Full sample	2.00			
By Gender			1033.00	.356
Cisgender Women	3.00	49.15		
Cisgender Men	2.00	43.61		
(9) Psychiatric Management vs. Medical Management				
Full sample	3.00			
By Gender			1006.50	.485
Cisgender Women	3.00	48.75		
Cisgender Men	2.50	44.55		

Note: Sample size for Cisgender Women n = 66, and sample size for Cisgender Men n = 28.

Supplemental Table 1

Measures of Central Tendency, Dispersion, Skewness, and Kurtosis for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score for the Full Sample (n = 95).

	Full Sample (n = 95)			
Variable	IWF	MPH	BPIS_ Mean Score Unweighted [a]	BPIS_Mean Score Weighted [b]
Measures of Central Tendency				
Mean	2.53	2.68	2.60	2.60
Median	2.40	2.50	2.67	2.62
Mode	2.00	2.25	2.22	3.53
Measures of Dispersion				
Range	3.20	4.00	3.56	360
Interquartile Range	1.00	1.50	1.11	1.13
Standard Deviation	0.79	1.05	0.73	0.75
Standard Error of the Mean	0.08	0.11	0.07	0.08
Skewness				
Descriptive	0.20	0.38	0.13	.182
Standard Error	0.25	0.25	0.25	0.25
Kolmogrov-Smirnov Test Statistic	0.08	0.13 [c]	0.09 [d]	0.07
Kurtosis				.
Descriptive	-0.48	-0.71	-0.36	-0.43
Standard Error	0.49	0.49	0.49	0.49
Shapiro-Wilk Test Statistic	0.98 [d]	0.96 [e]	0.99	0.99

Note. Key:

[a] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH subscale (4 items) on the total mean score.

[b] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

[c] Statistically Significant p-value at the $p < .001$ level.

[d] Marginally Significant p-value.

[e] Statistically Significant p-value at the $p < .01$ level.

Supplemental Table 2

Means and Standard Deviations for Continuous Demographic Variables and Frequencies and Percentages for Categorical Demographic Variables Split by Primary Language Spoken

	Gender (*n* = 95)		
Variable	English [a] (*n* = 80) M ± SD or n (%)	Spanish (*n* = 15) M ± SD or n (%)	p-value
Age (years)	44.9 ± 12.2	53.3 ± 18.6	.113
Gender			[a]
Male	25 (31.3)	3 (20.0)	
Female	54 (67.5)	12 (80.0)	
Transgender female	1 (1.3)	0 (0.0)	
Sexual Orientation			[b]
Heterosexual	67 (83.8)	9 (60.0)	
Homosexual	5 (6.3)	1 (6.7)	
Bisexual	2 (2.5)	4 (26.7)	
Other	6 (7.5)	1 (6.7)	
Race & Ethnicity [c]			.059
Black Latino/a	13 (16.3)	2 (13.3)	
Black non-Latino/a	24 (30.0)	1 (6.7)	
White Latino/a	28 (35.0)	7 (46.7)	
Multiracial/Other	15 (18.8)	5 (33.3)	
Ethnicity			[d]
Latino/a	53 (66.3)	15 (100.0)	
Non-Latino/a	27 (33.8)	0 (0.0)	
Latino/a Nationality			[e]
Cuban	2 (2.5)	0 (0.0)	
Dominican	10 (12.5)	1 (6.7)	
Mexican	3 (3.8)	2 (13.3)	
Puerto Rican	35 (43.8)	8 (53.3)	
Salvadorian	2 (2.5)	1 (6.7)	
Honduran	0 (0.0)	1 (6.7)	
Other	6 (7.5)	2 (13.3)	
Country of Birth [f]			.079
Cuba	1 (1.3)	0 (0.0)	
Dominican Republic	4 (5.0)	2 (13.3)	
El Salvador	1 (1.3)	1 (6.7)	

Mexico	0 (0.0)	2 (13.3)	
Puerto Rico	9 (11.3)	3 (20.0)	
United States	56 (70.0)	7 (46.7)	
Other	9 (11.3)	0 (0.0)	
Age of Immigration (if not born in United States)	12.6 ± 11.4	24.5 ± 18.4	.067
Marital Status			[g]
Married/Living with Partner	14 (17.5)	0 (0.0)	
Single, Separated, Divorced, Widowed	62 (77.5)	14 (93.3)	
Other (includes boyfriend or girlfriend)	4 (5.0)	1 (6.7)	
# of Children	1.6 ± 1.9	2.5 ± 1.8	.080
Education			[h]
Less than high school	23 (28.7)	8 (53.3)	
High School/GED	29 (36.3)	2 (13.3)	
Some College	17 (21.3)	2 (13.3)	
Associate's Degree	5 (6.3)	0 (0.0)	
Bachelor's Degree	5 (6.3)	1 (6.7)	
Post-College	1 (1.3)	2 (13.3)	
Employment Status			[d]
Employed	9 (11.3)	2 (13.3)	
Unemployed	71 (88.8)	13 (86.7)	
Annual Household Income			[d]
< $10,000	52 (65.8)	12 (80.0)	
≥ $10,000	27 (34.2)	3 (20.0)	
Psychiatric Diagnosis [i]			[j]
Schizophrenia Spectrum and Other Psychotic Disorders	30 (37.5)	2 (13.3)	
Depressive Disorders	24 (30.0)	7 (46.7)	
Bipolar and Related Disorders	16 (20.0)	2 (13.3)	
Anxiety Disorders	3 (3.8)	3 (20.0)	
Trauma & Stressor Related Disorders	2 (2.5)	1 (6.7)	
Personality Disorders	2 (2.5)	0 (0.0)	
Neurodevelopmental Disorders	2 (2.5)	0 (0.0)	
Mood Disorders NOS [k]	1 (1.3)	0 (0.0)	
Disorders by Impairment			.028
More Impairing Disorders [l]	46 (57.5)	4 (26.7)	
Less Impairing Disorders [m]	34 (42.5)	11 (73.3)	

Note. Key: p-value is for the comparison of the demographic variable by Language.
For categorical variables, Pearson Chi-Square Test for Association was computed to determine if differences existed among demographic variables by Language.
For continuous variables, Independent Samples T-Test was computed to determine if differences existed among demographic variables by Language.

[a] Expected frequencies assumption was violated and was still violated even after Gender was collapsed into two categories – (1) Cisgender Male and (2) Cisgender Female and Transgender Female. Therefore, the Chi-Square test was not conducted.
[b] Expected frequencies assumption was violated, and was still violated even after Sexual Orientation was collapsed into two Categories – Heterosexual and Non-Heterosexual. Therefore, the Chi-Square test was not conducted.
[c] For the Chi-Square analysis, Race was stratified into two categories: Black and Non-Black.
[d] Expected frequencies assumption was violated. Therefore, the Chi-Square test was not conducted.
[e] Expected frequencies assumption was violated, and was still violated even after Latino/a Nationality was collapsed into two Categories – Puerto Rican and Non-Puerto Rican. Therefore, the Chi-Square test was not conducted.
[f] For the Chi-Square analysis, Country of Birth was stratified into two categories: United States and Non-United States.
[g] Expected frequencies assumption was violated, and was still violated even after Marital Status was collapsed into two Categories – (1) Married/Living with Partner and (2) Single, Separated, Divorced, Widowed, and Other (includes boyfriend or girlfriend). Therefore, the Chi-Square test was not conducted.
[h] Expected frequencies assumption was violated, and was still violated even after Education was collapsed into two Categories – (1) less than high school/GED and (2) high school/GED or more (i.e., Some College, Associate's Degree, Bachelor's Degree, Post-College). Therefore, the Chi-Square test was not conducted.
[i] Schizophrenia spectrum and other psychotic disorders consisted of schizophrenia and schizoaffective disorder. Depressive disorders consisted of major depressive disorder and dysthymia. Bipolar and related disorders consisted of bipolar I and bipolar II disorders. Anxiety disorders consisted of generalized anxiety disorder and panic disorder. Trauma- and stressor-related disorders consisted of post-traumatic stress disorder. Diagnoses of personality disorders were not documented in participants' medical records. Neurodevelopmental disorders consisted of attention deficit/hyperactivity disorder.
[j] Expected frequencies assumption was violated, and was still violated even after psychiatric diagnosis was collapsed into four Categories – (1) Schizophrenia Spectrum and Other Psychotic Disorders, (2) Bipolar and Related Disorders, (3) Depressive Disorders, and (4) All Other Disorders, which included Anxiety Disorders, Trauma & Stressor Related Disorders, Personality Disorders, Neurodevelopmental Disorders, and Mood Disorders NOS.
[k] One participant's record indicated a *DSM-IV-TR* diagnosis of Mood Disorder Not Otherwise Specified, which could not be equated to a *DSM-5* diagnosis.
[l] This category is comprised of (1) individuals with Schizophrenia Spectrum and Other Psychotic Disorders and (2) individuals with Bipolar and Related Disorders.
[m] This category is comprised of individuals with (1) Depressive Disorders, (2) Anxiety Disorders, (3) Trauma & Stressor Related Disorders, (4) Personality Disorders, (5) Neurodevelopmental Disorders, and (6) Mood Disorders NOS.

Supplemental Table 3

Means and Standard Deviations for the Interference with Functioning (IWF) Subscale Score, Management of Psychiatric Health (MPH) Subscale Score, and Burden of Psychiatric Illness Scale (BPIS) Total Score by Language

	Language (*n* = 95)		
Variable	English (*n* = 80) M ± SD or n (%)	Spanish (*n* = 15) M ± SD or n (%)	p-value
BPIS			
IWF Mean Score	2.51 ± .79	2.63 ± .83	.597
MPH Mean Score	2.68 ± 1.07	2.70 ± 1.01	.942
Total Mean Score Unweighted [a]	2.58 ± .73	2.66 ± .74	.714
Total Mean Score Weighted [b]	2.59 ± .75	2.66 ± .75	.739

Note. Key: p-Value is for the comparison of the BPIS by Ethnicity. Independent Samples T-Test was computed to determine if BPIS scores differed by Ethnicity.

[a] The mean was computed by taking the sum of all nine items and then dividing by nine. This method gave the IWF subscale (5 items) more influence than the MPH subscale (4 items) on the total mean score.

[b] The mean was computed by taking the sum of the IWF and MPH subscale means and then dividing by two. This method gave the IWF subscale (5 items) and the MPH subscale (4 items) equal influence on the total mean score.

Supplemental Table 4

Pattern Matrix with Promax Rotation (with correlations less than .2 suppressed) for the Full Burden of Psychiatric Illness Scale (BPIS) for English-Speaking Participants (n = 80)

	Rotated Component Coefficients			
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships	Component 3: Psychiatric Interference with Romantic Relationships and Personal Responsibilities	Component: 4 [a]
(6) Travel Stress	**.947**			
(8) Medication Procurement Stress	**.850**			
(7) Appointment Attendance Stress	**.827**			
(2) Family Relationship Interference		**.912**		
(1) Friends Relationship Interference		**.894**		
(5) Personal Responsibilities Interference			**.748**	
(4) Romantic Relationship Interference	-.206	.227	**.736**	
(3) Job Interference			.222	**.939**
(9) Psychiatric Management vs. Medical Management			**.458**	**-.550**

Note.
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.
[a] No central theme could be identified and therefore no descriptive title was provided.

Supplemental Table 5

Component Correlation Matrix for the Full of Psychiatric Illness Scale (BPIS) for English-Speaking Participants (n = 80)

Component	1	2	3	4
1	1.000			
2	.259 [a]	1.000		
3	.301 [b]	.220 [c]	1.000	
4	-.307 [b]	-.028	-.165	1.000

Note.
[a] Statistically Significant p-value at the $p < .05$ level.
[b] Statistically Significant p-value at $p < .01$ level.
[c] Marginally Significant p-value at $p = .05$ level.

Supplemental Table 6

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Full Burden of Psychiatric Illness Scale (BPIS) for English-Speaking Participants (n = 80)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.860**	
(8) Medication Procurement Stress	**.813**	
(7) Appointment Attendance Stress	**.794**	
(9) Psychiatric Management vs. Medical Management	**.584**	
(3) Job Interference	*-.383*	*.327*
(5) Personal Responsibilities Interference	.292	.258
(2) Family Relationship Interference		**.879**
(1) Friends Relationship Interference		**.875**
(4) Romantic Relationship Interference		**.476**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Supplemental Table 7

Pattern Matrix with Promax Rotation (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for English-Speaking Participants (n = 80)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.911**	
(7) Appointment Attendance Stress	**.871**	
(8) Medication Procurement Stress	**.822**	
(9) Psychiatric Management vs. Medical Management	**.520**	
(2) Family Relationship Interference		**.910**
(1) Friends Relationship Interference		**.868**
(4) Romantic Relationship Interference		**.522**

Note.
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.
[a] No central theme could be identified and therefore no descriptive title was provided.

Supplemental Table 8

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for English Speaking Female Participants (n = 54)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships
(1) Friends Relationship Interference	-.210	**1.013**
(2) Family Relationship Interference		**.862**
(9) Psychiatric Management vs. Medical Management	**.932**	**-.408**
(7) Appointment Attendance Stress	**.785**	.229
(8) Medication Procurement Stress	**.554**	.392
(6) Travel Stress	**.513**	**.420**
(4) Romantic Relationship Interference	**.464**	

Supplemental Table 9

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for English Speaking Latino/a Participants (n = 53)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family and Friend Relationships
(6) Travel Stress	**.876**	
(7) Appointment Attendance Stress	**.804**	
(9) Psychiatric Management vs. Medical Management	**.742**	
(8) Medication Procurement Stress	**.730**	
(2) Family Relationship Interference		**.928**
(1) Friends Relationship Interference		**.926**
(4) Romantic Relationship Interference		**.405**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.

Supplemental Table 10

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for English Speaking Participants with Less than $10,000 in Annual Household Income (n = 52)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.928**	
(7) Appointment Attendance Stress	**.859**	
(8) Medication Procurement Stress	**.816**	
(9) Psychiatric Management vs. Medical Management	*.387*	
(2) Family Relationship Interference		**.873**
(1) Friends Relationship Interference		**.787**
(4) Romantic Relationship Interference		**.610**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Supplemental Table 11

Pattern Matrix with Promax Rotation and Variables Forced onto 2 Components (with correlations less than .2 suppressed) for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for English Speaking Participants with a More Impairing Psychiatric Disorder (n = 46)

	Rotated Component Coefficients	
BPIS Item	Component 1: Stress Related to Management of Psychiatric Health	Component 2: Psychiatric Interference with Family, Friend, and Romantic Relationships
(6) Travel Stress	**.913**	
(7) Appointment Attendance Stress	**.872**	
(8) Medication Procurement Stress	**.869**	
(9) Psychiatric Management vs. Medical Management	*.389*	
(2) Family Relationship Interference		**.887**
(1) Friends Relationship Interference		**.826**
(4) Romantic Relationship Interference	*-.319*	**.741**

Note. Key:
Bolding indicates that the variable loaded highly onto the given component i.e., that the component coefficient was ≥ 0.4.
Italics indicates that the variable's component coefficient was ≥ 0.3 but < 0.4.

Figures

Figure 1

Scree Plot for the Principal Components Analysis of the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

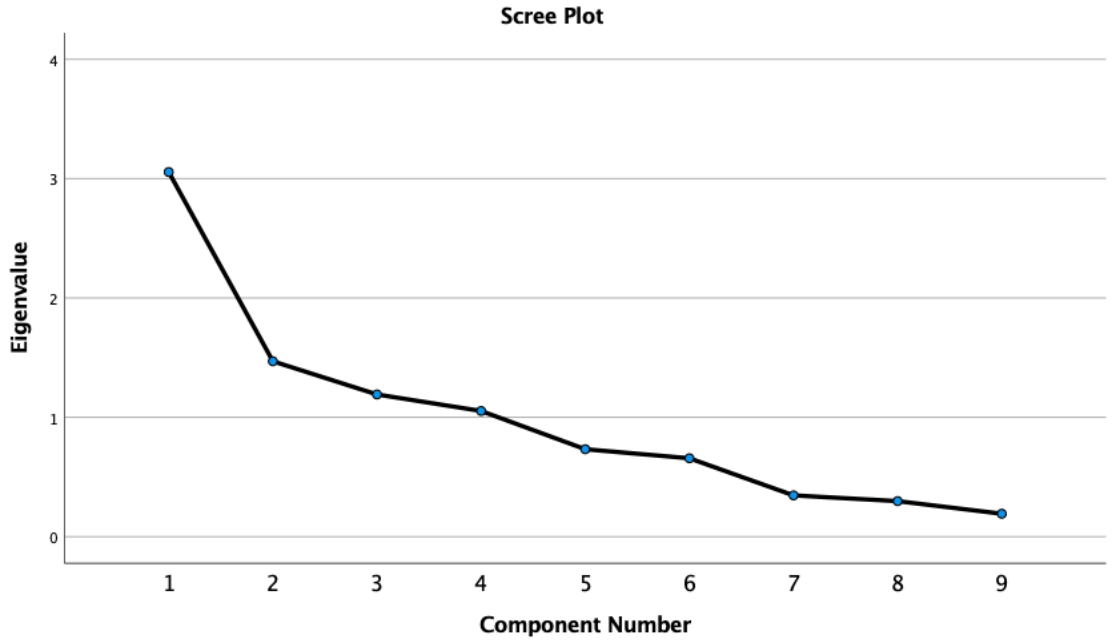


Figure 2

Component Loading Plot with Promax Rotation for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

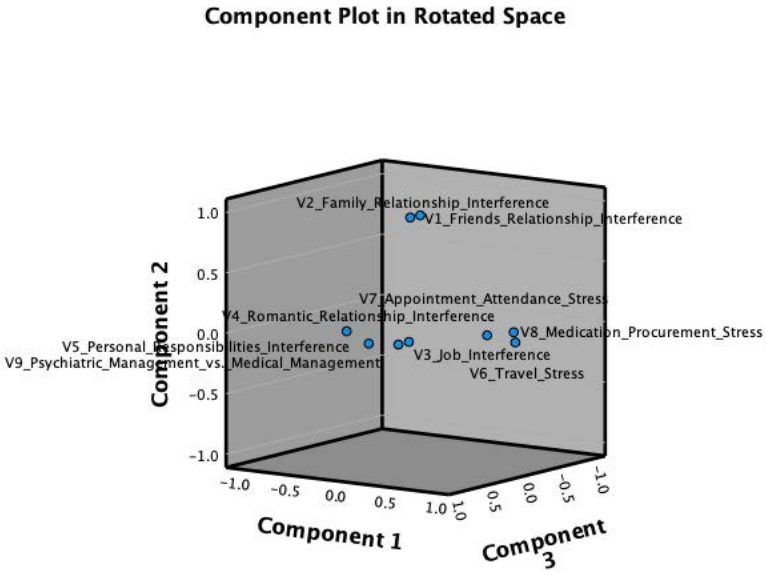


Figure 3

Component Loading Plot with Promax Rotation and Variables Forced onto 2 Components for the Full Burden of Psychiatric Illness Scale (BPIS) for the Full Sample (n = 95)

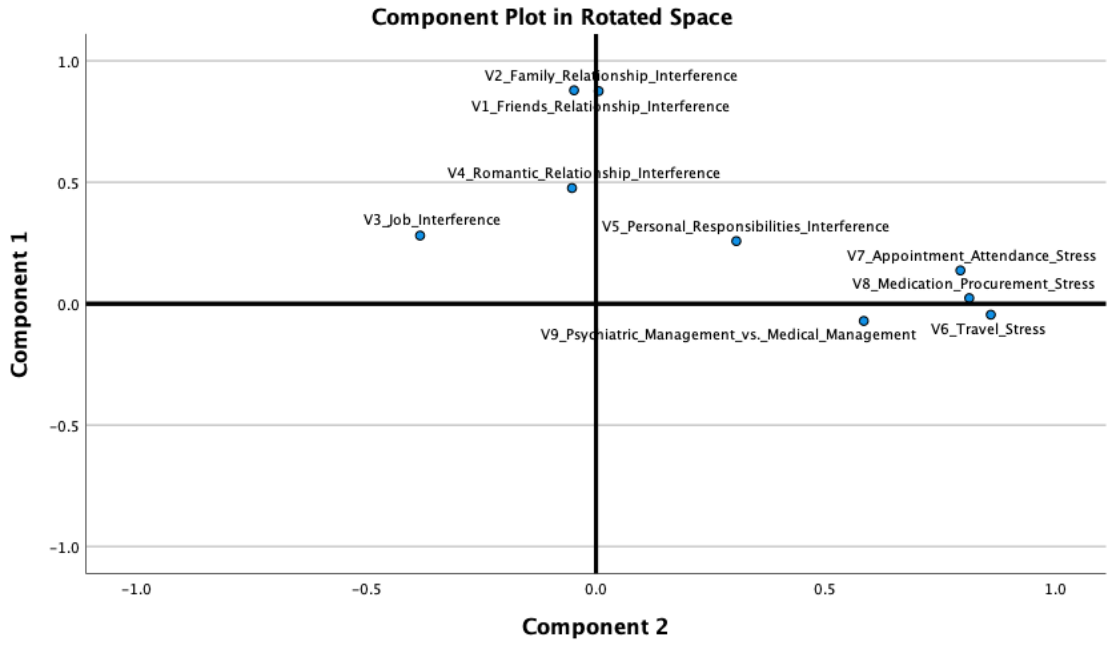


Figure 4

Scree Plot for the Principal Components Analysis of the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

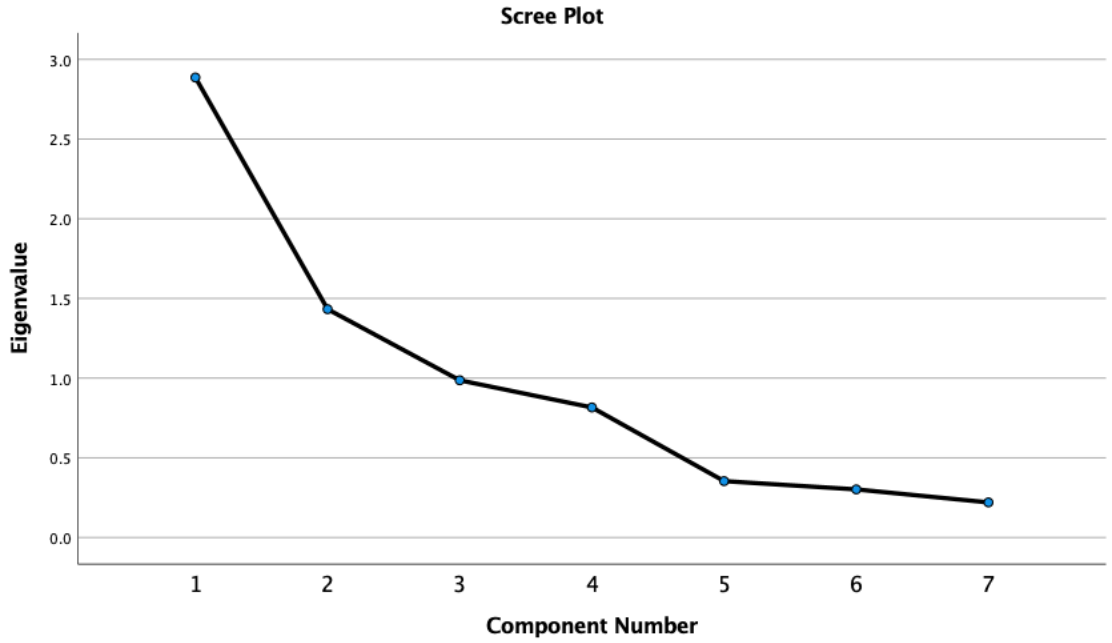


Figure 5

Component Loading Plot with Promax Rotation for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for the Full Sample (n = 95)

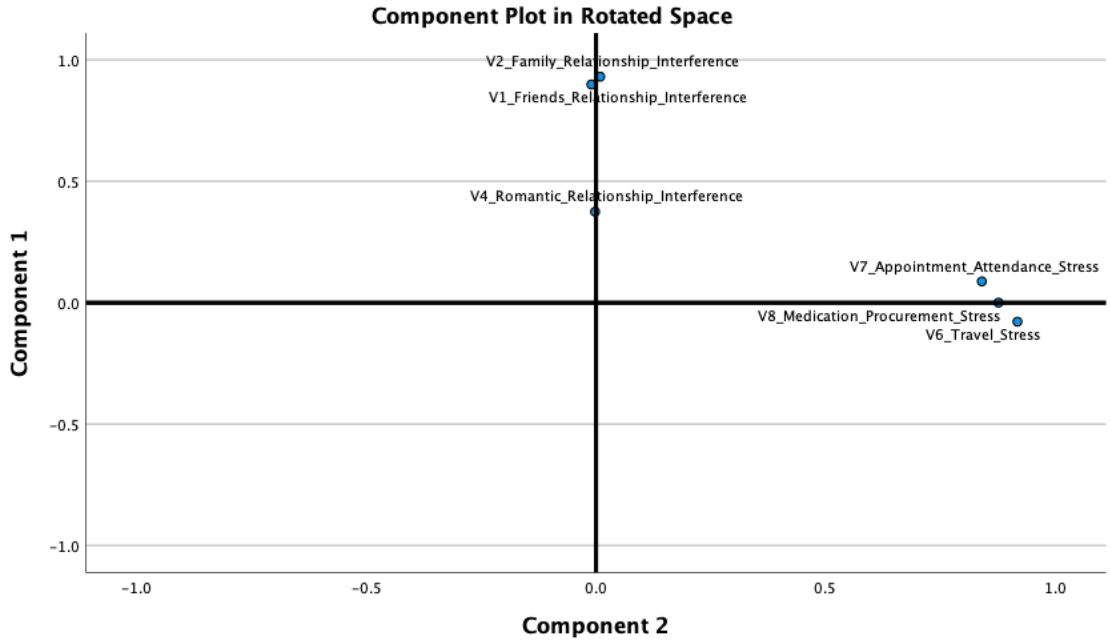


Figure 6

Scree Plot for the Principal Components Analysis of the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

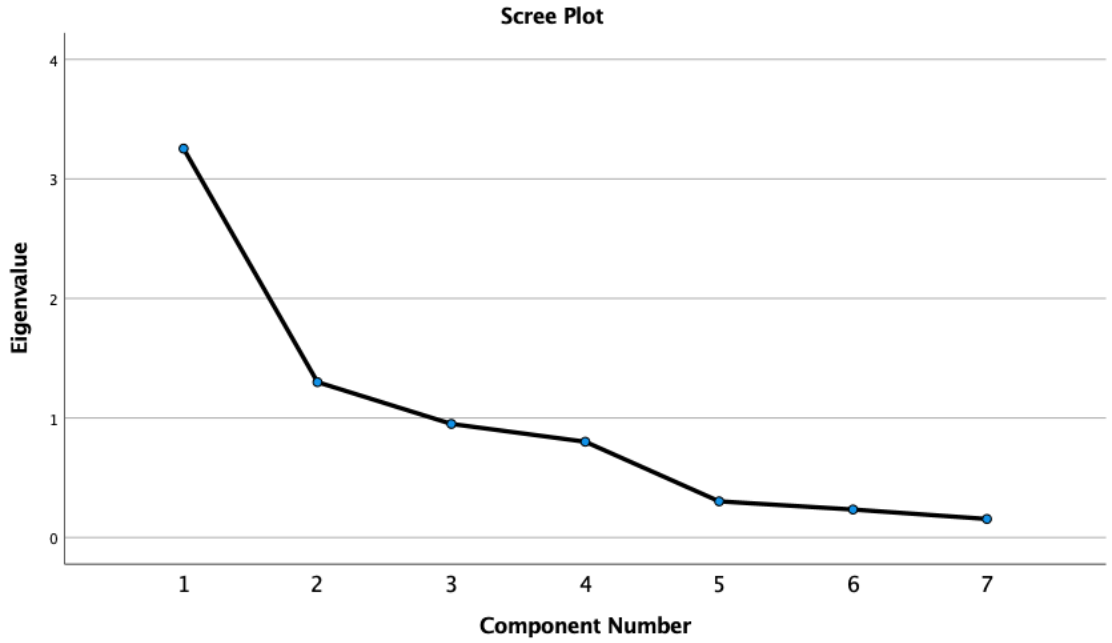


Figure 7

Component Loading Plot with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Female Participants (n = 66)

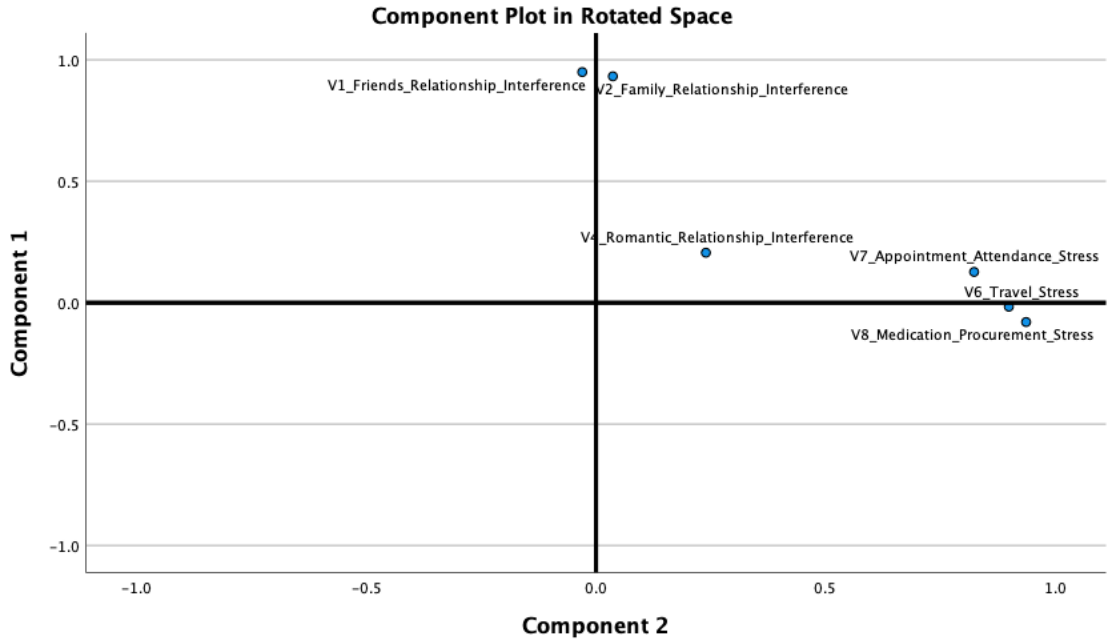


Figure 8

Scree Plot for the Principal Components Analysis of the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

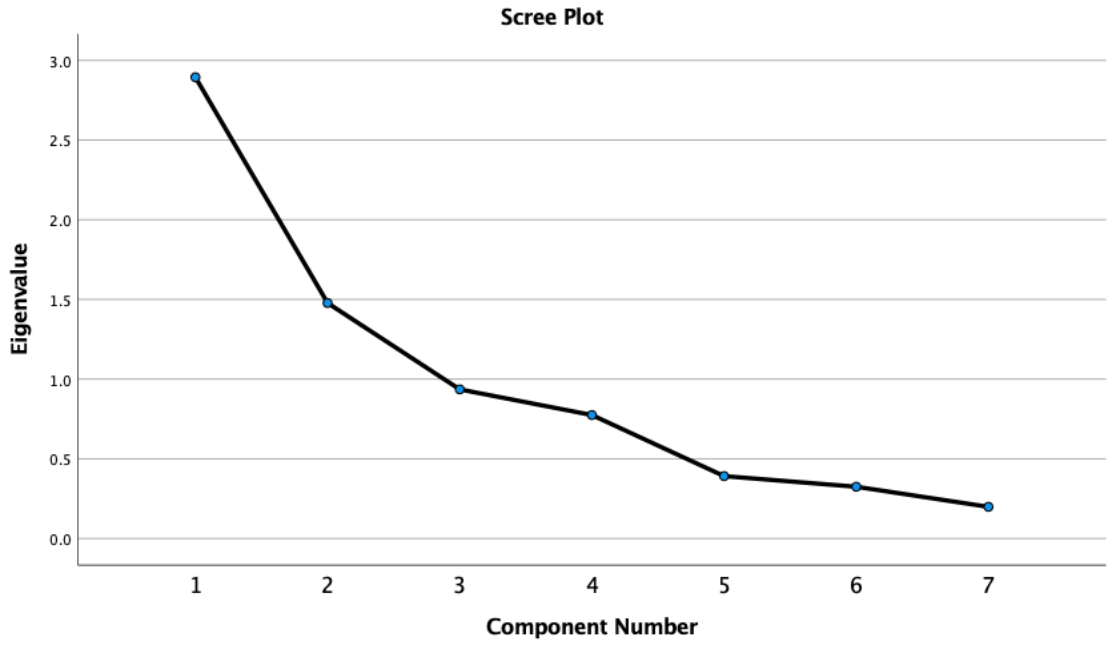


Figure 9

Component Loading Plot with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Latino/a Participants (n = 68)

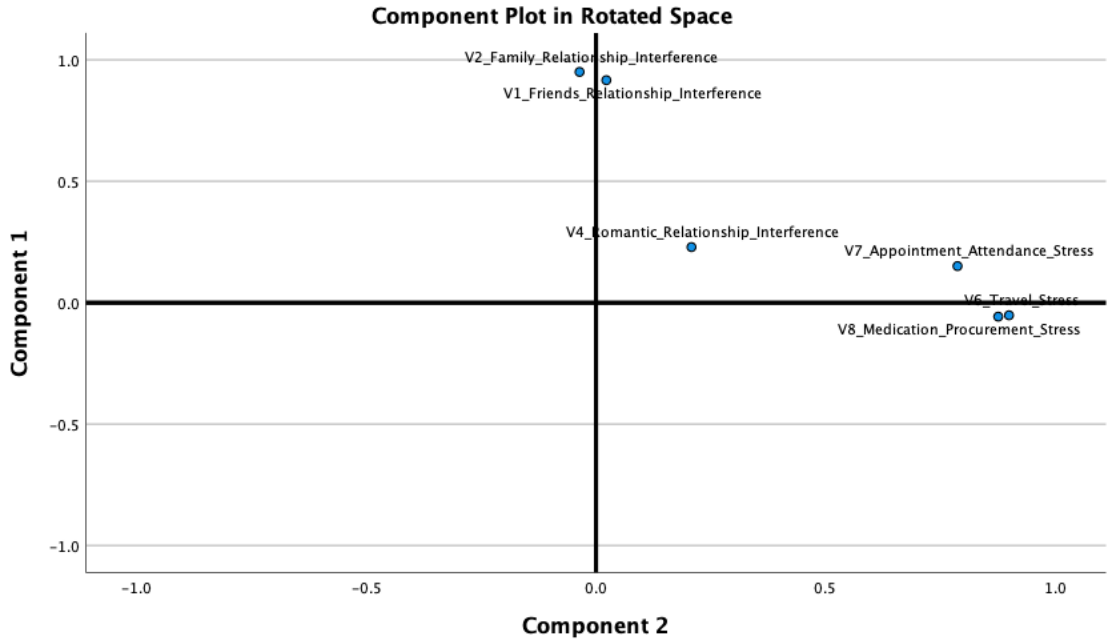


Figure 10

Scree Plot for the Principal Components Analysis of the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

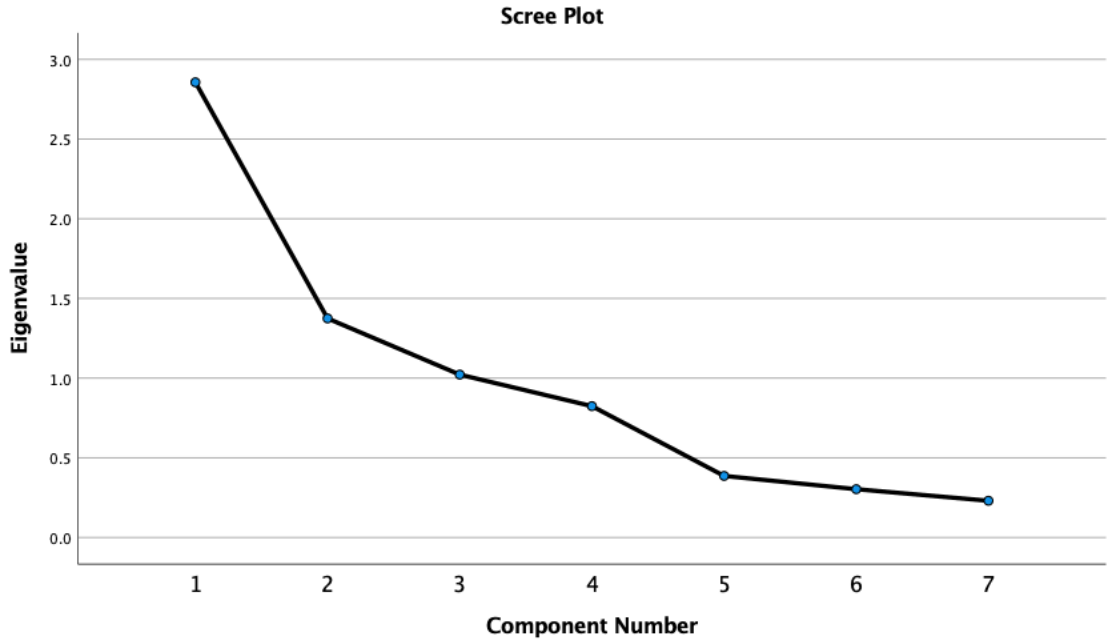


Figure 11

Component Loading Plot with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with Less than $10,000 in Annual Household Income (n = 64)

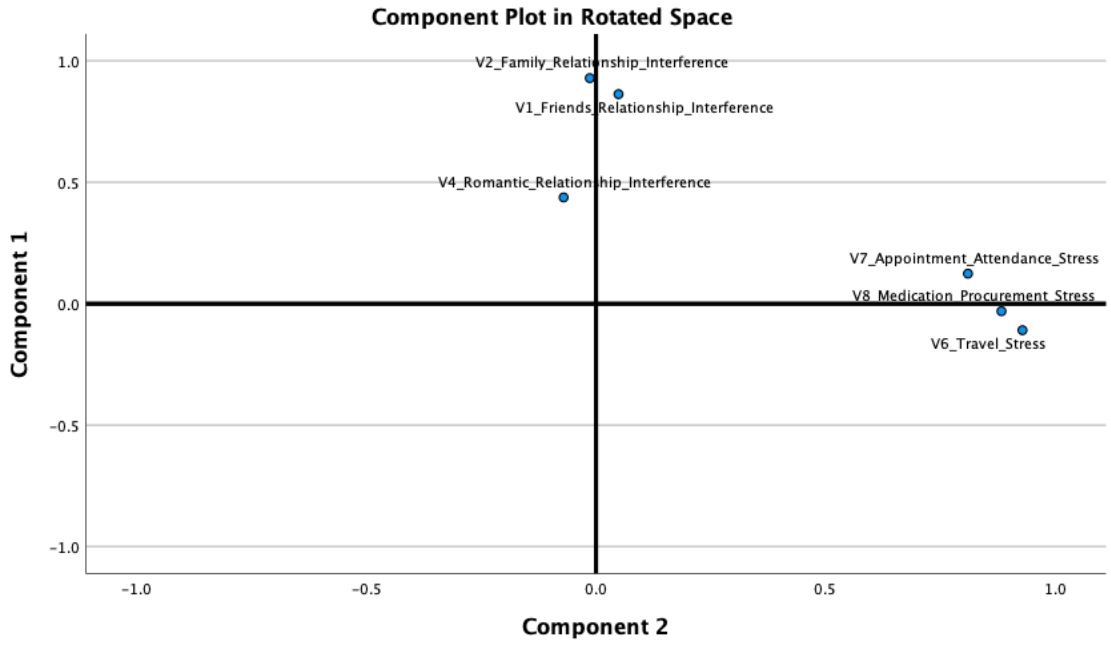


Figure 12

Scree Plot for the Principal Components Analysis of the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)

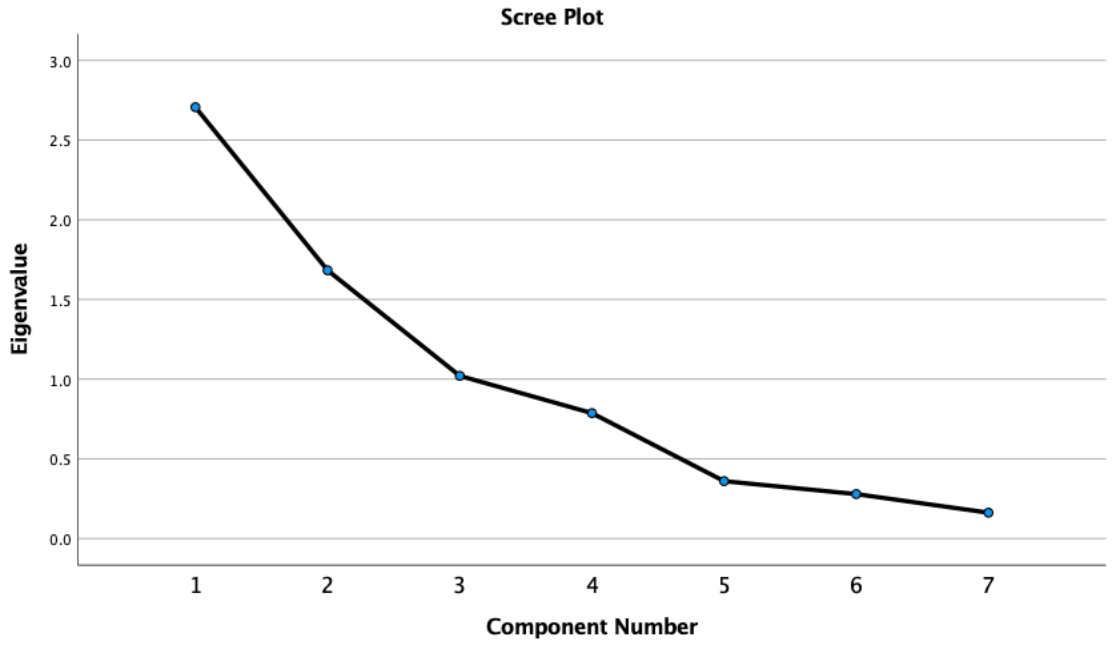
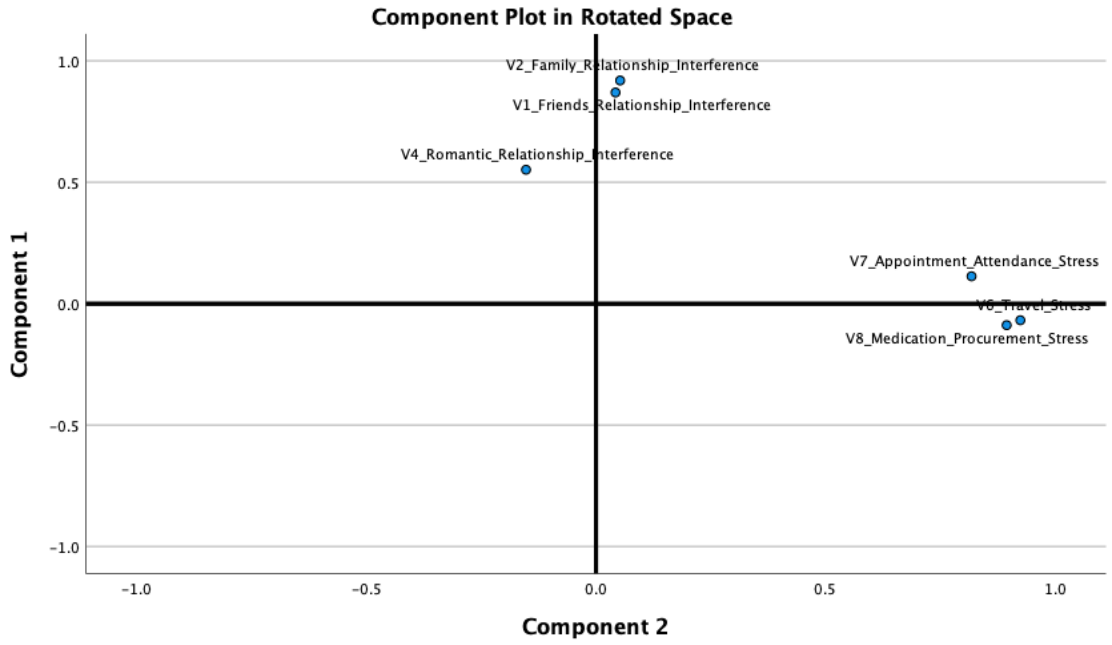


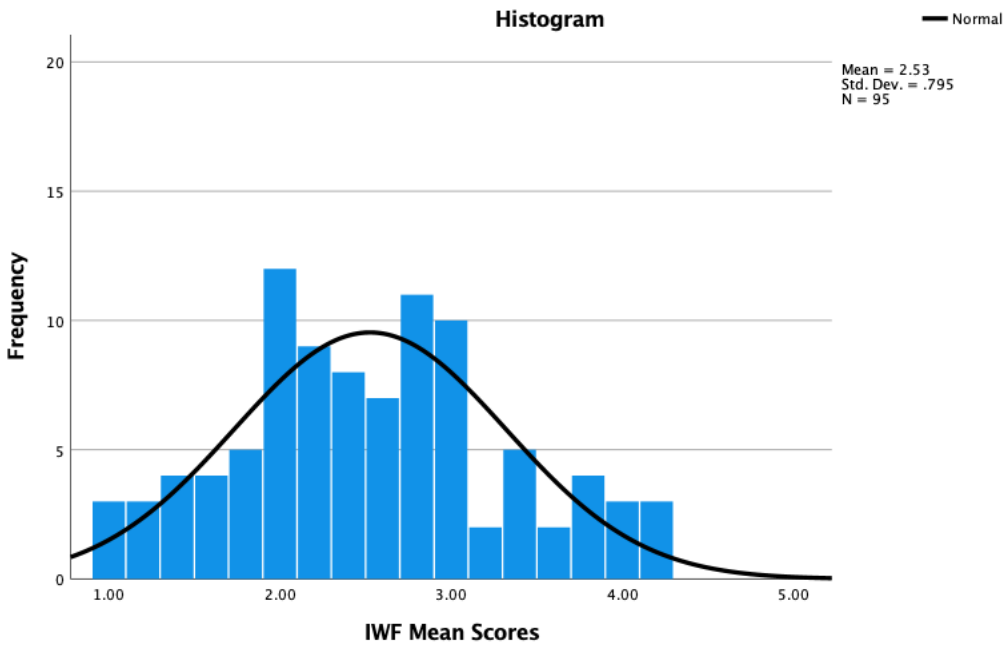
Figure 13

Component Loading Plot with Promax Rotation and Variables Forced onto 2 Components for the Revised Burden of Psychiatric Illness Scale (BPIS-r) for Participants with a More Impairing Psychiatric Disorder (n = 50)



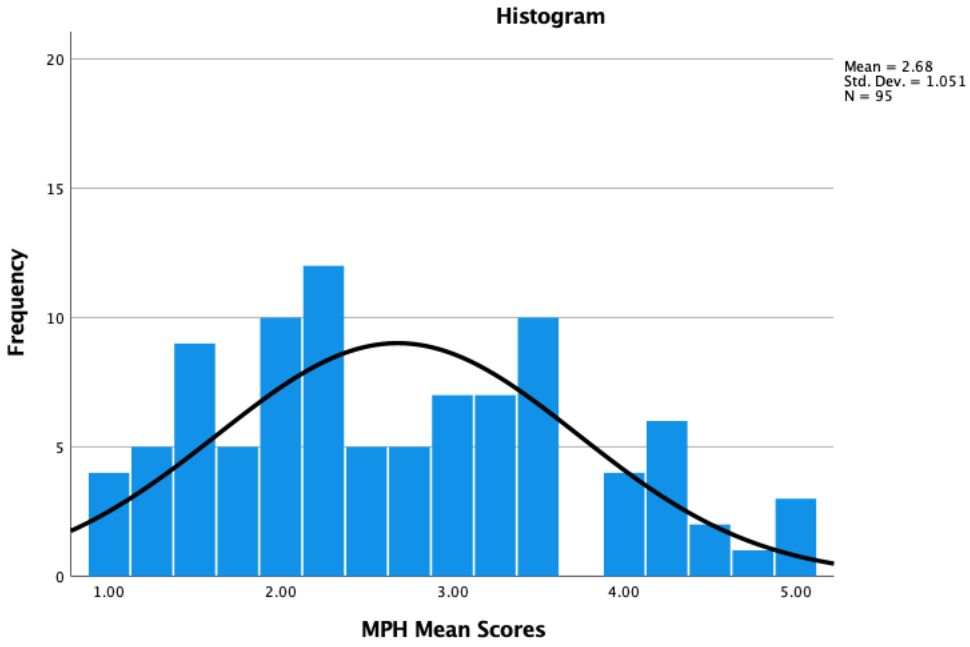
Supplemental Figure 1

Frequency Histogram of Psychiatric Interference with Functioning (IWF) Subscale Scores with Normal Curve Shown



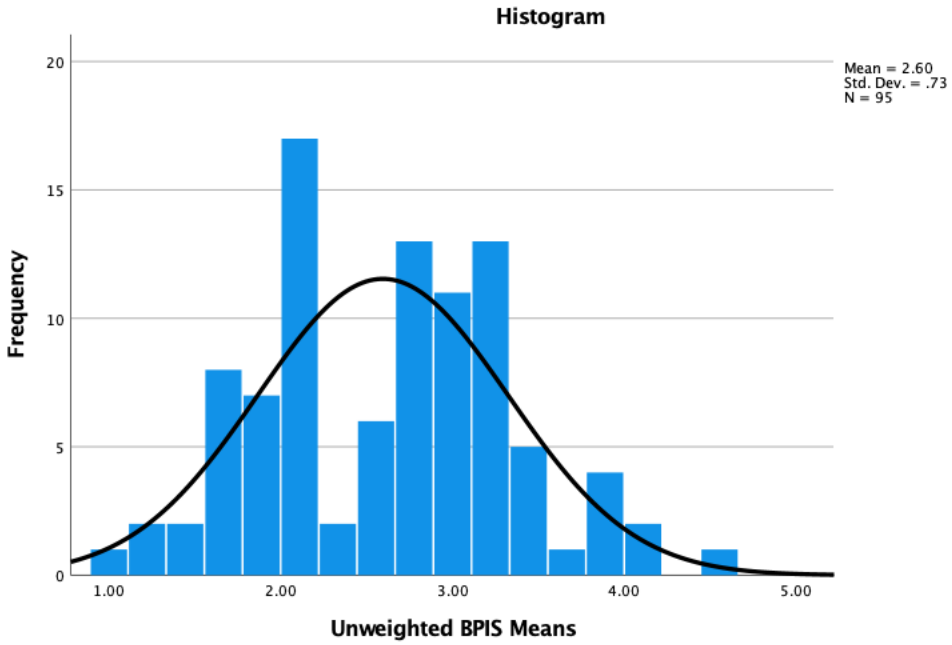
Supplemental Figure 2

Frequency Histogram of The Management of Psychiatric Health (MPH) Subscale Scores with Normal Curve Shown



Supplemental Figure 3

Frequency Histogram of the Unweighted Burden of Psychiatric Illness Scale (BPIS) Full-Scale Scores with Normal Curve Shown



Supplemental Figure 4

Frequency Histogram of the Weighted Burden of Psychiatric Illness Scale (BPIS) Full-Scale Scores with Normal Curve Shown