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The Association between Psychotic Symptoms and Romantic Relationship Quality among Young Adult Ethnic Minorites

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Abstract

This study aimed to examine the association between psychotic symptoms and the quality of romantic relationships amongst ethnic minority young adults. Approximately 10.4 million people, which represents 4.2% of the adult population in the U.S, are currently diagnosed with severe mental illnesses, including psychotic disorders. Prior research found that ethnic minorities, in general, have an increased risk of developing psychotic disorders such as schizophrenia. People with SMI generally have issues being and maintaining romantic relationships. However, being in positive romantic relationships is associated with better physical and mental well-being. The final sample size for the study consisted of 411 young adult ethnic minorities. The results showed that while controlling for perceived stress levels, psychotic symptoms were only a significant predictor of romantic relationship quality: relationship satisfaction. Psychotic symptoms did not significantly predict the other relationship quality factors such as relationship trust, relationship commitment, and relationship communication. Study results can direct both future research and clinical practice towards symptom management and incorporating the experience of sexuality and romantic relationships among young adult ethnic minorities with psychosis or SMI.

Keywords: Serious Mental Illness, Psychosis, Romantic Relationships, Ethnic Minorities, Romantic Relationship Qualities.

Introduction

Serious mental illness (SMI) is a group of psychiatric disorders that significantly impact people's ability to function and engage in day-to-day activities. (APA, 2018; NIMH, 2017; SAMHSA, 2017). SMI includes major depressive disorder, schizophrenia, bipolar disorder, schizoaffective disorder, obsessive-compulsive disorder, and other mental disorders that cause serious impairment (American Psychiatric Association, 2018; SAMHSA, 2017). Approximately 10.4 million people, which represents 4.2% of the adult population in the U.S, are currently diagnosed with an SMI (NIMH, 2017). Young adults aged 18-25 years have the highest prevalence of SMI with 5.9%, followed by adults aged 26- 49 years (5.3%) and adults aged 50 and older with (2.7%) rate. Further, the prevalence of SMI is higher among women (5.3%) than men (3.0%). Racial and ethnic differences show that people who identify as multiracial have a higher prevalence of SMI (7.5%), followed by the American Indian/Alaska Native group (4.9%) (NIMH, 2017).

Psychosis and romantic relationships are not extensively researched. This research gap is due to stigma and the reluctance of mental health professionals to discuss relational issues with patients. Studies have shown that many nurses and psychiatric professionals have disclosed being uncomfortable addressing sexual and romantic relationship problems when supporting individuals with a psychotic disorder. This additional gap is due to the assumption that this population is either asexual or the belief that these individuals do not have the competence to perform treatment interventions (Nnaji & Friedman, 2008; Ostman & Bjorkman, 2013). Such views or stigmas can lead to the lack of clients disclosing their experiences of romantic relationships and sexuality (Wright & Martin, 2003).

Findings on ethnic minorities and relationship quality are also presented in the research. A qualitative study explored the males' beliefs about romantic relationships as a young ethnic minority individuals. Collins and Champion (2011) found that the young men identified as Mexican American and African American relied on unconditional support from their partners. Some expressed the importance of not making promises due to unexpected possible circumstances and value the idea that relationships are not long-lasting. However, participants found that physical and psychological closeness was ideal when in a romantic relationship and struggled to obtain such intimacy (Collins & Champion, 2011).

This study examined the quality of romantic relationships for ethnic minority young adults with a history of psychosis. The study also investigated the association between romantic relationship quality and psychotic symptoms while controlling for stigma and stress.

Literature Review

Mogilskia et al. (2019) define romantic relationships as partnerships that support and achieve collective goals such as reproduction and childcare, sexual and emotional fulfillment, and accumulating resources and prestige. Additionally, romantic partners rely on each other for emotional support, sex, shared finances, access to social groups, and other distinguished benefits (Mogilskia et al., 2019).

Relationship Theories

There is extensive literature regarding theories about romantic relationship quality and functioning. Specifically, for the four qualities of romantic relationships, research has proposed varied theories to help explain the phenomenon of relationship functioning. Common themes among relationship quality theory focus on the four factors: communication, commitment, satisfaction, and trustworthiness.

The following theories focus on understanding and conceptualizing the four components of romantic partnerships, created by experts in scientific work concerning love and close relationships. The two theories that conceptualize commitment are the investment model of commitment and relationship stability founded by Dr. Caryl E. Rusbult and the cohesiveness theory of commitment developed by Dr. George Levinger. Sternberg's triangular theory of love, founded by Dr. Robert J. Sternberg, defined, and conceptualized relationship satisfaction. Relationship communication was conceptualized through Knapp's relational stage model created by Dr. Mark L. Knapp. Finally, relationship trustworthiness was conceptualized using the three components of thrust: predictability, dependability, and faith to understand trustworthiness in romantic partners.

Relationship Commitment.

The individual partner's commitment to maintaining the relationship is the most adjacent predictor of relationship stability (Impett et al., 2003). Commitment is the desire to maintain a relationship for better or worse, where the individual is oriented long term towards the relationship (Impett et al., 2003). Research shows that commitment-promoting attractions are constructed when need fulfillment, wealth, and status are presented in a current relationship (Agnew, 2009).

The Investment Model of Commitment and Relationship Stability. According to the investment model of relationship commitment and stability, three significant predictors of commitment are satisfaction, investments, and the quality of alternatives (Impett et al., 2003; Impett et al., 2018). Numerous studies that evaluated cross-sectional samples have found that; college students dating relationships (Lin & Rusbult, 1995; Rusbult, 1980, 1983), married and cohabiting with heterosexual adults (Rusbult et al., 1986), and homosexual adults (Beals et al., 2001; Duffy & Rusbult, 1986), have all reported significant predictors of commitment to be attributed to satisfaction, quality of alternatives and investments (Impett et al., 2003). When a relationship is gratifying, stability is generally motivated by high rewards and low costs. Rewards are the enjoyable aspects such as sexual gratification or social support provided by one partner to the other or the relationship. Whereas costs are the characteristics that are often disliked by the individual or the relationship (Impett et al., 2003). Examples of costs are frequent conflicts or financial burdens. Investments are also attributed to the commitment and can be quantified as time, effort, or money that an individual has contributed to the relationship and would lose if the relationship ends. Specifically, for married couples, investments can be the length of time in the relationship, joint financial investments, or jointly owned homes. The quality of alternatives is the perceived assessment of the rewards and costs found outside the relationship. This may include specific other partners, spending time alone or with other social groups (i.e., friends and family) (Impett et al., 2003; Impett et., 2018).

Cohesiveness Theory of Commitment. The cohesiveness theory of the commitment model was developed by George Levinger, which was rooted in Kurt Lewin's field theory. This model highlighted the role of two social forces (attraction forces and barrier forces) in determining relationship commitment (Levinger, 1999). The attraction forces are described as forces that result in partners becoming and maintaining attraction and are constructed into two subtypes: present attractions and alternative attractions. Levinger describes present attractions as the factors that pull the person towards preserving the relationship, while alternative attractions are the forces that pull the person away from the relationship. With present attraction, the partner's love for their significant other would be the force that attracts the partners and helps sustain the relationship. Whereas alternative attraction can be a colleague to whom one

of the partners is attracted to. Additionally, barrier forces are described as forces that keep the partners from departing from their relationships. These barriers can be internal (emotions, beliefs, and virtues) or external (outside forces). Having feelings of obligations towards a partner rooted in religious beliefs is an example of an internal barrier. The partner stays in the relationship because they do not want to breach their perceived obligations to stay together. Another example of a married relationship is having a fixed belief that children should be living with both parents together, which causes the parents not to seek divorce to avoid the negative feelings of neglect. On the other hand, external barriers operate outside of the relationship, causing the partners not to leave the relationship. Stringent divorce laws are considered an external barrier because they pressure the partners to maintain commitment in the relationship to avoid the cost, joint assets, and/or custody battles. Another example of external barriers is family members who pressure the couple to stay committed because they believe they can resolve their discord (Agnew, 2009). In closing, attraction and barrier forces significantly contribute to how committed a partner will be to the relationship and impact relationship quality.

Research has established the association between commitment and satisfaction to be a positive one- the stronger the commitment is to a romantic relationship, the greater the individual's feelings of satisfaction (Bui et al., 1996; Rusbult, 1980; Impett et al., 2003). It is important to note that satisfaction is not the only predictor of commitment to a relationship. While satisfied people can be in committed relationships, unhappy people may also stay committed to their relationships to avoid the loss of investments (Impett et al., 2003). An illustration would be a couple feeling trapped in a loveless marriage who stay to avoid the financial hardships of being the only provider (i.e., single parent or supporter) (Impett et al., 2003). Partners who express high commitment to a romantic relationship are highly satisfied, have invested significantly, and have few alternatives (Impett et al., 2003). While this study found consistency with predictors of commitment in relationships, there was a lack of racial diversity in their sample. For instance, most of the participants where white and were only diverse in age, education, and religion. The proposed study plans to expand on the current literature on the relationship and history of psychosis serious mental illness by studying a more ethnically diverse sample.

Relationship Satisfaction

While the Impett et al. (2003) study found satisfaction, investment, and quality of alternatives to be strong indicators of commitment, satisfaction had the strongest correlation when looking at heterosexual married couples. Generally, satisfaction is conceptualized as the degree to which the perceptions of a relationship are gratifying.

Sternberg's Triangular Theory of Love. According to relationship satisfaction, many factors come into play when analyzing the love-relational phenomena. Sternberg's triangular theory of love consists of three components: intimacy, passion, and decision/commitment, which can explain different forms of love when combined (Sternberg, 1986; Ossorio, 1985; Shweder & Miller, 1985). Intimacy, derived from emotional investment, represents the feelings of connection, bonding, and closeness in romantic relationships (Sternberg, 1986). Passion is derived from motivational involvement, which signifies the motivation that leads to significant components of relationships such as romance, physical attraction, and sex (Sternberg, 1986). Lastly, decision/commitment is derived from cognitive decision making, which embodies the lengths of relationships, whether short-term (the decision to love someone else) or long-term (the decision to maintain the love that one has for their partner (Sternberg, 1986). Madey and Rodgers, 2009 further investigated Sternberg's triangular theory of love on relationship satisfaction related to the association between attachment and intimacy, passion and commitment. Findings suggest an association between secure attachment and relationship satisfaction. The amount of commitment and intimacy mediated these variables by partners in a romantic relationship. Furthermore, relationship satisfaction depends on attachment, caregiving, and sexual systems within the partnership (Madey & Rodger, 2009).

Relationship Communication.

Knapp's Relational Stage Model. Knapp's relational stage model is based on the social exchange framework. People seek to maximize their rewards and minimize their costs while engaging and disengaging from relationships based on how much they cost and rewards are fair. The relational stage model is a foundational theory, built-in interpersonal communication, and has been applied to elucidate

relationship development and decline stages. Relationship development assumes that the relationship escalates (coming together) through 5 stages of communicative processes: initiating, experimenting, intensifying, integrating, and bonding. The first line of communicating in a relationship is through the initiating stage. In this stage, the two individuals may communicate based on first impressions. Physical appearance or overall appearance is essential in the initial stage, leading to inaccurate judgments. Social norms, standards for greetings, introductions, and superficial topics dictate the initiating of a conversation. People try to make favorable impressions to appease the other individual during this stage.

Relationship Trustworthiness.

Rempel et al. (1985) conceptualized trust in romantic relationships into three components: predictability, dependability, and faith. Predictability is an individual's expectation or predictions of their partner conducting consistent and stable behavior patterns. Dependability consists of individual perception of their partner's qualities (e.g., honesty, caring responsive) and willingness to put themselves at risk in the relationship by disclosing intimately and relying on promises. Faith pertains to an individual's confidence in their partner's continued caring and responsiveness to the unforeseeable future (Rempel et al., 1985). As romantic relationships develop and continue, the components of trust that form in order consist of predictability, dependability, and faith (Rotenberg, 2019). Murray and Holmes (2009) found trust, a dyadic process developed through the mutual responsiveness of both romantic partners. According to Murry and Holmes (2009), trust in one's romantic partners is based on how individuals perceive the levels of selfnesses and acceptance of their needs in their romantic partners. When a conflict of interest occurs in the relationship, trust is affected by how both parents mutually respond to the conflicting goals (Murray & Holmes, 2009; Rotenberg, 2019). The importance of trust in romantic stems from being shown in empirical research that higher levels of trust are associated with various positive relationship outcomes such as higher levels of love and happiness (Rempel et al., 1985), positive perceptions of relationship quality (Campbell et al., 2010) and more feeling of commitment towards the relationship (Weiselquist et al., 1999).

Serious Mental Illness: Features, Development, Diagnosis, prevalence, Risk, and Protective Factors

Schizophrenia.

The American Psychiatric Association defines schizophrenia as a chronic brain disorder that affects how people think, feel, and behave (American Psychiatric Association 2017). Individuals with schizophrenia experience psychosis manifested in positive and negative symptomatology. Positive symptoms include hallucinations and/or delusions, whereas negative include diminished emotional expression and avolition. Difficulty with concentration, problem-solving, task switching, regulating emotions, and lack of motivation are some of the cognitive and affective symptoms seen in individuals diagnosed with schizophrenia. Schizophrenia affects 0.3%-0.7% and roughly affects 1% of the US population alone (APA, 2013), with symptoms typically manifesting between the late teenage years and mid-'30s. For men, the early to mid-'20s is the peak age of onset for the first psychotic episode, while for women, it is in their late 20's (APA, 2013).

Vocational and functional impairments are common and strongly linked to cognitive deficits of schizophrenia. Declarative memory, working memory, language, and other executive functions are significantly impaired and have slower processing speed (APA, 2013). Schizophrenia reduces overall brain volume, and this reduction increases as people age. Social cognition deficits have also been shown in some individuals with schizophrenia, such as the inability to infer other people's intentions (theory of mind) and interpret irrelevant stimuli events as something meaningful. The lack of awareness and insight in some individuals with psychosis may show up throughout the illness, where they would be unaware of the symptoms of schizophrenia (APA, 2013).

Some behavioral challenges in schizophrenia are hostility and aggression. However, spontaneous or random assault is uncommon (APA, 2013). Many people with schizophrenia are not dangerous or aggressive; they are more vulnerable and are victimized more often than the general population. Younger males, persons with a history of violence, non-adherence to treatment, substance abuse, and impulsivity are associated with aggression. Social withdrawal from everyday active routines is usually one of the first signs of developing the disorder. Social dysfunctions are linked to avolition, which is the reduced drive to

pursue goal-related behavior. A common inappropriate effect of persons with schizophrenia can include inappropriate laughing and the dysphoric mood that can take the form of depression, anxiety, or anger. There are also issues, including disturbed sleep patterns and lack of interest in eating. Possessing unusual and odd beliefs that are not of delusional proportions are expressed in persons with schizophrenia. For instance, ideas of reference or magical thinking and sensing the presence of an unseen person when unusual perceptual experiences are present. Speech may also be impacted due to sentences being generally understandable but vague and unusual disorganized behavior such as mumbling in public (APA, 2013).

Occupational and social dysfunction are associated with some of the effects of persons with schizophrenia. Diagnosed individuals usually have issues progressing in both educational and employment settings. Lack of employment is significantly high for impaired individuals by avolition, even though the cognitive skills are sufficient for the duties required. The research shows that most of these individuals are employed at a lower level than their parents, specifically, men who do not marry or have limited contact outside of their family (APA, 2013).

Individuals with schizophrenia are at high risk for suicide, attempted suicide, suicidal ideation, and self-harm. Studies show at least 20% of individuals diagnosed with schizophrenia had attempted suicide on one or more occasions, and 5%-6% had succeeded in a suicide attempt. It is common for suicidal behaviors to be a response to command hallucinations. Both men and women are equally at high risk for suicide over their lifespan, and being significantly high for males with substance use as a comorbid diagnosis (APA, 2013).

There are numerous risk factors for the development of psychosis and schizophrenia, including environmental, genetic/physiological, and psychological factors. Environmental factors relating to the season of birth, particularly in the late winter/early spring, has been linked to the incidence of schizophrenia. Other environmental factors include the high prevalence of schizophrenia in children in an urban environment and some ethnic minority groups. Genetic factors are a significant determinant of being at risk for developing schizophrenia. This is contrary to the conclusions that suggest most individuals with the diagnosis have no psychosis in their familiar history. Some prenatal and perinatal risks for developing

schizophrenia are; pregnancies and birth complications with hypoxia (oxygen deficiency) with greater paternal age, stress, infection, malnutrition, maternal diabetes, and other medical conditions. It is important to note that most children with these risk factors do not develop schizophrenia. Consequences of the risk of chronic disease are primarily the result of poor engagement in health maintenance (APA, 2013).

The depressive symptoms (feelings of hopelessness) and being unemployed are among the many risk factors for persons with the disorder, with the additional presence of high suicidal risk in the aftermath of a psychotic episode or hospital discharge. Profoundly, life expectancy rates are significantly reduced due to medical conditions for persons with schizophrenia. When compared to the general population, a person with this disorder develops weight gain, diabetes, metabolic syndrome, and cardiovascular and pulmonary disease (APA, 2013).

One of the most reported delusion symptoms affecting individuals with a schizophrenia spectrum disorder is paranoia. In fact, about 90% of individuals experience paranoia during their first episode of psychosis (Elahi et al., 2017). However, not only persons who reach the symptomatic threshold of psychosis or schizophrenia spectrum disorders experience paranoia. An estimate of 10-15% of the general population is suggested to the experience of paranoid thoughts (Freeman, 2007). This brings to the idea that even subclinical paranoia has major consequences on mental health and well-being. Overall, subclinical paranoia in contrast to negative psychological and general health consequences have been extensively researched Specifically, higher levels of paranoia is associated with increased depression, social anxiety, self-consciousness, stress, low self-esteem, and poor physical and psychological wellbeing (Springfield et.al., 2021; Martin & Penn, 2001; Combs & Penn, 2004; and Freeman et.al., 2011). It is important to note that patients diagnosed with schizophrenia who experience paranoia showed increased impairments in overall interpersonal functioning as opposed to non-paranoid patients (Freeman et.al., 2001; Pinkham et al., 2016).

Schizoaffective Disorder

Schizoaffective disorder is a chronic mental health condition characterized primarily by symptoms of schizophrenia, such as hallucination or delusions, and symptoms of a mood disorder, such as mania and depression (NIH, 2019). Schizoaffective is as it sounds; the prefix "schizo" refers to the positive symptoms such as hallucinations, and "affective" refers to the depressive symptoms where mood, energy, and behavioral shift are significant enough to cause dysfunction in daily living (NIH, 2019). This disorder is typically challenging to diagnose due to the many overlapping symptoms of schizophrenia and bipolar disorder. However, the schizoaffective disorder can be distinguished, by which, the positive symptoms of schizophrenia being present with at least one depressive episode. In schizoaffective research, the disorder has an arguable debate on whether the disorder should remain a separate diagnosis or be considered a subtype of Schizophrenia or bipolar disorder (NIH, 2019). The research shows that there are two types of schizoaffective disorder where the mood is involved: the bipolar type and the depressive type. With the bipolar type, there are dramatic highs, known as manic episodes, and the lows, which are the depressive symptoms, Whereas the depressive type, only includes the depressive episodes. While schizoaffective disorder is less common than schizophrenia, bipolar disorder, or depression, the prevalence is unknown. However, based on a study in Finland, there is an estimated 1 in 1,000 people diagnosed with the disorder (NIH, 2019).

Specific criteria for the diagnosis of schizoaffective disorder can be diagnosed with the specifiers known as "bipolar type" and "depressive type" as well as "With catatonia" (APA, 2013). Criteria A consists of an uninterrupted period of illness with positive symptoms present, as in schizophrenia, and a significant mood episode, which can be a major depressive episode or manic episode. Criteria B consists of the positive symptoms being present for two or more weeks without a major mood episode. Criteria C is met if there is the presence of those depressive symptoms meeting the criteria for a major mood episode. Lastly, Criteria D discusses the presence of the disturbances mentioned not due to the effects of a substance use condition or other medical condition. Similar to schizophrenia, persons with schizoaffective disorder have an increased rate of occupations dysfunction (APA, 2013).

Genetic and physiological risk factors for developing schizoaffective disorder are primarily common for individuals with a first-degree relative diagnosed with schizoaffective disorder, schizophrenia, or bipolar disorder (APA, 2013). As for suicidal risk, depressive episodes are mostly correlated, and 5% of individuals diagnosed with schizoaffective disorder, successfully committed suicide. Research shows a higher rate of suicide amongst North American populations when compared to European, Eastern European, South American, and Indian populations (APA, 2013).

Persons with schizoaffective disorder are typically diagnosed with comorbid disorders, such as substance use disorders and anxiety disorders. Compared to the general population, there is a decreased life expectancy due to incidences of medical conditions for persons with schizoaffective disorder (APA, 2013).

Bipolar Disorder.

Bipolar Disorder is a mood disorder with significant disruptions in a person's mood, energy, and overall ability to function and complete daily tasks. Bipolar Disorder can present itself in two forms: Bipolar I Disorder and Bipolar II Disorder. Concerning Bipolar I Disorder, the person experiences mania, and depression, while with Bipolar II, hypomania and depression are presented. Mania occurs for at least one week when the mood is abnormally and persistently elevated, irritable and expansive (APA, 2013). During this period, a person may become abnormally goal-directed and energetic. There is a significant decrease in sleep and attentiveness and a significant increase in self-esteem, talkability, flight of ideas, distractibility, and excessive involvement in goal-directed activities or unsafe/dangerous activities that have grave consequences. This level of dysfunction often results in involuntary hospitalizations to prevent harm to self or others (APA, 2013).

Similarly, with presentations in mania, hypomania has elevated mood disturbances resulting in inflated self-esteem, decreased need for sleep, etc. However, it only lasts for at least four days and does not result in hospitalization. The duration of symptoms and lack of hospitalization are the primary differentials for this disorder. The episode is not severe enough to cause significant impairment in social or occupational functioning instead of the symptom severity in Bipolar I Disorder. A major depressive

episode lasts two weeks of depressed mood and loss of interest or pleasure. It can be presented in both forms of bipolar disorder; however, it is more common in bipolar I disorder (APA, 2013).

Johnson, Gershon, and McMaster (2017) investigated the environmental risk and protective factors for persons diagnosed with bipolar disorder and found several factors that play a significant role in the symptomatology and diagnosis of this population. Examples of risk factors of bipolar disorder studies were identified in terms of social support, stigmatization, relational/familial factors, expressed emotions, traumatic exposure, and cultural factors. Deficits in social support have been correlated with bipolar disorder symptoms worsening over time. Having less social support is linked explicitly to increased depressive symptoms. Studies have found that persons diagnosed with bipolar disorder are more likely to not confide in their social support networks due to the high stigmatization of the illness. Also, low social support and deficits in functioning have been associated with high internalized stigma (Cerit et al., 2012).

For children and adults, family impairment has been a consistent predictor of negative symptom outcomes for depressive symptoms in bipolar disorder (Sullivan et al., 2012; Weinstock & Miller, 2010). Depression is more prevalent than mania in the adult population related to family difficulties (Weinstock & Miller, 2010). However, for the adolescent population, family impairment is a predictor of more severe and extended symptoms of mania (Sullivan et al., 2012).

Studies have also investigated the expressed emotion (EE), which is defined as experiencing high levels of criticism, hostility, or excessive emotional involvement from family members towards the individual diagnosed with bipolar disorder. Miklowitz et al. (1988) found that after returning home from being hospitalized for mania to live with high EE families, they relapse within nine months compared to persons who returned home to families of lower EE. Yan et al. (2004) found that EE does not predict mania but predicts severe depression in bipolar disorder.

Persons diagnosed with bipolar disorder are vulnerable to higher rates of trauma and have reported a greater history of severe childhood abuse (Garno et al., 2005). Compared to the general population, persons with bipolar disorder are 80% more likely to be exposed to various forms of trauma (Maguire et

al., 2008; Kessler et al., 2010). Like bipolar disorder, psychosis is also a prognosis given to ethnic minority populations, especially those who experience early childhood trauma (s) (Veling, 2013).

Ethnic Minorities and Psychosis

Prior research found that ethnic minorities, in general, have an increased risk of developing psychotic disorders such as schizophrenia (e.g., Veling, 2013; Veling et al., 2010). In a recent 2018 study on ethnic minorities and Attenuated Psychosis Syndrome (APS), study results showed that even though ethnic identity was not directly related to APS, participants having experienced higher racial discrimination who scored high or very high ethnic identity were linked with lower reporting of symptoms (Anglin et al., 2018). Additionally, studies have found that a strong ethnic identity can contribute to an increased risk of psychosis when presented with other risk factors such as racial discrimination or acculturative stress (Anglin et al., 2016; Gonidakis et al., 2013; Reininghaus et al., 2010). However, other studies have suggested that a weak ethnic identity may contribute to an increased risk for psychosis (Veling et al., 2010; Velthorst et al., 2012).

Although the study found that African American young adult females are more prone to psychosis through childhood abuse, childhood abuse was negatively correlated with attenuated psychosis syndrome in women (Anglin, Lui. Espinosa, Tikhonov & Ellman, 2018). The research on Adverse Childhood Experience (ACE) and risk for psychosis in men have found no significant correlation between the two variables (Fisher et al., 2009).

One of the most apparent correlations between mental health problems such as schizophrenia and APS is among the diverse culture of young adults in America who have an (ACE). The research shows that a high-stress sensitivity has continuously been correlated to the development of positive psychotic symptoms (Lardinois et al., 2011). Likewise, Bebbington and colleagues found that a vulnerability for psychosis is being a victim of traumatic experiences (Bebbington et al., 2011). More specifically, physical, sexual abuse, and neglect have been linked to the risk of psychosis, according to the National Comorbidity Survey (NCS) Part 2 data (Shevlin et al., 2007).

Wood et al. (2014) studied the stigma of psychosis for ethnic minorities and discussed stigma challenges and harmful consequences on this population. Among Westernized countries, persons with psychosis encounter the most outstanding stigma (Wood et al., 2014) and experience negative stereotypes resulting in dangerous, violent, and aggressive encounters compared to people with depression and anxiety diagnoses. The Schizophrenia Commission (2012), 87% of the people experiencing psychosis reported continuous occurrences of stigma (Angermeyer & Dietrich, 2006; Crisp et al., 2005; Wood et al., 2014). This leads to heightened discrimination resulting in segregation, poor housing, homelessness, and a lack of employment and financial independence (Corrigan & Shapiro, 2010).

Ethnic minorities, specifically the African and Caribbean populations, have reported higher rates of psychosis (Kirkbride et al., 2012). Several studies have found that the likelihood of psychosis diagnosis within minority populations is due to stigma and discrimination (Halvorsrud et al., 2018; Vyas et al., 2021).

Relationship and SMI

Psychosis and romantic relationships are not extensively researched, especially in recovery and overall lifestyle well-being. This research gap is due to stigma and the reluctance of mental health professionals to discuss relational issues with patients. Studies have shown that many nurses and psychiatric professionals have disclosed being uncomfortable addressing sexual and romantic relationship problems when supporting individuals with a psychotic disorder. This additional gap is due to the assumption that this population is either asexual or the belief that these individuals do not have the competence to perform treatment interventions (Nnaji & Friedman, 2008; Ostman & Bjorkman, 2013). Such views or stigmas can lead to the lack of clients disclosing their experiences of romantic relationships and sexuality (Wright & Martin, 2003).

A limited body of research examines the relationship quality of people with serious mental illness. Intimate relationships are particularly challenging for people with SMI. For example, negative symptoms of schizophrenia, such as avolition and lethargy, make relationships difficult (Seeman, 2013). The positive symptoms of schizophrenia, such as hallucinations and delusions, are barriers for people to meeting

eligible partners partly due to the separation of various social networks (Seeman, 2013). Even further, psychopharmacological treatments, which are the first line of treatment for schizophrenia, have been shown to interfere with libido (Seeman, 2013). A study has demonstrated that manic symptoms of personality disorders negatively affect intimate relationship functioning between individuals diagnosed and their respective partners (Sheets & Miller, 2010). Individuals' bipolar pathology has been shown to negatively influence the perception of the relationships among both partners and cause greater relationships distress. However, bipolar pathology is not negatively associated with general couple functioning partners (Sheets & Miller, 2010). For individuals with a psychotic disorder and/or serious mental illness, unhealthy romantic relationships were due to a lack of social and sexual functioning. Moreover, studies suggest these dysfunctions are the consequences of the illness itself and the side effects of medication (Chiesa et al., 2013; de Boer et al., 2015; Velthorst et al., 2017).

A qualitative study uses interpretive phenomenological analysis to understand the life stories of 10 individuals diagnosed with schizophrenia (Budziszewska et al., 2020). The study explored experiences regarding their romantic relationships and issues within their relationships due to their disorder. Participants discussed that their symptoms made it more difficult for social and emotional functioning within their romantic relationships. Intrusive thoughts and disillusions made it more difficult for diagnosed participants to trust themselves and their romantic partners. Discrimination and mental health stigma caused participants to feel rejection within their relationships. Participants expressed needs related to love but feel a lack of readiness or hope towards entering and maintaining a romantic relationship, especially a sexual one, due to their disorder (Budziszewska et al., 2020). Individuals with schizophrenia displayed poorer marriage quality, lower dyadic adjustments, and less sexual satisfaction than those diagnosed with current depressive disorder (Aggarwak et al., 2019). Participants with schizophrenia have lower marital adjustment than participants with major depression and bipolar disorders. Participants with schizophrenia report having lower marital adjustment than their spouses (Vibba et al., 2013).

OCD is often associated with difficulties within interpersonal relationships (Abbey et al., 2007). Individuals with OCD often possess low self-esteem, feelings of shame, and dissatisfaction with social

functioning, and they avoid activities and contact with other people (Abbey et al., 2007). Individuals with more severe obsessional thinking may be preoccupied with their intrusive thoughts to the extent that they have less time and less mental energy for being intimate with their love partners (Abbey et al., 2007). Some compulsive behaviors, such as washing and neutralizing, may reduce feelings of anxiety for individuals with OCD and allow them to be more emotionally intimate and become more satisfied with their relationships (Abbey et al., 2007). This study found that individuals who worry about telling their love partners about their obsessions or compulsions were less likely to disclose personal information (Abbey et al., 2007). Individuals with OCD often conceal their obsessions because revealing them will increase their fears. Others will use their obsessions as evidence against them, and showing their OCD symptoms will lead to feelings of shame and embarrassment (Abbey et al., 2007).

Findings on ethnic minorities and relationship quality are also presented in the research. A qualitative study explored the males' beliefs about romantic relationships as a young ethnic minority individuals. Collins and Champion (2011) found that the young men identified as Mexican American and African American relied on unconditional support from their partners. Some expressed the importance of not making promises due to unexpected possible circumstances and value the idea that relationships are not long-lasting. However, participants found that physical and psychological closeness was ideal when in a romantic relationship and struggled to obtain such intimacy (Collins & Champion, 2011).

With regards to paranoia and trust, one study that examined roommate relationships of college students found that there was a significant negative correlation between subclinical paranoia and relationship satisfaction (Springfield et al., 2021). Fett et al. (2016) studied the association between trust and attachment in early psychosis patients and found that in adolescents with early psychosis, trust was reduced when negative symptoms (emotional withdrawal, blunt affect, active social avoidance, etc.) increased. Moreover, it was hypothesized that these negative symptoms of schizophrenia could be attributed to the challenge of taking interpersonal risks involving trusting someone with their secrets (Kéri et al., 2009). It was also evident in earlier studies which linked lower levels of oxytocin in patients with schizophrenia to be linked to the negative symptoms that consequently reduce trust in relationships

(Kéri et al., 2009). Interestingly, previous findings also suggested oxytocin to increase trust in social situations in healthy individuals (Kosfeld et al., 2005).

Ethnicity and Romantic Relationships

Study findings pertaining to marriage rates suggest that whites are more likely to be married than black couples, both men and women (Joyner et al., 2013). Multiple studies have found that Asians and Whites have higher rates of marriages when compared to Blacks and Hispanics (Brown et al., 2008, Payne 2018, Raley et al., 2015, Wang & Parker, 2014). Black men and women not only marry later in life (Brown et al. 2008, Payne 2018, Raley et al. 2015, Wang & Parker 2014), but most remain unmarried throughout their young adulthood (Valle & Tillman 2014).

In terms of patterns of involvement, Asian men were less likely to be single than their same-sex counterparts from other racial groups. Asian women were half as likely as Asian men to be single. These findings did not show significant differences in involvement rates for White, Black, and Hispanic men and women. Asian women showed higher rates of being in a relationship with different-race partners than Asian men. However, both men and women showed little difference in the likelihood of same-race partner relationships (Joyner et al., 2013).

White and nonnative Hispanic women are more likely to live in cohabitants for three years before marriage than Black and US-born Hispanic women (Copen et al., 2013). In general, Asians are less likely to live together without marriage; however, recent studies suggest that the immigrant generation of Asian women's rates of cohabitating are rapidly rising (Brown et al., 2008, Willoughby et al., 2015). Moreover, third-generation Asian women are more likely to live together than White, Black, or Hispanic women. This is not the same for Asian men, who are less likely to live together with their partners across generations than their male peers (Brown et al., 2008). Asian men are also less likely to form any intimate union (Balistreri et al., 2015, Brown et al., 2008).

Relationships and Mental Health among ethnic minorities

Low psychological distress was predicted by low attachment anxiety and high self-efficacy (Weisskirch, 2017). Specifically, self-esteem was predicted by less fear of negative evaluation from a

dating partner and high self-efficacy. Subjective happiness was also predicted by low attachment anxiety, low dating anxiety, and high self-efficacy in romantic relationships (Weisskirch, 2017). Research studies have consistently found that romantic relationships are the most salient relationships for young adults who reported are crucial contributors to social support (Arnett, 2004; Shulman, Scharf, Livne, & Barr, 2013; Umberson et al., 2010). Finally, numerous studies have concluded that being in a romantic relationship is correlated with lesser stress (Kiecolt-Glaser & Wilson, 2017; Ozer et al., 2003; Williams & Umberson, 2004) and alcohol use (Bachman et al., 1984; Fleming et al., 2010; Kendler et al., 2016; Leonard & Rothbard, 1999; Rhule-Louie & McMahon, 2007).

When looking at the college student population, students in committed relationships expressed fewer mental health problems (Braithwaite et al., 2010). The research also suggests that college students engaged in less risky behavior (e.g., binge drinking, driving while intoxicated) were related to being in committed dating relationships than single individuals (Braithwaite et al., 2010). In terms of dating, Hispanic students had a higher prevalence of dating relationships than their White counterparts. White students had more experience with hooking up but did not have more hook-up partners than Hispanic students (Eaton et al., 2016).

Stress-buffering effects of relationships rely on commitment levels (Fleming et al., 2010; Salvatore et al., 2016). Commitment in romantic relationships can be a protective factor for mental health. Specifically, compared to single or in committed, non-cohabitating relationships, individuals in romantic relationships cohabitating and engaged to be married had less alcohol use (Bachman et al., 1984; Leonard & Rothbard, 1999; Rhule-Louie & McMahon, 2007; Yamaguchi & Kandel, 1985).

Insecure attachment is linked to greater psychological distress, lower well-being and self-esteem (Wei et al., 2011). Likewise, more attachment, anxiety, and avoidance foreseen less well-being, issues with adjustments, and increased loneliness (Robinson et al., 2013).

Interpersonal stress experienced while in a romantic relationship had a more severe impact on well-being when compared to experiencing interpersonal stress in other relationships. In general, stress has been associated with impaired memory, the inability to focus and concentrate, unmotivated, and lower retention

rates in school (Duran et al., 2011; Linn & Zeppa, 1984). When comparing people who dated one person exclusively to those who were single or dating multiple people, there were higher reports of subjective well-being in life satisfaction, happiness, distress, and self-esteem in young adults (Kamp Dush & Amato, 2005). Similarly, fewer depressive symptoms were associated with romantic involvement for young adults aged 18-23 (Simon & Barrett, 2010).

Findings on ethnic minorities and relationship quality are also presented in the research. A qualitative study explored the males' beliefs about romantic relationships as a young ethnic minority individuals. Collins and Champion (2011) found that the young men identified as Mexican American and African American relied on unconditional support from their partners. Some expressed the importance of not making promises due to unexpected possible circumstances and value the idea that relationships are not long-lasting. However, participants found that physical and psychological closeness was ideal when in a romantic relationship and struggled to obtain such intimacy (Collins & Champion, 2011).

Rationale/Purpose

The study examines the quality of romantic relationships for ethnic minority young adults with a history of psychosis. The study will investigate how experiences and severity of psychosis can impact romantic relationship quality factors such as commitment, satisfaction, communication, and trustworthiness. Intimate relationships are more challenging for people with SMI since SMI mental health symptoms can make intimate relationships more difficult to manage (Seeman, 2013; Sheets & Miller, 2010; Abbey et al., 2017). This issue is apparent in ethnic minorities since ethnic minorities are at higher risk of developing SMI (NAMI, 2017; Veling, 2013; Veling et al., 2010). Furthermore, there is a lack of research that examines the relationship quality of people with serious mental illness. This study planned to contribute to the research of SMI among ethnic minorities by expanding upon the impact psychosis symptoms can have on their perceptions of the quality of their romantic relationships. Study results can help guide further intervention programs toward improving romantic relationships among individuals diagnosed with SMI.

Research Question and Hypothesis

The current study had one research question:

RQ: How does the severity of psychosis symptoms predict relationship quality factors (commitment, satisfaction, communication, and trustworthiness) among individuals who have experienced psychosis before?

Hyp: Higher levels of psychosis symptoms will negatively predict lower levels of relationship quality factors (commitment, satisfaction, communication, and trustworthiness).

Methods

Research Design

The research design for this study was a cross-sectional correlational study design. Participants were surveyed using the online survey distribution program Qualtrics. Participants responded to questionnaires that focused on demographics, romantic relationship quality factors (satisfaction, trustworthiness, communication, and commitment), psychosis symptoms, mental health stigma, and stress.

Participants

Participants consisted of ethnic minority young adults recruited online and asked to complete an online survey. Participants were eligible to participate in the study if they were at least 18 years of age, were in a current romantic relationship or had been in one within the last year, had experienced at least one episode of psychotic symptoms within the previous year, were able to provide informed consent and can complete the survey in English. Participants actively participating in treatment for the psychosis were also eligible to participate. Participants were ineligible to participate if they were under the age of 18 years, had not been in a romantic relationship within the last year, had not experienced an episode of psychotic symptoms within the previous year, were unable to provide informed consent, were not currently engaged in treatment for active psychosis.

A power analysis was conducted to determine the minimum sample size needed for the study. The analysis was conducted using G*power (Faul et al., 2007). Results showed that to detect an effect size of .15 (f^2= .15), with an alpha of .05 and a power of .80, we will need a sample size of 135 participants. A power of .80 with an alpha level of .05 is the lowest but acceptable power value for determining sample size using power analysis (Hair et al., 2018). However, given that the study included a clinical population that may be challenging to recruit, I propose to recruit 75 participants for feasibility reasons.

Procedure

Participants were recruited through relevant listservs, social media platforms, and other digital venues. Participants received online invitations to participate in the online survey. The sampling method for this study was convenience sampling. Students who met the criteria and agreed to participate after

reviewing the informed consent were given a survey that included: a demographic questionnaire, Commitment to the Relationship Measure, Communication Patterns Questionnaire, Trust in Close Relationships Scale, Couples Satisfaction Index, Stigma of Symptoms Measure, and the Prodromal Questionnaire took approximately 15-30 minutes to complete. After participants ultimately responded to the survey material, responses were sent digitally to the principal investigator.

Measures

Demographics. Participants responded to demographic variables such as age, gender, ethnicity, and sexual orientation. Relationship status, length of the current relationship, romantic partner's demographic information (i.e., gender and identity), cohabitation status, length of the previous relationship (if the participant is currently single), and current psychosis status.

Relationship Commitment. The Commitment to the Relationship Measure is a 5-item instrument that assesses participants' future romantic relationship orientation and tolerance for conflicts (Lucianco & Orth, 2017). Each item is measured on a 5-point Likert scale ranging from 1 (not at all) to 5 (absolutely). In terms of reliability, the instrument is shown to have acceptable reliability of .68 and .69 (Lucianco & Orth, 2017).

Relationship Communication. The Communication Patterns Questionnaire (CPQ) is a 35-item instrument that measures how romantic couples utilize various interaction strategies during conflict (Noller & White, 1990). Each item is measured on a 9-point Likert scale on how many specific strategies occurred when arguing with parents ranging from 1 (very unlikely) to 9 (very likely). The CPQ consists of 3 subscales: Demand-Withdraw Communication, Demand-Withdraw Role, and Mutual Constructive Communication. In terms of reliability, inter-partner agreement of .73, .74, and .80, respectively, for the three subscales. For validity, the Mutual Constructive Communication subscale was positively correlated with relationship satisfaction, and the Demand-Withdraw subscale was negatively correlated with relationship satisfaction (Noller & White, 1990).

Relationship Trustworthiness. The Trust in Close Relationships Scale is a 17-item measure that assesses levels of trust in one’s relationship partner (Rempel et al., 1985). Each item is answered based on

a 7-point Likert-type scale ranging from -3 (strongly disagree) to 3 (strongly agree). The instrument contains three subscales: faith, dependency, and predictability. In terms of reliability, the Cronbach alpha for the overall Trust Scale was .81. Each of these subscales has demonstrated good reliability (.70 or above). In terms of validity, love was significantly positively correlated with faith and dependency. However, there was no relationship between love and predictability (Rempel et al., 1985).

Relationship Satisfaction. Couples Satisfaction Index is a 32-item instrument that measures relationship satisfaction in romantic relationships (Funk & Rogge, 2007). Items are measured using Likert scale items with different scoring scales. In terms of reliability, the measure has a high internal consistency of .98. The CSI shows strong construct validity through its positive association with relationship satisfaction (Funk & Rogge, 2007).

Mental Health Stigma. The Stigma of Symptoms Measure is a 20-item assessment used to measure the stigma and labels related to patients at high clinical risk for psychosis (Yang et al., 2015). Nine items are rated on a four-point scale ranging from 1 (Not at all) to 4 (A lot). Six items are rated on a five-point scale ranging from (Never) to 5 (Very Often). Five remaining items are answered using the dichotomous 'Yes'/'No' response format. The Stigma of Symptoms Measure contains five subscales: negative emotions(shame), positive emotions, secrecy, and experienced discrimination, and experienced support. In terms of reliability, the internal consistency of the Stigma of Symptoms are: Negative Emotions (Shame) (.74); Positive Emotions (.65); Secrecy (.63), and Experienced Discrimination (.84). There is evidence of construct validity due to negative emotion (shame) being moderately and positively associated with stereotype agreement and was significantly associated with anxiety (Yang et al., 2015).

Psychosis Risk. The Prodromal Questionnaire—Brief Version (PQ-B) is a 21-item questionnaire that measures psychosis risk syndromes (Loewy et al., 2011). Each question has a Yes/No response towards experiencing specific positive symptoms. Then participants responded on a 5-point Likert scale response towards how distressing experiencing the specific positive symptoms was as if they answered ("Yes") to the Yes/No response for the question. Likert scale responses range from strongly disagree = 1 to strongly agree = 5. (Loewy et al., 2011). In terms of reliability, the overall measure has good reliability

(α =.85). The PQ-B is shown to also have good convergent validity to its significant positive correlations with both Structured Interview for Prodromal Syndromes (SIPS) and Scale of Prodromal Symptoms (SOPS) scores of positive psychotic symptoms, negative psychotic symptoms, and general symptoms (Loewy et al., 2011).

Perceived Stress. The Perceived Stress Scale (PSS) is a 14-item instrument that measures participants' perceived stress levels within the last month (Cohen et al., 1983). Each item is measured on a 5-point Likert scale ranging from 0 (Never) to 4 (Very Often). Half the items are reversed scored. Higher total summative scores indicate higher levels of perceived stress. In terms of reliability, the PSS is shown to have high internal consistency, with multiple samples having Cronbach alpha values above .80. In terms of validity, PSS scores are significantly positively related to the frequency of stressful life events, the negative impact of stressful life events, and depression symptoms severity scores (Cohen et al.1983).

Data Analysis Plan

Descriptive statistics analyzed demographics and calculated the means of the predictor and dependent variables. Bivariate correlations examined relationships between study variables such as romantic quality variables, psychotic symptoms, and mental health stigma. Hierarchical linear regression analyzed how psychotic symptoms predict relationship quality variables while controlling for mental health stigma and stress. Independent samples t-test and ANOVA examined differences in study variables such as romantic quality variables, psychotic symptoms, and mental health stigma between ethnic groups and gender. All data analyses were conducted using R, Version 4.0.0 (R Core Team, 2020).

Results

This study examined how psychotic symptom severity is associated with romantic relationship quality factors (i.e., commitment, communication, satisfaction, and trust) among ethnic minorities while controlling for perceived stress and mental stigma. However, mental health stigma factors were removed from the analysis due to their low internal consistency within the sample. Within Chapter 4, all the data preparation and statistical procedures conducted in this have been discussed. This chapter included a discussion of the data preparation, parametric assumptions associated with the statistical models chosen for data analysis, the demographic results, the correlation analysis, the results from the statistical models chosen to answer the study's research question, and a brief concluding summary of the study findings.

Data Preparation and Parametric Assumptions

First, participants with greater than 50% missing data on the scale items were removed from the study (Hair et al., 2018). Then the initial sample was filtered to participants that fit the inclusion criteria for the study (i.e., being an ethnic minority, currently in a romantic relationship, or have been in one within the last year of completing the survey and having experienced psychosis at least once within their lifetime). The initial sample size for the study was 1441 participants. However, after filtering the dataset, the final sample size consists of 411 participants.

After filtering the dataset, Little's MCAR test was conducted to examine the type of missing data present among the scale items of the final sample. The missing data in the dataset is considered MCAR because the results of Little's MCAR test were found to be not significant ($\chi^2\ (11768) = 3134,\ n = 411, p = 1.00$) (Tabachnick & Fidell, 2018). The percentage of missing data for the scale items showed that none of the scale variables had missing data greater than 5%. Since the rate of missing data was shown to be minimal, any missing data imputation method is found to be acceptable for the dataset (Tabachnick & Fidell, 2018). The missing data imputation method used to replace missing data was multiple imputations.

The analysis conducted to answer the current study research question is hierarchical linear regression. Six hierarchical linear regression models were conducted to answer the study's research question. Before conducting hieratical linear regression analysis, linear regression parametric assumptions

were tested. Corrections to the model were implemented and discussed for models with violations of any linear regression parametric assumptions.

Demographic Results

The sample consisted of 411 participants. The average age for the sample was 26.54 (*SD* = 4.78). The average length of romantic relationship duration for the sample was 3.55 (*SD* = 5.68). The average length of cohabitation with their current romantic partner for the sample was 3.01 (*SD* = 2.67). For gender: male (*n* = 252, 61.30%) and female (*n*=111, 27.00%). Most of the sample was Asian American or Asian (*n* = 137, 33.30%), followed by Hispanic or LatinX (*n* = 115, 28.00%) and African American (*n*=77, 18.70%). In terms of sexual orientation, most of the sample was heterosexual/straight (*n* = 222, 54.00%). Please see table 1 in appendix E for more detailed demographics.

Correlation Results

As can be seen in table 2 (appendix F), correlational results showed that psychotic symptoms severity is significantly correlated with perceived stress (r = .36, p <.001), relationship commitment (r = .14, p =.004), constructive communication (r = .14, p =.010), self-demands – partner withdraws (r = .29, p <.001), partner demands – self withdraws (r = .28, p <.001), and relationship trust (r = .25, p <.001). Psychotic symptoms was not significantly correlated with relationship satisfaction (r = -.04, p =.397).

Inferential Statistics Results

Research Question 1A

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict relationship commitment while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant ($F(1,409) = 94.74$, p <.001, R^2 = .19). Perceived stress (b = .14, p <.001) was found to be a significant positive predictor of relationship commitment. At step 2, the model was also found to be statistically significant (F (2,408) = 47.33, p <.001., R^2 = .19). However, the change in the model was not statistically significant (R^2 Δ =.00, F Δ = .12, p = .727). Only perceived stress (b = .14, p <.001) was found to be a significant predictor when adding psychotic symptoms to the model. See table 3 in Appendix G.

The normality of error, homogeneity of error, and independence of error assumptions were violated and, therefore, statistically corrected. The corrected model also showed that perceived stress was the only significant predictor. The results of the corrected model are displayed in table 4 (appendix G).

Research Question 1B

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict constructive communication patterns while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant (F (1,409) = 117.3, p <.001., R^2 = .22). Perceived stress (b = .37, p <.001) was found to be a significant positive predictor of constructive communication patterns. At step 2, the model was also found to be statistically significant (F (2,408) = 59.26, p <.001., R^2 = .23). However, the change in the model was not statistically significant (R^2 Δ =.01, F Δ = *44.37*, p = .277). Only perceived stress (b = .39, p <.001) was found to be a significant predictor when adding psychotic symptoms to the model. See table 5 (Appendix H).

Due to the presence of parametric assumptions violations within the model, violation corrections were implemented within the model. The corrected model also showed that perceived stress was the only significant predictor. The results of the corrected model are displayed in table 6 (appendix H).

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict self-demand partner-withdraw communication patterns while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant (F (1,409) = 399.60, p <.001., R^2 =.49). Perceived stress (b = .97, p <.001) was found to be a significant positive predictor of self-demand partner-withdraw communication patterns. In step 2, the model was also found to be statistically significant (F (2,408) = 199.7, p <.001., R^2 =.49). However, the change in the model was not statistically significant (R^2 Δ =.00, F *Δ =.39*, p = .532). Only perceived stress (b = .96, p <.001) was found to be a significant predictor when adding psychotic symptoms to the model. See table 7 (Appendix H).

Due to the presence of parametric assumptions violations within the model, violation corrections were implemented within the model. The corrected model also showed that perceived stress was the only significant predictor. The results of the corrected model are displayed in table 8 (Appendix H).

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict partner-demands self-withdraws communication patterns while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant (F (1,409) = 416.80, p <.001., R^2 =.50). Perceived stress (b = .98, p <.001) was found to be a significant positive predictor of partner-demands self-withdraw communication patterns. In step 2, the model was also found to be statistically significant (F (2,408) = 209.00, p <.001., R^2 =.51). However, the change in the model was not statistically significant (R^2 Δ =.01, F Δ =1.11, p = .292). Only perceived stress (b = .96, p <.001) was found to be a significant predictor when adding psychotic symptoms to the model. See table 9 (Appendix H).

Due to the presence of parametric assumptions violations within the model, violation corrections were implemented within the model. The corrected model also showed that perceived stress was the only significant predictor. The results of the corrected model are displayed in table 10 (Appendix H).

Research Question 1C

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict relationship satisfaction while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant (F (1,409) = 38.33 p <.001., R^2 =.09). Perceived stress (b = .51, p <.001) was found to be a significant positive predictor of relationship satisfaction. In step 2, the model was also found to be statistically significant (F (2,408) = 25.43, p <.001., R^2 =.11). The change in the model was statistically significant (R^2 Δ =.02, F Δ =11.54., p < .001). Perceived stress (b = .61, p <.001) and psychotic symptoms (b = -.34, p = .001) were found to be significant predictors of relationship satisfaction. See table 11(Appendix I).

Due to the presence of parametric assumptions violations within the model, violation corrections were implemented within the model. The corrected model also showed that psychotic symptoms were a significant predictor of relationship satisfaction while controlling for perceived stress. The results of the corrected model are displayed in table 12 (Appendix I).

Research Question 1D

Hierarchical linear regression was conducted to examine how much psychotic symptoms severity can predict relationship trust while controlling for perceived stress levels. At Step 1, the model was found to be statistically significant (F (1,409) = 402.10 p <.001., R^2 =.50). Perceived stress (b = 1.54, p <.001) was found to be a significant positive predictor of relationship trust. In step 2, the model was also found to be statistically significant (F (2,408) = 200.70, p <.001., R^2 =.50). However, the change in the model was not statistically significant (R^2 Δ =.00, $F \Delta$ =.09, p = .768). Only perceived stress (b = 1.54, p <.001) was found to be a significant predictor when adding psychotic symptoms to the model. See table 13 (Appendix J).

Due to the presence of parametric assumptions violations within the model, violation corrections were implemented within the model. The corrected model also showed that perceived stress was the only significant predictor. The results of the corrected model are displayed in table 14 (appendix J).

Gender and Ethnicity Differences in Main Study Variables

A series of Kruskal Wallis tests were conducted to examine differences in psychotic symptoms severity, perceived stress, and romantic relationship quality factors based on gender identity. The Kruskal Wallis test was conducted to correct the independence of error assumption violation when conducting one-way ANOVA to examine group differences. There were significant gender identity differences for psychotic symptoms ($\chi^2(4) = 23.19$, p < .001) and relationship satisfaction ($\chi^2(4) = 18.95$, p <.001).

Dunn pairwise test with Benjamini Hochberg p-value adjustment found significant differences in psychotic symptoms between males and females (p = .008), males and transgender males (p = .018), and males and transgender females (p = .018). Males were found to have significantly higher psychotic symptoms (Md = 38) compared to females (Md = 35), transgender-males (Md = 34), and transgender-females (Md = 33).

Dunn pairwise test with Benjamini Hochberg p-value adjustment found significant differences in romantic relationship satisfaction between females and gender-variant/non-conforming (p < .001), and males and gender-variant/non-conforming (p = .001). Females (Md = 84) and Males (Md = 81) were

found to have significantly higher romantic relationship satisfaction scores compared to gender-variant/non-conforming participants (*Md* = 72.5)

A series of Kruskal Wallis tests were conducted to examine differences in psychotic symptoms severity, perceived stress, and romantic relationship quality factors based on ethnicity. The Kruskal Wallis test was conducted to correct the independence of error assumption violation when conducting one-way ANOVA to examine group differences. The "Not Listed" ethnicity group was removed from this analysis since only two participants were within that group. There were significant ethnic differences in psychotic symptoms ($\chi^2(4) = 15.12$, p = .004).

Dunn pairwise test with Benjamini Hochberg p-value adjustment found significant differences in psychotic symptoms between African Americans/Blacks and Asian Americans/Asians (*p* = .034), African Americans/Blacks and Native Americans (*p* = .014), Pacific Americans and Native Americans (*p* = .027), and Hispanics/Latinx and Native Americans (*p* = .027). Native Americans (*Md* = 34) had significantly lower psychotic symptoms than African Americans/Blacks (*Md* = 39), Pacific Americans (*Md* = 38.5), and Hispanics/Latinx (*Md* = 38). African Americans/Blacks had significantly higher psychotic symptoms than Asian Americans/Asians (*Md* = 36).

Discussion

This study examined how psychotic symptom severity is associated with romantic relationship quality factors (i.e., commitment, communication, satisfaction, and trust) among ethnic minorities while controlling for perceived stress and mental stigma. The mental health stigma factors were removed from the analysis since they had low internal consistency within the final sample. The results showed that the research hypothesis was partially supported. Psychotic symptoms were only a significant predictor of relationship satisfaction when controlling for perceived stress. Higher levels of psychotic symptoms was found to be related to lower levels of relationship satisfaction. Higher levels of perceive stress was found to be associated with higher levels of all romantic relationship quality factors.

These findings has been aligned with previous research. Previous research found that symptoms of psychosis (hallucination and delusions) are associated with a negative impact on the romantic relationship of persons with schizophrenia (Seeman, 2013). Symptoms of mania were also found to negatively affect intimate partner relationships (Sheets & Miller, 2010). When examining subclinical paranoia, more paranoid individuals experience poorer relationship satisfaction and are not associated with increased psychotic symptoms (Springfield et al., 2021). The negative impact psychotic symptoms have on relationship satisfaction is due to paranoid delusions, depression, and anxiety (Springfield et.al., 2021; Martin & Penn, 2001; Combs & Penn, 2004; and Freeman et.al., 2011).

The current study found that psychotic symptoms were not a significant predictor of relationship communication, commitment, and trustworthiness. This finding goes against what has been found in previous research. Previous studies have found that higher psychotic symptoms were shown to be negatively related to trust in romantic partners (Fett et.al., 2016; Kéri et al., 2009). The lack of trust in romantic relationships due to the psychotic symptoms is shown to be contributed by intrusive thoughts and delusions (Budziszewska et al., 2020). Psychotic symptoms are shown to make social and emotional functioning within romantic relationships more difficult (Budziszewska et al., 2020). Participants with schizophrenia were shown to have poorer martial and romantic relationship adjustments compared to individuals who are diagnosed with serious mental illnesses such as major depressive disorder and bipolar

disorder (Aggarwak et al., 2019; Vibba et al., 2013). One possible reason the study conflicted with previous research is the lack of measuring participants' actual diagnosis regarding psychotic symptoms. The study was unable to identify is participants psychotic symptoms were diagnosis related or external circumstance related. Without knowing participants' diagnosis, study could not determine how consistent participants psychotic symptoms were.

Implications for Research and Clinical Practice

Psychosis and romantic relationships are not extensively researched, especially regarding the well-being of relationships and/or protective factors influencing romantic relationships for persons experiencing psychosis. This is due to stigma and the reluctance of mental health professionals to discuss relational issues with patients (Nnaji & Friedman, 2008). Studies have shown that many nurses and psychiatric professionals have disclosed being uncomfortable addressing sexual and romantic relationship problems when supporting individuals with a psychotic disorder. This is due to the assumption that this population is either asexual or the belief that these individuals do not have the competence to perform treatment interventions (Nnaji & Friedman, 2008; Ostman & Bjorkman, 2013). Such views or stigma are barriers for clients disclosing their experiences of romantic relationships and sexuality (Wright & Martin, 2003).

The well-being of a person's physical and mental health is contingent on healthy romantic relationships (Loving & Slatcher, 2013). This study suggest that a partner's lifestyle is often influenced by their spouses and can contribute to overall medical health and immune functioning (Cloutier et al., 2021). Single individuals tend to experience an increased risk of depression, anxiety, and somatic symptoms, whereas healthy relationships have positively impacted the partners' well-being (Cloutier et al., 2021). Future research and clinical practice should explore the positive influence romantic relationships can have on the clinical treatment of individuals with psychosis and/or SMI.

The importance of romantic relationships for people who experience psychosis is profound. Healthy romantic relationships have been proven to increase overall well-being. They have been shown to decrease positive and negative symptoms of psychosis, decrease suicidality, and better quality of life outcomes (Cloutier et al., 2021, White et al., 2021). Lamster et al. (2017) found that for persons with psychosis,

loneliness has been positively associated with paranoid thoughts, depression, anxiety, internalized stigmas, and quality of life. The feeling of loneliness is profound in this population; relationships have been proven to heighten the feeling of "mattering to others" as well as promoting higher resilience to stress, which has been linked to partners providing emotional, practical, and financial support (Simon, 2014; French & Willisms, 2007, p.159). Study results were shown to be consistent with previous research findings when looking at the overall better quality of life while in healthy romantic relationships.

Clinicians must consider how psychosis or SMI diagnosis can impact the experience of sexuality and romantic relationships since psychotic disorders and dating typically co-occurs in young adulthood (Redmond, Larkin, & Harrop, 2010). Clinicians would have more information about the barriers for people with SMI in a romantic relationship and can incorporate romantic relationship inquiries as part of therapeutic assessments. In terms of symptom management, it would help inform clinicians to focus more on those treatments or better-quality relationship outcomes. Since romantic relationships were found to be a protective factor of individual well-being.

Clinicians can incorporate the following practices to help develop better relationship quality and understanding by incorporating discussions and inquiries regarding relationship quality for persons experiencing psychosis or diagnosed with a psychotic disorder. Having dialogues or discussions of current relationship stressors or problems and providing guidance, psychoeducation, and support to help reduce relationship challenges while encouraging relationship stability and growth. Also, having couples therapy or inviting both partners to sessions to help understand and intervene with healthy relationship practices. Lastly, providing psychoeducation on relationship qualities and the effects they may or may not have on the romantic relationship.

Limitations

There are numerous limitations associated with the current study. First and foremost, the mental health stigma variables were removed from the analysis since the instruments were unreliable within the current sample. The study only assessed the participants' self-reports of romantic relationship quality factors, not the partners themselves. The study did not also inquire about current relationship issues, which

would have added more information regarding the quality of romantic relationships. In addition, due to the cross-section survey design, the study cannot imply any causal inference with the results.

Along with methodological issues, various sampling limitations were present within the study. For instance, despite the large sample size, the study did use convenient sampling. Since the survey was distributed online, it is challenging to generalize study results to specific populations. Furthermore, there are demographic biases in terms of gender and sexual orientation. The majority of the sample were either male and/or heterosexuals. These demographic biases indicate study results might be biased towards these specific demographics within ethnic minorities.

Future Research

Future research should focus on examining possible mediating and confounding factors associated with the relationship between psychotic symptoms and romantic relationship quality such as diagnosis and relationship background. Examining potential mediating and confounding factors can further explain the relationship between psychotic symptoms and romantic relationship quality. Future studies should also examine the romantic relationship quality perception of romantic partners of individuals with psychosis. This information can help assess the overall quality of the romantic relationship and identify if both partners perceive the quality of their relationship as similar to each other. The relationship between psychotic symptoms and romantic relationship quality should be examined using a longitudinal design to impact the long-term effect psychotic symptoms have on individuals' romantic relationships quality. Furthermore, differences in the relationship between psychotic symptoms and romantic relationship quality within different ethnic minority groups and between ethnic minority groups and non-ethnic minority groups should be explored to assess cultural and ethnic background influences towards the relationships.

Conclusion

This study aimed to examine the association between psychotic symptoms severity and romantic relationship quality factors amongst ethnic minority young adults. Overall, the study’s main finding showed that the severity of psychotic symptoms was a significant negative predictor of relationship satisfaction. Higher psychotic symptoms were negatively associated with relationship satisfaction while

controlling for perceived stress levels. Psychotic symptoms were found to not significantly predict all the other relationship quality factors such as communication, commitment, and trustworthiness. Perceived stress was found to be a significant positive predictor of all the relationship quality factors. Higher perceived stress levels were associated with higher levels of romantic relationship quality factors. Study results suggest that more therapeutic interventions and psychoeducation regarding the well-being of romantic relationships for people experiencing psychosis can help to improve their interpersonal/intimate partner experiences. Healthy romantic relationships have been shown to be a protective factor for well-being among persons with psychosis (Cloutier et al., 2021; Loving & Slatcher, 2013) . Due to the high amount of stigma associated with romantic relationships for person experiencing psychosis, future research should focus on developing therapeutic interventions towards healthier romantic relationship-building strategies for psychotic symptom-related clients.

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Appendix A

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Below is a description of the research procedures and an explanation of your rights as a research participant. You should read this information carefully. If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on this consent form. You are entitled to and will receive a copy of this form.

You have been asked to participate in a research study entitled The Relationship between Psychotic Symptoms and Romantic Relationship Quality among Young Adult Ethnic Minorites conducted by Tashagaye Mckenzie, a graduate student in the Department of Clinical Psychology at the University of San Francisco. This faculty supervisor for this study is Dr. David A. Martinez.

WHAT THE STUDY IS ABOUT:
The purpose of this research study is to investigate how experiences and severity of psychosis can impact romantic relationship quality factors such as commitment, satisfaction, communication, and trustworthiness among ethnic minorities.

WHAT WE WILL ASK YOU TO DO:
Upon consent and enrollment in the study, you will be asked to fill out a survey online that will take approximately 25 minutes to complete. This survey will ask questions about your history experiencing psychotic symptoms, romantic relationship quality factors and general demographics.

DURATION AND LOCATION OF THE STUDY:
Your participation in this study will involve completing a 25-minute long online questionnaire. There are no in-person requirements for this study. The questionnaire can be filled out online and a link can be sent via email.

POTENTIAL RISKS AND DISCOMFORTS:
The research procedures described above may involve the following risks and discomforts: It is possible that completing online questionnaires in the study may cause mild discomfort. If you

wish, you may choose to withdraw your consent and discontinue your participation at any time during the study without penalty.

BENEFITS:
You will receive no direct benefit from your participation in this study; however, this study may benefit others in the future by providing important information on how psychosis symptoms can affect romantic relationship quality factors among ethnic minorities. This study may also provide direction for future culturally informed interventions and services for provider working with this population.

PRIVACY/CONFIDENTIALITY:
Any data you provide in this study will be kept confidential unless disclosure is required by law. In any report we publish, we will not include information that will make it possible to identify you or any individual participant. Specifically, we will keep your name and any other identifying information separate from the data that we analyze regarding your history experiencing psychotic symptoms, perceptions of the quality of your romantic relationships, and demographics. Your responses will be recorded with an ID code. One password-protected master list will contain contact information for compensation purposes. The master list will be stored on the main researcher's computer which is password protected.

COMPENSATION/PAYMENT FOR PARTICIPATION:

After each questionnaire is completed you will be entered into a drawing to receive one of six $25 amazon gift cards for your participation in this study.

VOLUNTARY NATURE OF THE STUDY:

Your participation is voluntary, and you may refuse to participate without penalty. Furthermore, you may skip any questions or tasks that make you uncomfortable and may discontinue your participation at any time without penalty. In addition, the researcher has the right to withdraw you from participation in the study at any time.

OFFER TO ANSWER QUESTIONS:

Please ask any questions you have now. If you have questions later, you should contact the principal investigator: Tashagaye Mckenzie M.S. at 347-898-0693 or tmckenzie@dons.usfca.edu. For general questions you can also contact: David A. Martinez, Ph.D., dmartinez9@usfca.edu, 415-422-4247. If you have questions or concerns about your rights as a participant in this study, you may contact the University of San Francisco Institutional Review Board at IRBPHS@usfca.edu.

I HAVE READ THE ABOVE INFORMATION. ANY QUESTIONS I HAVE ASKED HAVE BEEN ANSWERED. I AGREE TO PARTICIPATE IN THIS RESEARCH PROJECT AND I WILL RECEIVE A COPY OF THIS CONSENT FORM.

_____

PARTICIPANT'S SIGNATURE *DATE*

Appendix B

Demographic Questionnaire

1. What is your current age? _____

2. What is your gender identity? (Please circle the choice below that applies)

Female

Male

Gender-Variant/ Non-Conforming

Transgender-Male

Transgender-Female

Not Listed. Please Specify _____

3.What is your ethnicity? (Please circle the choice below that applies)

African American or Black

Asian American or Asian

Caucasian

Hispanic or Latinx

Native American

Pacific American

Not Listed. Please Specify: _____

4.What is your sexual orientation? (Please circle the choice below that applies)

Asexual

Bisexual

Gay/Lesbian

Heterosexual/Straight

Pansexual

Queer

Not listed. Please Specify _____

5.What is your current relationship status? (Please circle the choice below that applies)

Single

In a romantic relationship

Married

Divorced

Widowed

Not Listed. Please Specify _____

In you are in a romantic relationship or not single, please answer questions 6 -11. If you are single skip to question 12.

6. How long have you been in your current romantic relationship? _____

7. What is the gender identity of your current romantic partner? (Please circle the choice below that applies. (Please circle the choice below that applies)

Male

Female

Gender-Variant/ Non-Conforming

Transgender-Male

Transgender-Female

Not Listed. Please Specify _____

8. What is the ethnicity of your current romantic partner? (Please circle the choice below that applies)

African American or Black

Asian American or Asian

Caucasian

Hispanic or Latinx

Native American

Pacific American

Not Listed. Please Specify: _____

9. Do you currently cohabitate with your current romantic partner? (Please circle the choice below that applies)

Yes

No

10. If you said yes to the previous question, how long have you been cohabiting with your romantic partner? _____

11. Are you in an open sexual relationship with your romantic partner? (Please circle the choice below that applies)

Yes

No

12. If you are single, how long you have been in a romantic relationship? (Please circle the choice below that applies)

_____

Have you ever experienced psychosis before? (Please circle the choice below that applies)

Yes

No

Commitment to the Relationship Measure

Version Attached: Full Test

Note: Test name created by PsycTESTS

PsycTESTS Citation:
Luciano, E. C., & Orth, U. (2017). Commitment to the Relationship Measure [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t59403-000

Instrument Type:
Rating Scale

Test Format:
Responses to each of 4 items are given on a 5-point scale ranging from 1 (not at all) to 5 (absolutely).

Source:
Luciano, Eva C., & Orth, Ulrich. (2017). Transitions in romantic relationships and development of self-esteem. Journal of Personality and Social Psychology, Vol 112(2), 307-328. doi: 10.1037/pspp0000109

PsycTESTS™ is a database of the American Psychological Association

doi: http://dx.doi.org/10.1037/t59403-000

Commitment to the Relationship Measure

Items
I would like for our partnership to last for a long time.
I'm counting on a long-term future together with [name of current partner].
If our partnership no longer makes us happy, then separation from [name of current partner] would be the only way out. [reverse-scored]
In case of serious problems with [name of current partner], I can imagine separating. [reverse-scored]

Note . Responses were measured on a 5-point scale ranging from 1 (*not at all*) to 5 (*absolutely*).

Communication Patterns Questionnaire

Version Attached: Full Test

PsycTESTS Citation:
Christensen, A., & Sullaway, M. (1984). Communication Patterns Questionnaire [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t02529-000

Instrument Type:
Inventory/Questionnaire

Test Format:
Respondents rate each item on a nine-point scale according to whether the pattern would be very unlikely (1) to very likely (9) to occur when they were attempting to deal with a problem in their relationship.

Source:
Noller, Patricia, & White, Angela. (1990). The validity of the Communication Patterns Questionnaire. Psychological Assessment: A Journal of Consulting and Clinical Psychology, Vol 2(4), 478-482. doi: 10.1037/1040-3590.2.4.478

doi: 10.1037/t02529-000

Communication Patterns Questionnaire

Items

When a problem in the relationship arises

Mutual avoidance
Mutual discussion
Man discusses/woman avoids
Woman discusses/man avoids

During discussion of relationship problem

Mutual blame
Mutual expression
Mutual threat
Mutual negotiation
Man demands/woman withdraws
Woman demands/man withdraws
Man criticizes/woman defends
Woman criticizes/man defends
Man pressures/woman resists
Woman pressures/man resists
Man emotional/woman logical
Woman emotional/man logical
Man threatens/woman backs down
Woman threatens/man backs down
Man verbally aggressive
Woman verbally aggressive
Man physically aggressive
Woman physically aggressive

After discussion of a relationship problem

Mutual understanding
Mutual withdrawal
Mutual resolution
Mutual withholding
Mutual reconciliation
Man feels guilty/woman feels hurt
Woman feels guilty/man feels hurt
Man reconciles/woman withdraws
Woman reconciles/man withdraws
Man pressures/woman resists
Woman pressures/man resists

Couples Satisfaction Index

Version Attached: Full Test

PsycTESTS Citation:
Funk, J. L., & Rogge, R. D. (2007). Couples Satisfaction Index [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t01850-000

Instrument Type:
Index/Indicator

Test Format:
Likert-type with multiple anchor values.

Source:
Funk, Janette L., & Rogge, Ronald D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. Journal of Family Psychology, Vol 21(4), 572-583. doi: 10.1037/0893-3200.21.4.572

PsycTESTS™ is a database of the American Psychological Association

doi: 10.1037/t01850-000

Couples Satisfaction Index
CSI

Items

1. Please indicate the degree of happiness, all things considered, of your relationship.

Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
0	1	2	3	4	5	6

Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
2. Amount of time spent together	5	4	3	2	1	0
3. Making major decisions	5	4	3	2	1	0
4. Demonstrations of affection	5	4	3	2	1	0

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
5. In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
6. How often do you wish you hadn't gotten into this relationship?	0	1	2	3	4	5

	Not at all True	A little True	Somewhat True	Mostly True	Almost Completely True	Completely True
7. I still feel a strong connection with my partner	0	1	2	3	4	5
8. If I had my life to live over, I would marry (or live with/date) the same person	0	1	2	3	4	5
9. Our relationship is strong	0	1	2	3	4	5
10. I sometimes wonder if there is someone else out there for me	5	4	3	2	1	0
11. My relationship with my partner makes me happy	0	1	2	3	4	5
12. I have a warm and comfortable relationship with my partner	0	1	2	3	4	5
13. I can't imagine ending my relationship with my partner	0	1	2	3	4	5
14. I feel that I can confide in my partner about virtually anything	0	1	2	3	4	5
15. I have had second thoughts about this relationship recently	5	4	3	2	1	0
16. For me, my partner is the perfect romantic partner	0	1	2	3	4	5
17. I really feel like part of a team with my partner	0	1	2	3	4	5
18. I cannot imagine another person making me as happy as my partner does	0	1	2	3	4	5

	Not at all	A little	Somewhat	Mostly	Almost Completely	Completely
19. How rewarding is your relationship with your partner?	0	1	2	3	4	5

doi: 10.1037/t01850-000

Couples Satisfaction Index
CSI

Items

	Not at all	A little	Somewhat	Mostly	Almost Completely	Completely
20. How well does your partner meet your needs?	0	1	2	3	4	5
21. To what extent has your relationship met your original expectations?	0	1	2	3	4	5
22. In general, how satisfied are you with your relationship?	0	1	2	3	4	5

	Worse than all others (Extremely bad)					Better than all others (Extremely good)
23. How good is your relationship compared to most?	0	1	2	3	4	5

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
24. Do you enjoy your partner's company?	0	1	2	3	4	5
25. How often do you and your partner have fun together?	0	1	2	3	4	5

For each of the following items, select the answer that best describes *how you feel about your relationship*. Base your responses on your first impressions and immediate feelings about the item.

26.	INTERESTING	5	4	3	2	1	0	BORING
27.	BAD	0	1	2	3	4	5	GOOD
28.	FULL	5	4	3	2	1	0	EMPTY
29.	LONELY	0	1	2	3	4	5	FRIENDLY
30.	STURDY	5	4	3	2	1	0	FRAGILE
31.	DISCOURAGING	0	1	2	3	4	5	HOPEFUL
32.	ENJOYABLE	5	4	3	2	1	0	MISERABLE

Note. CSI(4) is made up of items 1, 12, 19, and 22. CSI(16) is made up of items 1, 5, 9, 11, 12, 17, 19, 20, 21, 22, 26, 27, 28, 30, 31, and 32.

The 16-item Version of the Prodromal Questionnaire (PQ-16)

				If TRUE: how much distress did you experience?			
				None	Mild	Moderate	Severe
1.	I feel uninterested in the things I used to enjoy.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
2.	I often seem to live through events exactly as they happened before (déjà vu).	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
3.	I sometimes smell or taste things that other people can't smell or taste.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
4.	I often hear unusual sounds like banging, clicking, hissing, clapping or ringing in my ears.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
5.	I have been confused at times whether something I experienced was real or imaginary.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
6.	When I look at a person, or look at myself in a mirror, I have seen the face change right before my eyes.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
7.	I get extremely anxious when meeting people for the first time.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
8.	I have seen things that other people apparently can't see.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
9.	My thoughts are sometimes so strong that I can almost hear them.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
10.	I sometimes see special meanings in advertisements, shop windows, or in the way things are arranged around me.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
11.	Sometimes I have felt that I'm not in control of my own ideas or thoughts.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
12.	Sometimes I feel suddenly distracted by distant sounds that I am not normally aware of.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
13.	I have heard things other people can't hear like voices of people whispering or talking.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
14.	I often feel that others have it in for me.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**

15.	I have had the sense that some person or force is around me, even though I could not see anyone.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**
16.	I feel that parts of my body have changed in some way, or that parts of my body are working differently than before.	□ True	□ False	□**0**	□ **1**	□ **2**	□ **3**

TRUST IN CLOSE RELATIONSHIPS SCALE

Reference:

Rempel, J.K., Holmes, J.G. & Zanna, M.P. (1985). Trust in close relationships., 95-112. *Journal of Personality and Social Psychology, 49*

Description of Measure:

A 17-item measure designed to gauge levels of trust in one's relationship partner. Each item is answered based on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

The scale can be divided up into the following subscales:

1.) Predictability
2.) Dependability
3.) Faith

Abstracts of Selected Related Articles:

Bradbury, T. N. & Fincham, F. D. (1990). Attributions in marriage: Review and critique.
Psychological Bulletin, 107, 3-33.

The prevailing behavioral account of marriage must be expanded to include covert processes. This article therefore examines the attributions or explanations that spouses make for marital events. A review indicates that dissatisfied spouses, compared with satisfied spouses, make attributions for the partner's behavior that cast it in a negative light. Experimental, clinical outcome, and longitudinal data suggest further that attributions may influence marital satisfaction. Rival hypotheses for these findings are examined. Because continued empirical development in this domain depends on conceptual progress, a framework is presented that integrates attributions, behavior, and marital satisfaction. This framework points to several topics that require systematic study, and specific hypotheses are offered for research on these topics. It is concluded that the promising start made toward understanding marital attributions holds considerable potential for enriching behavioral conceptions of marriage.

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes.
Journal of Personality, 63, 397-427.

The assumption that there are innate integrative or actualizing tendencies underlying personality and social development is reexamined. Rather than viewing such processes as either nonexistent or as automatic, I argue that they are dynamic and dependent upon social -contextual supports pertaining to basic human psychological needs. To develop this viewpoint, I conceptually link the notion of integrative tendencies to specific developmental processes, namely intrinsic motivation; internalization; and emotional integration. These processes are then shown to be facilitated by conditions that fulfill psychological needs for autonomy, competence, and relatedness, and forestalled within contexts that

frustrate these needs. Interactions between psychological needs and contextual supports account, in part, for the domain and situational specificity of motivation, experience, and relative integration. The meaning of psychological needs (vs. wants) is directly considered, as are the relations between concepts of integration and autonomy and those of independence, individualism, efficacy, and cognitive models of "multiple selves."

Yamagishi, T. (1986) . The provisioning of a sanctioning system as a public good. *Journal of Personality and Social Psychology, 51*, 110-116.

Both the rational-structural approach and the goal/expectation approach to the problem of public goods have theoretical difficulties. The structural approach requires the provision of a sanctioning system to solve the free rider problem. However, a sanctioning system is also a public good because its benefits can be enjoyed by all members regardless of their contribution to its provision. A new problem of the same kind is thereby created in the process of solving the original public good problem. The goal/expectation approach assumes the inducement of other members to mutual cooperation through individuals' cooperative actions, a situation which will be almost impossible in larger groups. To overcome these theoretical difficulties in the existing approaches, a new approach called the structural goal/expectation approach is proposed. According to this new approach, members who have realized the undesirable consequence of free riding and the importance of mutual cooperation will cooperate to establish a sanctioning system which assures other members' cooperation instead of trying to induce other members into mutual cooperation directly through cooperative actions, One important condition for their voluntary cooperation in the establishment of a sanctioning system is their realization that voluntarily based cooperation is impossible. Predictions derived from the new approach are supported in an experiment using 48 four-person groups.

Self Report Measures for Love and Compassion Research: *Trust*

Scale:

(taken from http://www.yorku.ca/rokada/psyctest/trust.doc)

Instructions:

Using the 7 point scale shown below, indicate the extent to which you agree or disagree with the following statements as they relate to someone with whom you have a close interpersonal relationship. Place your rating in the box to the right of the statement.

Strongly Disagree			Neutral			Strongly Agree
-3	-2	-1	0	1	2	3

1.	My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.	D
2.	Even when I don't know how my partner will react, I feel comfortable telling him/her anything about myself, even those things of which I am ashamed.	F
3.	Though times may change and the future is uncertain, I know my partner will always be ready and willing to offer me strength and support.	F
4.	I am never certain that my partner won't do something that I dislike or will embarrass me.	P
5.	My partner is very unpredictable. I never know how he/she is going to act from one day to the next.	P
6.	I feel very uncomfortable when my partner has to make decisions which will affect me personally.	P
7.	I have found that my partner is unusually dependable, especially when it comes to things which are important to me.	D
8.	My partner behaves in a very consistent manner.	P
9.	Whenever we have to make an important decision in a situation we have never encountered before, I know my partner will be concerned about my welfare.	F
10.	Even if I have no reason to expect my partner to share things with me, I still feel certain that he/she will.	F
11.	I can rely on my partner to react in a positive way when I expose my weaknesses to him/her.	F
12.	When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything.	F
13.	I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.	D
14.	I sometimes avoid my partner because he/she is unpredictable and I fear saying or doing something which might create conflict.	P
15.	I can rely on my partner to keep the promises he/she makes to me.	D
16.	When I am with my partner, I feel secure in facing unknown new situations.	F
17.	Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.	D

Scoring

The items marked with a D are the Dependency items. Items marked with an F are the Faith items, and Items marked with a P are the Predictability items.

One can score the questionnaire based on the 3 subscales separately, or combine the subscales to create an overall trust in close relationships score.

Self Report Measures for Love and Compassion Research: *Trust* Fetzer Institute

PSS-14

INSTRUCTIONS:

The questions in this scale ask you about your feelings and thoughts during THE LAST MONTH. In each case, you will be asked to indicate your response by placing an "X" over the circle representing HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

1. **In the last month, how often have you been upset because of something that happened unexpectedly?**
2. **In the last month, how often have you felt that you were unable to control the important things in your life?**
3. **In the last month, how often have you felt nervous and "stressed"?**
4. **In the last month, how often have you dealt successfully with day to day problems and annoyances?**
5. **In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?**
6. **In the last month, how often have you felt confident about your ability to handle your personal problems?**
7. **In the last month, how often have you felt that things were going your way?**

	Never	Almost Never	Sometimes	Fairly Often	Very Often
	0	1	2	3	4
8. In the last month, how often have you found that you could not cope with all the things that you had to do?	○	○	○	○	○
9. In the last month, how often have you been able to control irritations in your life?	○	○	○	○	○
10. In the last month, how often have you felt that you were on top of things?	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○

PSS-14

11. In the last month, how often have you been angered because of things that happened that were outside of your control?

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?

13. In the last month, how often have you been able to control the way you spend your time?

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Stigma of Symptoms Measure

Note: Test name created by PsycTESTS

PsycTESTS Citation:
Yang, L. H., Link, B. G., Ben-David, S., Gill, K. E., Girgis, R. R., Brucato, G., Wonpat-Borja, A. J., & Corcoran, C. M.
(2015). Stigma of Symptoms Measure [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t50896-000

Instrument Type:
Inventory/Questionnaire

Test Format:
This instrument consists of 20 items. Nine items are rated on a four-point scale with the options 1 (Not at all), 2 (A little), 3 (Moderately), and 4 (A lot). Six items are rated on a five-point scale with the options 1 (Never), 2 (Seldom), 3 (Sometimes), 4 (Often), and 5 (Very Often). Five items utilize a dichotomous "Yes"/"No" response format.

Source:
Yang, Lawrence H., Link, Bruce G., Ben-David, Shelly, Gill, Kelly E., Girgis, Ragy R., Brucato, Gary, Wonpat-Borja, Ahtoy J., & Corcoran, Cheryl M. (2015). Stigma related to labels and symptoms in individuals at clinical high-risk for psychosis. Schizophrenia Research, Vol 168(1-2), 9-15. doi: https://dx.doi.org/10.1016/j.schres.2015.08.004, © 2015 by Elsevier. Reproduced by Permission of Elsevier

Permissions:

Supplemental Table A

Labeling

Negative Emotions (Shame)	Percentage Agreed (%)	Present Study Mean (SD)
About coming to this program, I have felt different from others.	86.8%	2.4 (.83)
About coming to this program, I have felt embarrassed.	36.8%	1.4 (.55)
About coming to this program, I have felt ashamed.	26.3%	1.4 (.75)
Overall (Negative Emotions [Shame])		5.2 (1.54)
Response Set: "Not at all" = 1, "A little" = 2, "Moderately" = 3, "A lot" = 4		
Positive Emotions	Percentage Agreed (%)	Present Study Mean (SD)
About coming to this program, I have felt understood.	97.4%	3.0 (.93)
About coming to this program, I have felt hopeful.	97.4%	2.9 (.81)
About coming to this program, I have felt relieved.	89.5%	2.6 (.92)
About coming to this program, I have felt a sense of belonging.	76.3%	2.2 (.92)
About coming to this program, I have felt empowered.	60.5%	1.9 (.99)
About coming to this program, I have felt proud.	50.0%	1.7 (.89)
Overall (Positive Emotions)		14.3 (4.09)
Response Set: "Not at all" = 1, "A little" = 2, "Moderately" = 3, "A lot" = 4		
Secrecy	Percentage Agreed (%)	Present Study Mean (SD)
I have told other people besides friends and family that I come to this program. (R)	86.8%	1.9 (.34)
I have told family members that I don't live with that I come to this program. (R)	63.2%	1.6 (.49)
I have told family members that I live with that I come to this program. (R)	39.5%	1.4 (.50)
I have told friends that I come to this program. (R)	34.2%	1.3 (.48)
I have told no one that I come to this program.	13.2 %	1.1 (.34)
Overall (Secrecy)		7.4 (1.30)
Response Set: "Yes" = 1, "No" = 2 [Note: "Percentage Agreed" indicates percentage who did not tell others, thus indicating more stigma]		

Experienced Discrimination	Percentage Agreed (%)	Present Study Mean (SD)
Because I am in this program, people have treated me differently.	28.9%	1.5 (.92)
Because I am in this program, people seem to be less comfortable with me.	23.7%	1.4 (.82)
Because I am in this program, people are a little afraid of me.	18.4%	1.3 (.81)
Because I am in this program, people hang out with me less.	10.5%	1.1 (.41)
Because I am in this program, people are unfair to me.	7.9%	1.1 (.53)
Overall (Experienced Discrimination)		6.5 (2.63)
Response Set: “Never” = 1, “Seldom” = 2, “Sometimes” = 3, “Often” = 4, “Very often” = 5		
Experienced Support	Percentage Agreed (%)	Present Study Mean (SD)
Because I am in this program, people are supportive of me.	78.9%	2.7 (1.23)
Response Set: “Never” = 1, “Seldom” = 2, “Sometimes” = 3, “Often” = 4, “Very often” = 5		

Symptoms

Negative Emotions	Percentage Agreed (%)	Present Study Mean (SD)
About my symptoms and experiences, I have felt different from others	92.1%	2.9 (.96)
About my symptoms and experiences, I have felt embarrassed	73.7%	2.3 (1.04)
About my symptoms and experiences, I have felt ashamed	68.4%	2.1 (1.02)
Overall (Negative Emotions [Shame])		7.4 (2.44)
Response Set: “Not at all” = 1, “A little” = 2, “Moderately” = 3, “A lot” = 4		
Positive Emotions	Percentage Agreed (%)	Present Study Mean (SD)
About my symptoms and experiences, I have felt understood	55.3%	1.9 (1.01)
About my symptoms and experiences, I have felt hopeful	57.9%	1.8 (.83)
About my symptoms and experiences, I have felt relieved	42.1%	1.6 (.76)
About my symptoms and experiences, I have felt empowered	42.1%	1.6 (.79)
About my symptoms and experiences, I have felt proud	28.9%	1.3 (.46)
Overall (Positive Emotions)		8.2 (2.55)
Response Set: “Not at all” = 1, “A little” = 2, “Moderately” = 3, “A lot” = 4		
Secrecy	Percentage Agreed (%)	Present Study Mean (SD)
I have told other people besides friends and family that I have symptoms (R)	65.8%	1.7 (.48)
I have told family members that I don’t live with that I have symptoms (R)	55.3%	1.6 (.50)
I have told family members that I live with that I have symptoms (R)	39.5%	1.4 (.50)
I have told friends that I have symptoms (R)	15.8%	1.2 (.37)
I have told no one that I have symptoms	13.2%	1.1 (.34)
Overall (Secrecy)		6.9 (1.41)
Response Set: “Yes” = 1, “No” = 2 [Note: “Percentage Agreed” indicates percentage who did not tell others, thus indicating more stigma]		
Experienced Discrimination	Percentage Agreed (%)	Present Study Mean (SD)

Because I have had symptoms, people have treated me differently	65.8%	2.1	(.99)
Because I have had symptoms, people seem to be less comfortable with me	50.0%	1.8	(1.00)
Because I have had symptoms, people seem to be a little afraid of me	42.1%	1.6	(.85)
Because I have had symptoms, people are unfair to me	34.2%	1.7	(1.10)

Because I have had symptoms, people hang out with me less Overall (Experienced Discrimination)
Response Set: “Never” = 1, “Seldom” = 2, “Sometimes” = 3, “Often” = 4, “Very often” = 5

Experienced Support

Because I have had symptoms, people are supportive of me
Response Set: “Never” = 1, “Seldom” = 2, “Sometimes” = 3, “Often” = 4, “Very often” = 5

Appendix C

CITI PROGRAM

Completion Date 22-Nov-2020
Expiration Date 22-Nov-2023
Record ID 38374001

This is to certify that:

Tashagaye Mckenzie

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Human Subjects Research (HSR)
(Curriculum Group)
Human Subjects Research (HSR)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

University of San Francisco

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w37251a1e-4812-4184-b828-8edc5dd6df3d-38374001

Appendix D

Volunteers Needed for Research Study on Young Adult Romantic Relationships and Psychosis

"The Association between Psychotic Symptoms and Romantic Relationship Quality among Young Adult Ethnic Minorites"

The Purpose

The purpose of the study is to examine the quality of romantic relationships for ethnic minority young adults with a history of psychosis. The study will investigate how experiences and severity of psychosis can impact romantic relationship quality factors such as commitment, satisfaction, communication, and trustworthiness. Individual who agree to participate in the study will be given numerous survey questionnaires to respond to. Survey questionnaires will include items involving history and perception or romantic relationships, history of psychotic symptoms and demographic questions.

What To Expect

Participants who click the survey link will first read the informed consent form for the study. For those who agree to participate, individual will then be presented with the survey questionnaires to complete, after completing the survey questionnaire, participants will be given debriefing material in terms on contact inform of resources for mental health supports for psychotic treatment.

Participant Compensation

Participants will be entered in a raffle where 6 random participants will received a 25$ Amazon gift card.

Inclusion Criteria

- At least 18 years of age
- Either currently within a romantic relationship or has been in one within a year time span
- Has at least one experience of psychotic symptoms within the last year.

Contact Info

- Tasha McKenzie
- tmckenzie@dons.usfca.edu
- 415-294-0867

Survey Link: https://usfca.qualtrics.com/jfe/form/SV_3VRtgiGrbmOLudL

Appendix E

Table 1. Demographics

Variables		*M*	*SD*
Age		26.54	4.78
Length of Relationship		3.55	5.68
Length of Cohabitation		3.01	2.67
Variable	*Categories*	*n*	*%*
Gender Identity	Female	111	27.00%
	Gender-Variant/ Non-Conforming	24	5.80%
	Male	252	61.30%
	Transgender Female	10	2.40%
	Transgender Male	11	2.70%
Ethnicity	African American or Black	77	18.70%
	Asian American or Asian	137	33.30%
	Hispanic or Latinx	115	28.00%
	Native American	46	11.20%
	Pacific American	34	8.30%
	Missing	2	0.50%
Sexual Orientation	Asexual	29	7.10%
	Bisexual	99	24.10%
	Gay/Lesbian	37	9.00%
	Heterosexual/Straight	222	54.00%
	Not listed. Please Specify:	1	0.20%
	Pansexual	12	2.90%
	Queer	4	1.00%
Relationship Status	Divorced	15	3.60%
	In a romantic relationship	245	59.60%
	Married	97	23.60%
	Single	44	10.70%
	Widowed	3	0.70%
Partner's Gender Identity	Female	196	47.70%
	Gender-Variant/ Non-Conforming	28	6.80%
	Male	141	34.30%
	Transgender-Female	3	0.70%
	Transgender-Male	15	3.60%
Partner's Ethnicity	African American or Black	53	12.90%
	Asian American or Asian	94	22.90%
	Caucasian	60	14.60%

	Hispanic or Latinx	93	22.60%
	Native American	37	9.00%
	Pacific American	37	9.00%
	Missing	2	0.50%
Cohabitation Status	No	119	29.00%
	Yes	253	61.60%
Open Relationship Status	No	89	21.70%
	Yes	270	65.70%

Appendix F

Table 2. Correlation Matrix of Main Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Psychotic Symptoms	--										
2. Perceived Stress	.41**	--									
3. Relationship Commitment	.12*	.41**	--								
4. Constructive Communication	0.11	.41**	.51**	--							
5. Self-Demands - Partner Withdraw	.31**	.68**	.40**	.49**	--						
6. Partner Demands - Partner Withdraws	.32**	.69**	.39**	.47**	.92**	--					
7. Relationship Satisfaction	-.17**	.26**	.40**	.50**	.14*	0.11	--				
8. Relationship Trust	.24**	.67**	.58**	.60**	.59**	.57**	.53**	--			
9. Age	-0.07	-0.07	0	0.09	-.16**	-0.1	0.01	0.04	--		
10. Length of Relationship	-0.08	-0.03	0.08	.16*	-0.08	-0.08	0.14	.15*	0.03	--	
11. Length of Cohabitations	0.15	0.03	0.11	.23**	-0.05	-0.05	0.09	0.15	.55**	0.18	--

**p<.05, **p<.01*

Appendix G

Table 3. Hierarchical Regression Table for Predicting Relationship Commitment

	Predictor	*B*	*SE*	*T*	*P*
Step1	Perceived Stress	0.14	0.01	9.73	<.001
Step2	Perceived Stress	0.14	0.02	9.19	<.001
	Psychotic Symptoms	-0.01	0.02	-0.35	0.727

F (1,409) = 94.74, p <.001, R^2 = .19

F (2,408) = 47.33, p <.001., R^2 = .19

Table 4. Assumption Violations Corrected Final Step for Predicting Relationship

Predictor	*B*	*SE*	*t*	*P*
Perceived Stress	0.02	0.00	13.62	<.001
Psychotic Symptoms	0.00	0.00	-0.80	0.427

F (2,376) = 100.6, *p* <.001., R^2 = .35

Appendix H

Table 5. Hierarchical Regression Table for Predicting Relationship Communication – Constructive Communication

	Predictor	*B*	*SE*	*t*	*P*
Step1	Perceived Stress	0.37	0.03	10.83	<.001
Step2	Perceived Stress	0.39	0.04	10.49	<.001
	Psychotic Symptoms	-0.05	0.04	-1.09	0.277

F (1,409) = 117.3, *p* <.001., R^2 = .22
F (2,408) = 59.26, *p* <.001., R^2 = .23

Table 6. Assumption Violations Corrected Final Step of Predicting Relationship Communication – Constructive Communication

Predictor	*B*	*SE*	*T*	*P*
Perceived Stress	0.46	0.03	15.14	<.001
Psychotic Symptoms	-0.01	0.03	-0.45	0.653

F (2,387) = 138.2, *p* <.001., R^2 = .42

Table 7. Hierarchical Regression Table for Predicting Relationship Communication – Self-Demands Partner-Withdraws

	Predictor	*B*	*SE*	*t*	*P*
Step1	Perceived Stress	0.97	0.05	19.99	<.001
Step2	Perceived Stress	0.96	0.05	18.40	<.001
	Psychotic Symptoms	0.04	0.06	0.63	0.532

F (1,409) = 399.60, *p* <.001., R^2 =.49
F (2,408) = 199.7, *p* <.001., R^2 =.49

Table 8. Assumption Violations Corrected Final Step for Predicting Relationship Communication – Self-Demands Partner Withdraws.

Predictor	*B*	*SE*	*t*	*P*
Perceived Stress	1.06	0.05	23.16	<.001
Psychotic Symptoms	0.00	0.05	0.08	0.935

F (2,383) = 326.7, *p* <.001., R^2 = .63

Table 9. Hierarchical Regression Table for Predicting Relationship Communication – Partner-Demands Self-Withdraws

	Predictor	*B*	*SE*	*t*	*P*
Step1	Perceived Stress	0.98	0.05	20.41	<.001
Step2	Perceived Stress	0.96	0.05	18.65	<.001
	Psychotic Symptoms	0.06	0.06	1.06	0.292

F (1,409) = 416.80, *p* <.001., R^2 =.50

F (2,408) = 209.00, *p* <.001., R^2 =.51

Table 10. Assumption Violations Corrected Final Step for Predicting Relationship Communication – Partner-Demands Self-Withdraws

Predictor	*B*	*SE*	*T*	*P*
Perceived Stress	1.09	0.05	23.35	<.001
Psychotic Symptoms	-0.01	0.05	-0.18	0.856

F (2,388) = 328.4, *p* <.001., R^2 = .63

Appendix I

Table 11. Hierarchical Regression Table for Predicting Relationship Satisfaction

	Predictor	*B*	*SE*	*t*	*P*
Step1	Perceived Stress	0.51	0.08	6.19	<.001
Step2	Perceived Stress	0.61	0.09	7.07	<.001
	Psychotic Symptoms	-0.34	0.10	-3.40	0.001

F (1,409) = 38.33 *p* <.001., R^2 =.09

F (2,408) = 25.43, *p* <.001., R^2 =.11

Table 12. Assumption Violations Corrected Final Step for Predicting Relationship Satsifaction

Predictor	*B*	*SE*	*t*	*P*
Perceived Stress	0.01	0.00	13.42	<.001
Psychotic Symptoms	0.00	0.00	-2.23	0.027

F (2,388) = 83.25, *p* <.001., R^2 = .31

Appendix J

Table 13. Hierarchical Regression Table for Predicting Relationship Trust

	Predictor	*B*	*SE*	*t*	*P*
Step1	Perceived Stress	1.53	0.08	20.05	<.001
Step2	Perceived Stress	1.54	0.08	18.78	<.001
	Psychotic Symptoms	-0.03	0.09	-0.30	0.768

F (1,409) = 402.10 *p* <.001., R^2 =.50

F (2,408) = 200.70, *p* <.001., R^2 =.50

Table 14. Assumption Violations Corrected Final Step for Predicting Relationship Trust

Predictor	*B*	*SE*	*t*	*P*
Perceived Stress	0.03	0.00	27.25	<.001
Psychotic Symptoms	0.00	0.00	-0.57	0.573

F (2,388) = 434.4, *p* <.001., R^2 = .69