Borderline Personality Disorder and Perception of Friendship Quality

Sophia R. Cross

The University of North Carolina at Greensboro

Honors Thesis Advised by Dr. Rosemery Nelson-Gray

Abstract

Perceived friendship quality is an important aspect of physical and mental health (Nicholson, 2012; Pucker et al., 2019). Prior research on Borderline Personality Disorder (BPD) has examined romantic partner relationships, social network quantity, and social network functioning. No research has examined perception of friendship quality in individuals with elevated BPD traits. Given overall interpersonal relationship dysfunction in BPD, it is important to understand all relationship domains to fully conceptualize this dysfunction. This study aimed to fill that gap in research by examining perception of friendship quality in a male and female college sample of 265 participants with differing levels of BPD traits; these traits were measured using the Wisconsin Personality Disorder Inventory-Borderline Features (WISPI-BOR; Klein et al., 1993). Participants filled out self-report measures administered online. The study used a factor conceptualization of perceived friendship quality, the McGill Friendship Questionnaire (Mendelson & Aboud, 1999). Each of the functions of friendship was examined individually (Stimulating Companionship, Help, Intimacy, Reliable Alliance, Self-Validation, Emotional Security, Affection, and Satisfaction) (Mendelson & Aboud, 1999). Given the lack of prior research, this study was exploratory; exploratory hypothesis were that those higher in BPD traits would be lower in perceived friendship quality. Results indicated that there was not an overall significant relationship between BPD and perceived friendship quality. However, individual functions of perceived friendship quality were significantly related to borderline scores: Intimacy, Reliable Alliance, and Stimulating Companionship. Results of this study provide further insight into interpersonal dysfunction for individuals with elevated BPD traits.

Keywords: Borderline Personality Disorder, Friendships, Friendship Quality

Borderline Personality Disorder and Perception of Friendship Quality

It is evident that a lack of social support can have adverse effects on psychological and physical wellbeing (Nicholson, 2012; Pucker et al., 2019). Conversely, increased social support decreases stress (Hefner & Eisenberg, 2009), increases life expectancy (Nicholson, 2012), and decreases the severity of some psychiatric disorders and the correlated symptoms (Pucker et al., 2019). An important aspect of social support is friendship. Friendships are non-sexual relationships that are voluntary, involve spending time with one another, are reciprocal, and last for some amount of time (Perlman et al., 2015). There are specific benefits to friendships that should be noted. Studies have found that individuals report increased happiness and higher quality of time spent when with friends, compared to family (Perlman et al., 2015). Friendships also provide benefits and support that romantic relationships do not (Perlman et al., 2015), and thus friendship is an important aspect of social support.

Nature of BPD

Borderline Personality Disorder (BPD) is more severe than other personality disorders that are treated in clinical settings (Hooley & Masland, 2017). With a population prevalence as high as 5.9%, BPD is characterized by impulsive behavior, severe reactions related to fear of abandonment, unstable interpersonal relationships, and unstable self-image and affect (APA, DSM-5, 2013). DSM-5 uses a polythetic diagnostic system; BPD is characterized by nine diagnostic criteria in the DSM-5, five of which must be met to merit a clinical diagnosis (See Appendix A). Fear of abandonment in individuals with BPD leads to unstable interpersonal relationships. Changes in relationships may have adverse effects, leading to an overall instability in self-image and dangerous changes in emotions. Suicidal thoughts and non-suicidal self-injury are common. Individuals with BPD may be impulsive in other aspects of life that are dangerous,

such as irresponsible money spending, unsafe sex, suicidal behavior, and substance abuse (APA, DSM-5, 2013).

Interpersonal Relationships in BPD

There is a plethora of research regarding BPD and romantic partner instability (Bhatia et al., 2013; Miano et al., 2017). Romantic relationships for individuals with BPD tend to be short and filled with ups and many downs. Further, individuals with BPD report more negativity in their romantic relationships (Bhatia et al., 2013). There has been significantly less research regarding BPD and friendships. This is likely due to the profound impact of romantic partner instability in individuals with BPD. However, some research has examined non-romantic relationships in individuals with BPD, and has shown higher levels of social isolation, overall interpersonal instability, and social dysfunction (Hill et al., 2007; Lazarus et al., 2014; Pucker et al., 2019).

It is evident that social networks, including non-romantic friendships (Perlman et al., 2015), are critical for individuals' mental and physical wellbeing (Hefner & Eisenberg, 2009; Nicholson, 2012; Pucker et al., 2019). Given this, it is imperative that there is further research in regards to social network impairment in individuals with BPD, in particular, a focus on friendships as they play a key role in individual wellbeing (Perlman et al., 2015). Research on social networks is important to examine when considering impairment in friendships because social networks include friendships, which are an understudied area in BPD.

Interpersonal Functioning in BPD

A literature review on interpersonal functioning in BPD highlighted that individuals with BPD have an overall impairment in interpersonal functioning (Lazarus et al., 2014). The review highlights several critical areas of dysfunction in BPD relationships. There is an overall

negativity bias in interpersonal relationships for individuals with BPD, compared to healthy

controls. This negativity bias may influence their ability to form and maintain relationships and

could play a key role in perception of friendship quality. There is evidence for impairment in

social cognition competence in BPD. Individuals with BPD tend to have deficits in social skills

such as problem-solving, and comprehension of others' emotions and intentions. A deficit in the

ability to understand emotional cues and intentions of others could play an impactful role in how

individuals with elevated BPD traits are interpreting the quality of friendships. Differences in

biological processing of interpersonal relations [i.e., a delay in return to baseline levels in

cortisol following stressful interpersonal situations (Walter et al., 2008)], and deficits in infant-

mother relationships for mothers with BPD have also been found (Lazarus et al., 2014). These

findings provided an overall understanding of interpersonal dysfunctions in BPD. This overall

dysfunction in interpersonal relationships is important to consider when examining possible

impairment in friendship quality.

Social Networks

There is limited research on social networks, and even less on friendships, or friendship

quality in individuals with BPD. There is research that highlights the overall interpersonal

functioning dysfunction in BPD (Lazarus et al., 2014) and a significant amount of research on

romantic partner instability in BPD (Bhatia et al., 2013; Miano et al., 2017). Other research has

focused on social networks of people with BPD (Beeney et al., 2018; Lazarus et al., 2019;

Pucker et al., 2019), as well as their social domain functioning (Hill et al., 2007).

A social network is made up of everyone that is in an individual's life with whom they

have some form of contact, such as romantic partners, friends, family, and coworkers. Research

focusing on social networks has drawn attention to the overall interpersonal problems in BPD,

and helped to highlight the importance of not only focusing on romantic partner instability.

Particular attention needs to be given to every kind of interpersonal relationship within a social

network for individuals with BPD. This study focused on perception of friendship quality, but

research on social network deficits must be examined to fully understand the likelihood of

decreased friendship quality in BPD due to interpersonal dysfunction overall. Impairment in

social networks provides insight into this dysfunction in BPD and the possibility of dysfunction

in friendships.

Social Network Stability in BPD

Research focused on overall stability and density of social networks has found

impairment in individuals with BPD. There is evidence for overall social network instability in

individuals with BPD compared to healthy controls, as well as decreased satisfaction in

relationships of frequent interaction (Lazarus et al., 2019). Research has found that BPD is

related to decreased social support among social networks as a whole, a lack of social network

connection (i.e., social networks made up of individuals that are not central to the network), and

an overall higher frequency of negative interactions (Beeney et al., 2018). A longitudinal study

found significantly higher social isolation in individuals with BPD compared to other personality

disorders over a 20 year period (Pucker et al., 2019). The level of social isolation was relatively

stable for 20 years, indicating that individuals with BPD are not gaining necessary interpersonal

skills over time (Pucker et al., 2019). These studies highlight overall social network impairment

in BPD. However, they do not specify specific aspects of social networks (i.e., friends, family,

romantic partners, etc.), but rather look at the social network as a whole.

Social Network Functioning in BPD

Research has shown overall social domain dysfunction in individuals with BPD (Hill et al., 2007). This research included individuals with BPD, individuals with avoidant personality disorder, and clinical participants with no personality disorder, and examined social functioning in work relationships, romantic relationships, and friendships. Research found that individuals with BPD had significantly greater social domain dysfunction overall compared to individuals with no personality disorder, including friendship functioning (Hill et al., 2007). This study provides particular insight into the possible dysfunction in friendships within BPD, which is rarely researched. However, this study did not help in our understanding of why individuals with BPD have dysfunction in their friendships, but rather helped to highlight that dysfunction exists.

Given the research on social network deficits and dysfunction, it is important to study specific aspects of social networks to understand in which areas these problems reside. We are already aware that there is an impairment in romantic relationships, but they only make up a part of individuals' social network. One specific area of social networks that is understudied in individuals with BPD is friendships. Research has shown that friendships offer unique and imperative benefits to mental and physical health (Hefner & Eisenberg, 2009; Nicholson, 2012; Perlman et al., 2015). Given these findings, friendships are a distinct aspect of social networks that should be examined in formulating an understanding of the social network deficit and dysfunction that exists for individuals with BPD.

Friendship Quality

In the current study, I examined friendship quality through the conceptualization of friendship quality by Mendelson and Aboud (1999). This conceptualization includes six friendship functions that help to assess the perception of friendship quality in respondents. The

questionnaire that assesses these six functions is called the McGill Friendship Questionnaire-

Friends Function (MFQ-FF; Mendelson & Aboud, 2012). These functions were demonstrated to

be highly reliable through factor analysis in 253 undergraduate students (Mendelson & Aboud,

1999). These functions include Stimulating Companionship, Help, Intimacy, Reliable Alliance,

Self-Validation, and Emotional Security. Stimulating Companionship assesses time spent

together and the quality of that time. Help can be understood as perception of guidance and

assistance provided by a friend. Intimacy refers to sensitivity from the friend and feeling able to

express and share feelings, emotions, and needs. Reliable Alliance refers to confidence in the

stability of the friendship. Self-Validation refers to the perception that a friend is encouraging of

life endeavors and self-image. Finally, Emotional Security assesses confidence in the friendship

regardless of stressful situations (Mendelson & Aboud, 2012). A separate questionnaire, The

McGill Friendship Questionnaire-Respondents Affection (MFQ-RA; Mendelson & Aboud,

2012), assesses respondents' feelings towards and satisfaction with their friends (Mendelson &

Aboud, 2012). It should be noted that the questionnaire assesses the perception of respondents

regarding the six functions and their overall satisfaction with the friendship

  To my knowledge, there is no research that has examined individuals with elevated BPD

traits and perception of friendship quality. There is limited research on friendship in BPD

overall, and the research that does exist is primarily focused on the quantity elements of social

networks (Pucker, et al., 2019), impairment in these social networks (Hill, et al., 2008; Lazarus et

al., 2019), and dysfunction in interpersonal relationships (Lazarus et al., 2014). It is, however,

imperative that research focuses on the perception of friendship quality in individuals with BPD

traits for several reasons.

First, it is understood that BPD traits are associated with negativity bias in emotion recognition. Research has found that individuals with BPD have a decreased accuracy in detecting emotional expressions through facial cues, compared to individuals without BPD (Levine et al., 1997). Specifically, they tend to have impaired accuracy in detecting negative emotions, and perceive negative emotions more frequently (Levine et al., 1997). More recent research has found that individuals with BPD have impairment when recognizing neutral and mildly sad expressions in facial emotion recognition tasks (Daros et al., 2014). They tended to interpret mildly sad faces as more intensely sad. Both of the above studies on emotional recognition in individuals with BPD highlights their biased perception. This negative bias could occur in their daily perception of interactions with friends and could be contributing to a lack of friendship formation or maintenance. In other words, individuals with BPD traits could perceive interactions with friends as severely negative when in reality they were not (Daros et al., 2014).

Second, instability in social networks (i.e., quickly changing social networks) (Lazarus, 2016) could impact several friendship quality functions in Mendelson and Aboud's (1999) conceptualization of friendship quality, as well as research that has shown a deficit in perception of trust (Lazarus et al., 2014; Miano et al., 2013). In a longitudinal study, individuals with BPD, compared to healthy control, felt less satisfaction and support within their networks (Lazarus, 2016). This study also found that BPD was connected to instability in social networks, with more conflict and change to networks in short periods of time (Lazarus, 2016). The results of this study can be connected to several functions of quality friendships, and points to the possible negative perception of such functions. A lack of overall satisfaction in social networks will likely lead individuals with BPD traits to perceive lower satisfaction which is a key component of

Mendelson and Aboud's friendship conceptualization, particularly hindering respondents' affection for their friend (Mendelson & Aboud, 2012). Further, Lazarus' (2016) findings regarding instability in social networks could hinder perception of Reliable Alliance, Emotional Security, and Stimulating Companionship. Finally, research on impaired trust in individuals with BPD (Lazarus et al., 2014; Miano et al., 2017) may lead to a lower perception of Intimacy and Help from friends. An overall ability to trust in interpersonal relationships may be necessary to perceive Intimacy and Help from a friend.

Third, research on social networks has found that BPD traits are associated with perception of less social support (Beeney et al., 2018), but there is a lack of understanding as to where the deficit in support lies and in what ways individuals with BPD are perceiving lower support. Fourth, it is possible that individuals with BPD are placing more importance and energy into romantic partners, compared to friends (Lazarus et al., 2018). This neglect to put effort into non-romantic relationships and friendships could likely lead to a lack of friendships and social support, given the importance of reciprocity in friendship formation and maintenance (Perlman et al., 2015). There is an understanding of the monumental importance of quality friendships, but when it comes to research on BPD there is not research that has focused on the possibility of impaired friendship quality. From the research on romantic partnerships, social networks, and interpersonal relationships, we see a significant dysfunction in relationship formation and maintenance for individuals with BPD. It is imperative that research focuses on the possibility of deficits in quality friendships, given how important these relationships are to the individual. Focusing on friendships in research will hopefully add to what we already know about BPD, and will help to improve treatment plans for these individuals.

The Current Study

The current study contributes to the research on social network impairment in individuals with elevated BPD traits by examining their perception of friendship quality through self-report questionnaires assessing perceived friendship quality. Friendships are a specific aspect of social networks that should be examined individually as friendships offer specific benefits (Perlman et al., 2015). It is important to understand the deficit and dysfunction of social networks and interpersonal relationships for individuals with BPD. This requires looking at each aspect of a social network and different kinds of interpersonal relationships, to form a comprehensive understanding of how and where these individuals have difficulties. This study helps to form a more well-rounded understanding of where dysfunction in interpersonal relationships resides. The current study examined friendships through perception of friendship quality and looked at possible deficits for individuals with elevated BPD traits. Understanding how individuals with elevated BPD traits perceive their friends potentially adds to research on their overall negative perceptual bias, and helps to shine a light on how poor perception of interpersonal relationships could be affecting these individuals' friendships.

With a high prevalence, BPD is a consequential disorder affecting many people directly and can impact other people in their lives. Given this, and the severity of the disorder, research needs to focus on possible deficits in all aspects of their lives. A well-rounded understanding of social network and interpersonal relationship dysfunction is necessary to formulate treatment plans and skills to better the lives of these individuals. Research needs to focus on each aspect of a social network and examine the possibility of dysfunction for each. The current study focuses on friendships, specifically perception of quality friendships as this has not yet been examined for individuals with BPD.

Exploratory Hypothesis

  Given previous research on romantic partner dysfunction (Bhatia et al., 2013; Miano et al., 2017), negativity bias (Daros et al., 2014), social network dysfunction, and interpersonal deficits (Beeney et al., 2018; Hill et al., 2007; Lazarus et al., 2019; Lazarus et al., 2014; Pucker et al., 2019), perception of friendship quality is hypothesized to be lower overall in individuals with elevated BPD traits. In regards to the six function of friendship quality in the MFQ-FF (Stimulating Companionship, Help, Intimacy, Reliable Alliance, Self-Validation, and Emotional Security), and the two highly correlated functions of the MFQ-RA (Affection and Satisfaction) (Mendelson & Aboud, 2012), individuals with higher levels of BPD features are hypothesized to perceive lower-quality friendships in all functions. However, there are specific functions of Mendelson & Aboud's conceptualization that I hypothesized individuals with elevated BPD traits would score particularly low, compared to others.

  From the six functions of the MFQ-FF (Mendelson & Aboud, 1999), I hypothesized in an exploratory manner that individuals with elevated BPD traits would perceive lower Intimacy, Reliable Alliance, Self-Validation, and Emotional Security. Intimacy is the perception of sensitivity from a friend and feeling able to express and share feelings, emotions, and needs. I hypothesized that individuals with elevated BPD traits would be particularly low in this function due to their deficit in perception of trust (Lazarus et al., 2014; Miano et al., 2013). With an overall deficit in the ability to trust, I hypothesized it would be difficult for these individuals to reach a level of trust within their friendships to perceive intimacy, and feel safe to share feelings, emotions, and needs. Reliable Alliance is confidence in the stability of a friendship. Due to the rapidly changing and unstable nature of the social networks of individuals with BPD (Lazarus, 2016), and the relatively short duration of their romantic relationships (Navarro-Gómez et al.,

2017), I hypothesized that they would be particularly low in Reliable Alliance. I hypothesized that individuals with elevated BPD traits would perceive decreased Self-Validation. Self-Validation is the perception that a friend is encouraging of life endeavors and self-image. I hypothesized that they would score lower on this function due to their negative perceptual bias (Daros et al., 2014; Levine et al., 1997), and unstable self-image (APA, DSM-5, 2013). The final function of the MFQ-FF that I hypothesized that individuals with elevated BPD traits would score particularly low on is Emotional Security. Emotional Security is the confidence in a friendship despite stressful situations. I hypothesized individuals would be low in this factor due to an overall fear of abandonment (APA, DSM-5, 2013) and higher levels of conflict and unstable social networks (Lazarus, 2016). Finally, I hypothesized that individuals with elevated BPD traits would score particularly low in the MFQ-RA. This assesses Satisfaction and Affection within a friendship. Although Satisfaction and Affection are two separate things, they have been found to be highly correlated, and therefore there is only one score taken from the MFQ-RA (Mendelson & Aboud, 2012). I hypothesized that individuals would score low on this measure due to lower satisfaction and feelings of support within their social networks (Lazarus, 2016). Overall, I hypothesized that individuals with elevated BPD traits would perceive lower friendship quality on all six functions of the MFQ-FF and on the MFQ-RA. However, in an exploratory manner, the specific functions discussed above are hypothesized to be particularly problematic with lower scores.

Method

Participants

Participants were recruited from the University of North Carolina at Greensboro (UNCG) and Greensboro Technical Community College (GTCC). A total of 395 participants completed

the study via a Qualtrics link to receive credit for their introductory psychology course. I chose

to use an online study to reach a larger and more diverse group of participants from two

institutions. Given the variability in responding often associated with an online study, a total of

130 participants were removed prior to analysis for the following reasons. Of these 130 removed

participants, several participants (n = 56) were removed based on the Attention Responding

Scale (ARS; Maniaci & Rogge, 2013) which flags participants for infrequency and inattention. A

total of 45 participants were removed due to entire unanswered questionnaires of interest. These

participants were not able to be included in the analysis as their data had huge holes, lacking

responses to critical questions. There was an issue with the duration of time that participants took

to complete the study. Given common sense and the time it took members of Rosemery Nelson-

Gray's lab to complete the study in pilot test trials (no less than 45 minutes and no more than 1.5

hours), I decided to remove the top (took too long) and bottom (took too little time) 5% of the

distribution of participants based on time spent taking the survey. This gave us a hypothetical

13.8 participants on the top and bottom end of the distribution. Rounding up to 14, I removed a

total of 28 participants based on duration of time spent taking the survey. Finally, one participant

was removed due to indicating they were 16 years old after consenting to being 18 or older. IRB

approval was not granted for individuals under the age of 18, thus this participant had to be

discarded. After discarding the data listed above, I was left with 265 (UNCG: $N = 229$, GTCC: $N = 36$) participants for analysis.

Of the 265 participants focused on for analysis purposes, the mean age was 20.86 years

($SD = 5.10$). The sample consisted of 7.2% Asian or Asian American, 32.5% Black or Black

American, 14% Hispanic, Latino, or Spanish Origin, .4% Middle Eastern, Arab, or North

African, 43% White, and 3% Other. Both males and females were permitted to complete the

study, despite the fact that more females than males are given a BPD diagnosis (APA, DSM-5, 2013). The sample consisted of 64 males, 197 females, one agender, and three non-binary. Participants were asked to provide their current year in college; 53.2% were 1st year, 20% were 2nd year, 14.7% were 3rd year, 4.5% were 4th year, 2.3% were 5th year, and 5.3% were other.

Questions were asked in the demographics section of the survey to assess some basic sample information regarding friendships for participants regardless of BPD scores. First, the number of friends that the participants reported currently having: 3 answered none, 17 answered 1-2, 78 answered 3-4, 55 answered 5-6, 29 answered 7-8, 19 answered 8-10, 21 answered 10-15, and 43 answered 15 or more. The other question asked about average length of friendships: 3 answered less than 1 month, 3 answered 1-3 months, 3 answered 3-6 months, 10 answered 6 months-1 year, 40 answered 1-3 years, 59 answered 3-5 years, 79 answered 5-10 years, 40 answered 10-20 years, 27 answered 20 or more years, and 1 participant did not answer this question.

Participants completing the study were assessed for BPD traits using the Wisconsin Personality Inventory – Borderline scale (WISPI-BOR; Klein et al., 1993). The mean for BPD traits in this sample was 57.90 (SD = 27.61) when taking a total score for each participant, and a mean of 3.22 (SD = 1.53) when taking an average item score of each participant. A normative sample obtained from UNCG via mass screening in the Fall 2020 semester found a mean score on the total WISPI-BOR of 58.11 (SD = 27.01), and results from Klein et al. (1993) when the WISPI was developed found an item mean of 3.09 (SD = 1.22) for a non-borderline group.

Materials

Wisconsin Personality Disorders Inventory-Borderline Features

The Wisconsin Personality Inventory-Borderline Features (WISPI-BOR; Klein et al., 1993) was used to measure levels of BPD traits in participants (See Appendix B). The WISPI-BOR is an 18 item self-report questionnaire. Participants answer on a 10 point Likert scale (0 = Never/Not at all to 9 = Always/Extremely). Sample items include, "I have huge blow-ups with people about whether they are taking good care of me." and "If someone important ignores me, I have to hurt myself real bad." The WISPI-BOR is a subscale of the Wisconsin Personality Inventory IV (WISPI-IV). The WISPI-IV has been found to have high reliability, and good discriminant and concurrent validity (Barber & Morse et al., 1994; Hyler et al., 1988; Klein et al., 1993; Million, 1982). The WISPI-BOR was used instead of the PAI-BOR, which is used more frequently as a measure of BPD, due to the large sample size and cost of using copyrighted PAI-BOR. Given the exploratory nature and online administration of the study, the WISPI-BOR was used as a free measure of BPD. I was able to administer the WISPI-BOR free of change by receiving permission from the author, which was granted. The WISPI-BOR is both a reliable and valid measure of BPD features and is sufficient for capturing BPD traits in the given sample.

McGill Friendship Questionnaire-Friends Function (MFQ-FF)

The McGill Friendship Questionnaire-Friends Function (MFQ-FF; Mendelson & Aboud, 2012) measures how strongly participants feel that their best friend fulfills six ideal friendship functions (See Appendix C). These six friendship functions are: Stimulating Companionship, Help, Intimacy, Reliable Alliance, Self-Validation, and Emotional Security. The MFQ-FF is a 30 item self-report measure with 5 items in each subscale. Participants rate their feelings that a specific friend fulfills each function on a 9 point Likert scale (0 = Never to 8 = Always). For the

present study, I used use the Short Version of the MFQ-FF which consists of 30 items.

Participants were instructed to fill in the name of their best, non-sexual friend for each item in

the questionnaire. An item example from each of the subscales are as follows: Stimulating

Companionship: "tells me interesting things", Help: "helps me when I need it", Intimacy:

"knows when I am upset", Reliable Alliance: "would stay my friend through bad times", Self-

Validation: "Makes me feel important", Emotional Security: "would make me feel comfortable

in new situations". Each of the subscales of the MFQ-FF is reliable with high internal

consistency and a valid measure for the given sample (Mendelson & Aboud, 1999). The MFQ-

FF questionnaire with all its functions is commonly used and is an effective way to assess

friendship quality.

McGill Friendship Questionnaire-Respondents Affection (MFQ-RA)

The McGill Friendship Questionnaire-Respondents Attachment (MFQ-RA; Mendelson &

Aboud, 2012) was used to measure participants' perception of satisfaction and feelings of

affection with a specific friend on a 9 point Likert scale (-4 = Very Much Disagree to 4 = Very

Much Agree) (See Appendix D). For analysis purposes, the Likert scale range was 0-8 to match

the MFQ-FF. The MFQ-RA is a 16 item self-report measure with high reliability and validity for

both the satisfaction and affection subscale (Mendelson & Aboud, 2012). Participants are

instructed to place the name of their friend in the blank space in each item. An example of an

item question "Like__a lot." and **"**I feel my friendship with __ is a great one."

Design

This study utilized online questionnaires to assess correlations between the variables of

interest. This study was self-report and exploratory in nature. The predictive variable was BPD

traits and the criterion variable was perceived friendship quality. This was a within-subjects

design and focused on individual differences in the variables of interest. Participants completed this study at one point in time; thus this study is cross-sectional.

Procedure

Participants at UNCG and GTCC were provided with the study via Qualtrics for credit towards their Introductory Psychology courses. IRB approval was given in November of 2019 and data collection began from both UNCG and GTCC during the spring semester of 2020. The survey was open for participants to complete for the entirety of the academic semester; thus data collection was complete in early May, 2020. Data analysis for this particular study took take place over the summer months of 2020 and in the Fall 2020 semester.

The study was administered online through a Qualtrics link. Participants were first instructed to indicate whether they were a UNCG or GTCC student, and were then directed to the corresponding consent form. After participants consented to the study, they answered the questionnaires in a randomized order. I used The Attention Responding Scale (ARS; Maniaci & Rogge, 2013) to flag possible infrequent responses and inattention in participants. The ARS was administered at the beginning of the study, prior to starting the study questionnaires, and at the end of the study. Following the completion of the questionnaires and the final ARS inattention test, participants were asked various questions pertaining to demographics. Finally, they were provided with a randomized code. UNCG students were automatically granted credit through the Sona system and were told to disregard this randomized code. However, GTCC students needed the code as proof of study completion to receive necessary credit towards their courses.

The online survey was composed of more questionnaires than were used in the present study. The data collected from the survey are available to all members of Dr. Rosemery Nelson-Gray's Adult Psychopathology Lab at UNCG, and therefore other questionnaires were included

for varying points of interest. The other questionnaires included were The Social Network

Questionnaire (SNQ; Flynn, Mutlu, Duff, & Turkstra, 2018), The Experience in Close

Relationships-Revised Questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000), and the Five-

Factor Inventory (John, Donahue, & Kentle, 1991). The questionnaires of interest to this study

are the Demographic measures, the McGill Friendship Questionnaire-FF, the McGill Friendship

Questionnaire-RA, and the Wisconsin Personality Inventory-Borderline Features. The

demographics of participants were assessed through a questionnaire along with the other survey

questionnaires. This demographic measure assesses race, age, gender, gender identity, number of

friends, and the common length of friendships. This demographic measure was constructed by

members of the UNCG Psychology Department. I predicted a very diverse participant pool given

the overall diversity of UNCG and GTCC. I expected more female than male participants as this

is common in undergraduate research studies, and UNCG has a larger female population.

Results

Analysis focused on the relationship between differing levels of BPD traits and

perception of friendship quality as measured by the six functions of the MFQ-FF and the MFQ-

RA (Mendelson & Aboud, 2012) (See Appendix E for definitions of the six functions). Statistical

Package for Social Sciences (SPSS) was used to conduct all statistical analysis. All correlations

were conducted using a two-tailed test and the alpha level was set at a = .05 for all analysis.

The WISPI-BOR was used as the measure of BPD traits and a mean of 57.90 ($SD =$

27.61) was found for the current sample when finding a total score for each participants. A mean

of 3.22 ($SD = 1.53$) was found when finding an average rating per item for each participant. For

analysis purposes, the total score for each participant was obtained by summing the participants'

responses (0-9) for each of the eighteen items of the WISPI-BOR which was then used for the

correlations and regression.

The MFQ-FF (six functions) and MFQ-RA were used as the measure of perceived

friendship quality. An average score was found for each participant on each of the six functions

of the MFQ-FF, as well as a total MFQ-FF score, and one total score for the MFQ-RA. The

MFQ-FF has a total of 30 items rated from 0 to 8 by participants (coded as 1-9 for analysis), and

the MFQ-RA has a total of 18 items rated -4 to 4 by participants (coded as 1-9 for analysis). The

average score on the MFQ-FF for each of the 30 items was 7.77 ($SD = 1.27$). The individual

functions of the MFQ-FF were examined separately for the purpose of the current study and the

descriptive statistics for these functions are as follows; MFQ-FF Stimulating Companionship (M

$= 8.02, SD = 1.16$), MFQ-FF Help ($M = 7.55, SD = 1.53$), MFQ-FF Intimacy ($M = 7.67, SD =$

1.60), MFQ-FF Reliable Alliance ($M = 8.22, SD = 1.22$), MFQ-FF Self-Validation ($M = 7.60, SD$

$= 1.47$), and MFQ-FF Emotional Security ($M = 7.57, SD = 1.54$). The MFQ-RA was used as

another measure of perceived friendship quality where a mean item score of 8.19 ($SD = 0.95$)

was found.

Correlation

The overall correlation between the MFQ-FF total score and the WISPI-BOR was not

significant, r(265) = -.09, $p = .134$. However, individual functions were examined further and

results of the Pearson correlations showed that there was a significant negative correlation

between the WISPI-BOR and the MFQ-FF Stimulating Companionship function, $r(264) = -.13, p$

$= .031$. There was also a significant negative correlation between the WISPI-BOR and the MFQ-

FF Reliable Alliance function, $r(264) = -.17, p = .004$. The remainder of the correlations between

the WISPI-BOR and the MFQ measures were not significant. However, all correlations,

significant or not, were negative except the correlation between BPD and Intimacy, $r(264) =$

.024, $p = .703$. All six functions of the MFQ-FF and the one function of the MFQ-RA were

significantly correlated amongst each other which validates these friendship measures as these

functions should correlate highly. (See Table 1 for remainder of the correlation matrix)

Regression

A Multiple Linear Regression was used to test if perceived friendship quality (measured

by the MFQ-FF six functions and the MFQ-RA) was a significant predictor of BPD traits

(measured by the WISPI-BOR). Results showed that there was a combined significant effect

between perceived friendship quality and BPD traits with 10% of the variance in BPD traits

being explained by perceived friendship quality, $F(7, 257) = 4.10, p < .001, R^2 = .10$. The

predictor variables were examined further in the regression and found that two of the MFQ-FF

functions, Intimacy ($t = 3.80, p = .001$) and Reliable Alliance ($t = -3.25, p = .001$) significantly

predicted BPD traits. Note that Intimacy was a positive predictor of BPD traits, whereas Reliable

Alliance was a negative predictor (See Table 2 for the full regression)

BPD = B_0 + B_1 (MFQ-FF Stimulating Companionship) + B_2 (MFQ-FF Help) + B_3

(MFQ-FF Intimacy) + B_4 (Reliable Alliance) + B_5 (Self Validation) + B_6 (MFQ-FF Emotional

Security) + B_7 (MFQ-RA)

Discussion

Is it possible that individuals with elevated BPD traits are perceiving decreased friendship

quality? The current study looked to examine that question. There is limited research on

friendship quality and BPD, and I hoped to fill this gap in the research. I hypothesized that

individuals with elevated BPD traits would perceive decreased friendship quality. The regression

showed an overall significant relationship between BPD and perceived friendship quality which

was hypothesized in the exploratory hypothesis. When examining individual variables in the regression, two of the seven functions entered were significant (Intimacy and Reliable Alliance), with Intimacy positively related to BPD scores and Reliable Alliance negatively related. These results were contrary to my exploratory hypothesis as I expected more of the functions of perceived friendship quality to be significant, and that any significant functions would be negatively related to BPD traits. In examining the correlations, two of functions were significantly and negatively correlated (Stimulating Companionship and Reliable Alliance) with BPD scores. Again, more functions were expected to be significantly correlated. However, there were still individual functions, both in the correlation matrix and multiple linear regression that were found to be correlated which points to an overall relationship between perceived friendship quality and BPD. Despite the non-significant correlation between BPD and the total score on the MFQ-FF and MFQ-RA, these correlations were trending negative, and further analysis of the functions of friendship did show significant results.

Given these findings, a poor perception of friendship quality in individuals with elevated BPD traits could have adverse effects on their overall mental health given how important friendships are (Perlman et al., 2015). The severity of BPD as a disorder is apparent, and perceiving friendships with poor quality could further intensify symptoms. Prior research shows impairment in romantic relationships (Bhatia et al., 2013; Miano et al., 2017) and overall interpersonal relationships (Hill et al., 2007; Lazarus et al., 2014; Pucker et al., 2019). Findings from this study adds to this research and points to the possibility of specific impairment in friendships for individuals with elevated BPD traits.

Results obtained from the correlation matrix provide further insight into the specific functions of friendship that may be different for individuals with higher levels of BPD traits.

Correlation results were primarily negative (i.e., higher levels of BPD traits are correlated with lower perceived friendship quality) regardless of significance. The only exception to this was the Intimacy function of the MFQ-FF which was positively correlated with levels of BPD traits. All of the friendship functions were highly correlated between each other which is not of particular interest to this study besides validation of the measure. These should correlate highly as they all intend to assess friendship quality.

A significant negative correlation was found between BPD traits and Stimulating Companionship (time spent with the friend and quality of that time). Research has shown that individuals with BPD traits tend to report having lower social support and have social networks that are lacking in connection (Beeney et al., 2018). This is likely influencing the ability of these individuals to perceive that their friendships are stimulating and provide high levels of companionship. Also, people with BPD have been found to have high levels of social isolation (Pucker et al., 2019) which may mean they are not spending enough time with friends. Finally, people with BPD report negative interactions with members of their social network (Beeney et al., 2018) and feel lower satisfaction within their social networks (Lazarus, 2016) which could be happening when individuals with elevated BPD traits are spending time with friends, interpreting the quality of that time to be low. One primary reason for this negative interpretation of their friendships could be that individuals with BPD may have a general negativity bias (Lazarus et al., 2014; Levine et al., 1997).

There was also a significant negative correlation between BPD traits and Reliable Alliance (perception of stability of the friendship), which was found in both the correlation matrix and the regression. This makes sense given the diagnostic criteria for BPD, with one major criterion of this diagnosis being an intense fear of abandonment (APA, DSM-5, 2013). In

research on BPD and romantic partner relationships, we see this fear of abandonment presenting

significant issues for both the individual with BPD and the romantic partner. This same issue

could be arising in friendships for individuals with elevated BPD or a BPD diagnosis. Further,

research has found that people with BPD have a deficit in the ability to trust (Lazarus et al.,

2014; Miano et al., 2013) which is going to make it increasingly difficult for them to perceive

that their friendships are stable. These individuals may have a hard time trusting that their friends

actually love them, care about them, and will be there for them no matter what. This is likely due

to their overall fear of abandonment and lack of trust. Finally, research on social networks has

found that people with BPD tend to have quickly changing and unstable social networks

(Lazarus, 2016). This low stability of social networks overall (romantic partners, family, co-

workers, friends, etc.) could likely lead them to perceive low Reliable Alliance from their

friends.

Intimacy was found to be a significant positive predictor in the regression. Also, although

not significant, Intimacy was positively correlated to BPD traits in the correlation matrix. This is

an interesting finding and contrary to what was expected in the exploratory hypothesis. However,

this finding may point towards the tendency of these individuals to throw all of themselves at

whatever relationships they do have. When in romantic relationships, people with elevated BPD

traits or a BPD diagnosis tend to interpret their partner as the most amazing and important person

in their life, feeling high levels of intimacy towards them until a trigger of abandonment when

they then feel intense hatred towards their partner (Jeung & Herpertz, 2014). This unstable nature

of relationships (i.e., high levels of involvement and glamorization paired with, or followed by,

termination of relationships and hostility) (Jeung & Herpertz, 2014) creates a dynamic of intense

perception of intimacy in people with BPD. Individuals could also be following this pattern with

their friends which would mean they perceive high Intimacy for periods of time even when interpreting low stability in the relationship, and low quality of actual time spent with their friend.

The results of this study provide evidence that there is dysfunction in friendships for individuals with elevated BPD traits which has rarely been studied in the past. It is clear from research thus far that these individuals have a dysfunction in interpersonal relationships, but more focus needs to be made on each of the domains of interpersonal relationships (i.e., romantic, friendships, family). This research adds to the gap that exists in regards to research specifically on friendships for individuals with BPD and gives reason for further research.

Limitations and Future Directions

This study is not without its limitations. First, I sampled from a non-clinical group and assessed perception of friendship quality among undergraduate students. Given the significant results of this present study, future studies should be conducted in a clinical sample. Second, this study was conducted with an undergraduate sample, and although the sample was diverse in many ways, aspects of the sample were not, such as age. Third, the study used self-report online surveys and therefore can only assess possible correlations. Future research should be conducted experimentally. Given that this study was online and self-report, I had to discard many participants based on inattention or missing data, and there is no way to ensure that there are no systematic biases in the responses that were discarded. Another possible limitation is that this study was cross-sectional, and all data were therefore gathered at one point in time. Given the unstable nature of BPD, the data collected at this singular point in time likely does not capture a full range of how these individuals interpret friendships. Future studies should utilize a longitudinal approach to address this limitation. Finally, this study examined both males and

females as it was exploratory and was interested in both genders. Future studies may want to examine only females to determine if gender moderates the relationship between perceived friendship quality and BPD as BPD is more commonly diagnosed in females (APA, DSM-5, 2013).

In some studies examining BPD traits in college samples, oversampling methods are used to increase the likelihood of participants with higher BPD traits. However, given that this present study was exploratory, I did not do this. The sample was typical of a normative college sample on BPD traits. The current sample was compared to mass screening results at UNCG for Fall 2020 where a mean of 58.11 ($SD = 25.01$) was found on the screening measure, the WISPI-BOR. The current sample had a mean and SD ($M = 57.90$, $SD = 27.01$), very close to that of the mass screening results which means the sample was likely typical for BPD traits. Further, the current sample was compared to Klein et al. (1993) in which the WISPI was developed, validated, and found to be reliable. In this article they used average scores for each participant for each WISPI-BOR item and found a mean of 3.09 ($SD = 1.22$) for the BPD scale in a non-personality disordered sample. The mean for the current sample, when calculated using an average score for each participant, is 3.22 ($SD = 1.53$). Again, these results are similar and give reason to assume the current sample is normative in regards to BPD traits. This is a limitation as the sample was not obtained through oversampling nor was it a clinical sample. This is a possible explanation for why the BPD measure and total perceived friendship scores were not significantly correlated, as well as why not as many of the functions of friendship were found to be significant.

In terms of clinical application, it is important that clinical settings help to provide interpersonal skills and assistance in quality friendship formation and maintenance. The primary treatment for BPD is Dialectical Behavior Therapy (DBT), and one of the skill modules within

DBT is interpersonal effectiveness training (Swales, 2019). Interpersonal effectiveness training has not, to the best of my knowledge, been directed towards forming and maintaining quality friendships. Given friendships serve as an important role in life, DBT may want to incorporate these skills into treatment. Overall, this study adds to prior research on interpersonal dysfunction in individuals with elevated BPD traits, and helps to provide future direction for research on friendship quality in this population.

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Appendix A

Borderline Personality Disorder Diagnostic Criteria (APA, DSM-5, 2013)

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

1. Frantic efforts to avoid real or imagined abandonment. (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.
3. Identity disturbance: markedly and persistently unstable self-image or sense of self.
4. Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
5. Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior.
6. Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).
7. Chronic feelings of emptiness.
8. Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).
9. Transient, stress-related paranoid ideation or severe dissociative symptoms.

Appendix B

Wisconsin Personality Disorders Inventory IV-Borderline Features (WISPI-BOR)

Instructions: Please rate the extent to which each statement below describes you.

One day I'm absolutely sure about what I'm like and what I want to become, and the next day everything changes and I want to do something completely different.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

I go wild when I am left alone because it means that the people who have left me must hate me.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

I have huge blow-ups with people about whether they are taking good care of me.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

Sometimes I sense there may be horrible danger or harm coming, but people close to me don't recognize it.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

If I like someone I have just met, I will reveal the most intimate details about all of my troubles right away.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

When I am really stressed, I "lose time" – have periods when I do things that later are a complete blank to me.

0: Never, Not At All
1
2
3
4
5
6
7
8
9: Always, Extremely

Sometimes I let myself be taken over by urges to do things like spend or eat too much, do drugs, or drive recklessly.

       0: Never, Not At All
       1
       2
       3
       4
       5
       6
       7
       8
       9: Always, Extremely

If things are going well for me, it doesn't take much to get me feeling hollow, empty, or bored.
       0: Never, Not At All
       1
       2
       3
       4
       5
       6
       7
       8
       9: Always, Extremely

When someone close to me threatens to abandon me, I feel attacked and lash out furiously to punish them.
       0: Never, Not At All
       1
       2
       3
       4
       5
       6
       7
       8
       9: Always, Extremely

Appendix C

McGill Friendship Questionnaire–FF (MFQ-FF; Mendelson & Aboud, 1999)

Instructions: The items on this form concern the kind of friend your friend is to you. Imagine that the blank space in each item contains your friend's name. With him or her in mind, decide how often the item applies. On the scale, directly to the right of each item, **circle the number** that indicates how often your friend is or does what the item says. There are no right or wrong answers because adult friendships are very different from one another. Just describe your friend as he or she really is to you.

	Never	Rarely	Once in a While	Fairly Often	Always
	1	2 3	4 5	6 7	8
1. ___ helps me when I need it.	1	2 3	4 5	6 7	8
2. ___ would make me feel comfortable in a new situation.	1	2 3	4 5	6 7	8
3. ___ is someone I can tell private things to.	1	2 3	4 5	6 7	8
4. ___ has good ideas about entertaining things to do.	1	2 3	4 5	6 7	8
5. ___ would want to say my friend if we didn't see each other for a few months.	1	2 3	4 5	6 7	8
6. ___ makes me feel smart.	1	2 3	4 5	6 7	8
7. ___ makes me laugh.	1	2 3	4 5	6 7	8
8. ___ knows when I'm upset.	1	2 3	4 5	6 7	8
9. ___ helps me do things.	1	2 3	4 5	6 7	8
10. ___ points out things that I am good at.	1	2 3	4 5	6 7	8

11. ___ would be good to have around if I were frightened.   1 2 3 4 5 6 7 8

12. ___ would still want to be my friend even if we had a fight.   1 2 3 4 5 6 7 8

13. ___ lends me things that I need.   1 2 3 4 5 6 7 8

14. ___ would make me feel better if I were worried.   1 2 3 4 5 6 7 8

15. ___ is someone I can tell secrets to.   1 2 3 4 5 6 7 8

16. ___ would stay my friend even if other people criticized me.   1 2 3 4 5 6 7 8

17. ___ compliments me when I do something well.   1 2 3 4 5 6 7 8

18. ___ is exciting to talk to.   1 2 3 4 5 6 7 8

19. ___ makes me feel special.   1 2 3 4 5 6 7 8

20. ___ would stay my friend even if other people did not like me.   1 2 3 4 5 6 7 8

21. ___ knows when something bothers me.   1 2 3 4 5 6 7 8

22. ___ is exciting to be with.   1 2 3 4 5 6 7 8

23. ___would make me feel calmer if I were nervous.   1 2 3 4 5 6 7 8

24. ___ helps me when I'm trying hard to finish something.   1 2 3 4 5 6 7 8

25. ___ makes me feel that I can do things well.   1 2 3 4 5 6 7 8

26. ___ would still want to stay my friend even if we argued.   1 2 3 4 5 6 7 8

27. ___ shows me how to do things better.   1 2 3 4 5 6 7 8

28. ___ is fun to sit and talk with.   1 2 3 4 5 6 7 8

29. ___ is easy to talk to about private things.   1 2 3 4 5 6 7 8

30. ___ makes me feel better when I'm upset.   1 2 3 4 5 6 7 8

Appendix D

McGill Friendship Questionnaire–RA (MFQ-RA; Mendelson & Aboud, 2012)

Instructions: The items on this form concern your feelings for your friend. Imagine that the blank space in each item contains your friend's name. With him or her in mind, decide how much you agree or disagree with the item. On the scale directly to the right of each item **circle the number** that indicates how much you agree that the statement describes your feelings. There are no right or wrong answers, because adults' feelings for friends differ from person to person. Just honestly describe your feelings for your friend.

Very much Disagree   Some-what Disagree   Some-what Agree   Very much Agree
                -4   -3   -2   -1   0   1   2   3   4

I am happy with my friendship with ___.   -4   -3   -2   -1   0   1   2   3   4

I care about ___.   -4   -3   -2   -1   0   1   2   3   4

I like ___ a lot.   -4   -3   -2   -1   0   1   2   3   4

I feel my friendship with ___ is a great one.   -4   -3   -2   -1   0   1   2   3   4

I am satisfied with my friendship with ___.   -4   -3   -2   -1   0   1   2   3   4

I feel my friendship with ___ is good.   -4   -3   -2   -1   0   1   2   3   4

I want to stay friends with ___ for a long time.   -4   -3   -2   -1   0   1   2   3   4

I prefer ___ over most people I know.   -4   -3   -2   -1   0   1   2   3   4

I feel close to ___.   -4   -3   -2   -1   0   1   2   3   4

I think my friendship with ___ is strong.   -4   -3   -2   -1   0   1   2   3   4

I am pleased with my friendship with ___.   -4   -3   -2   -1   0   1   2   3   4

I am glad that ___ is my friend.   -4   -3   -2   -1   0   1   2   3   4

I hope ___ and I will stay friends.   -4   -3   -2   -1   0   1   2   3   4

I would miss ___ if he/she left.   -4   -3   -2   -1   0   1   2   3   4

I am content with my friendship with ___.   -4   -3   -2   -1   0   1   2   3   4

I enjoy having ___ as a friend.   -4   -3   -2   -1   0   1   2   3   4

Appendix E

Function targets of MFQ-FF Functions and MFQ-RA (Mendelson & Aboud, 1999)

MFQ-FF Intimacy	Perception of sensitivity from a friend and feeling able to express and share feeling, emotions, and needs.
MFQ-FF Reliable Alliance	Confidence in the stability of a friendship.
MFQ-FF Self-Validation	Perception that a friend is encouraging of life endeavors and self-image.
MFQ-FF Emotional Security	Confidence in a friendship despite stressful situations.
MFQ-FF Stimulating Companionship	Time spent together and the quality of that time.
MFQ-FF Help	Perception of guidance and assistance provided by a friend.
MFQ Respondents Affection	Affection towards and satisfaction with friend.

Table 1

Pearson Correlations

Variable	1	2	3	4	5	6	7	8
1. WISPI-BOR	-							
2. MFQ-FF Stimulating Companionship	-.13*	-						
3. MFQ-FF Help	-.09	.77**	-					
4. MFQ-FF Intimacy	.02	.70**	.80**	-				
5. MFQ-FF Reliable Alliance	-.17**	.72**	.69**	.72**	-			
6. MFQ-FF Self-Validation	-.11	.79**	.84**	.74**	.63**	-		
7. MFQ-FF Emotional Security	-.05	.76**	.84**	.83**	.70**	.80**	-	
8. MFQ-RA	-.11	.58**	.61**	.64**	.62**	.59**	.62**	-

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

Table 2

Multiple Linear Regression Results Predicting Perceived Friendship Quality from BPD

	WISPI-BOR		
	R^2	ΔR	$\beta(t)$
Step 1	.10**	.10**	
MFQ-FF Stimulating Companionship			-.05(-0.40)
MFQ-FF Help			-.06(-0.44)
MFQ-FF Intimacy			.46(3.80)**
MFQ-FF Reliable Alliance			-.32(-3.25)*
MFQ-FF Self Validation			-.16(-1.28)
MFQ-FF Emotional Security			.05(0.34)
MFQ-RA			-.07(-0.91)

Overall model was significant, $F(7, 257) = 4.10$, $p < .001$.
* $p < .01$, ** $p < .001$.