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Neuroticism's Ties to Relationship Satisfaction: What Behaviors Matter?

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A thesis submitted to the faculty of
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ABSTRACT

Neuroticism's Ties to Relationship Satisfaction: What Behaviors Matter?

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In multiple studies, neuroticism and romantic relationship satisfaction are negatively related to one another. Yet, the exact behaviors that link neuroticism to lower relationship satisfaction are unknown. Our seven–day daily diary study (N = 246) identified specific, everyday behaviors that might mediate this association. After establishing positive and negative factors using exploratory factor analysis, we examined whether positive or negative behaviors (and sub-categories of these dimensions) mediate the relationship between neuroticism and relationship satisfaction. Our results showed that negative behaviors mediated the relationship between neuroticism and relationship satisfaction but positive behaviors did not. A subcategory of conflict tactics mediated the relationship over and beyond the mediational impact of the broader negative behaviors factor. There were no other mediational influences. The implications of this research can inform clinical interventions aimed at increasing relational functioning via a reduction in maladaptive relational behaviors associated with neuroticism.

Keywords: neuroticism, relationship satisfaction, relational behaviors, daily diary study, mediation

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Neuroticism's Ties to Relationship Satisfaction: What Behaviors Matter?

Neuroticism is a temperamental trait characterized as an individual's tendency to experience negative emotions (Costa & McCrae, 1992). Neuroticism has cognitive (i.e., anxiety, irritability, insecurity, etc.) and behavioral manifestations (i.e., impulsivity, reassurance-seeking, avoidance; Costa & McCrae, 1987). Neuroticism is one of five universally studied personality traits called the Big Five, and of these traits, neuroticism has been found to have the strongest association with romantic relationship satisfaction (Goldberg, 1990; Malouff et al., 2010). Specifically, there is a negative association between neuroticism and the relationship satisfaction of both the individual and their partner (Beach et al., 2003; Lester et al., 1989; Schaffhuser et al., 2014; Zare et al., 2012; Zimet, 2002). Yet, almost nothing is known about *how* this effect operates. Existing research suggests that the daily behaviors people high in neuroticism might engage in (or fail to engage in) may mediate the relationship between neuroticism and relationship satisfaction. In this study, we posited that people high in neuroticism have a greater tendency to engage in negative relational behaviors which, in turn, reduce relational satisfaction. We also proposed that people high in neuroticism engage in fewer positive relational behaviors which, in turn, reduces relational satisfaction (see Figure 1 for a visual outline of our proposed framework). Our study used a daily diary approach to examine these hypotheses in a sample of couples in committed romantic relationships.

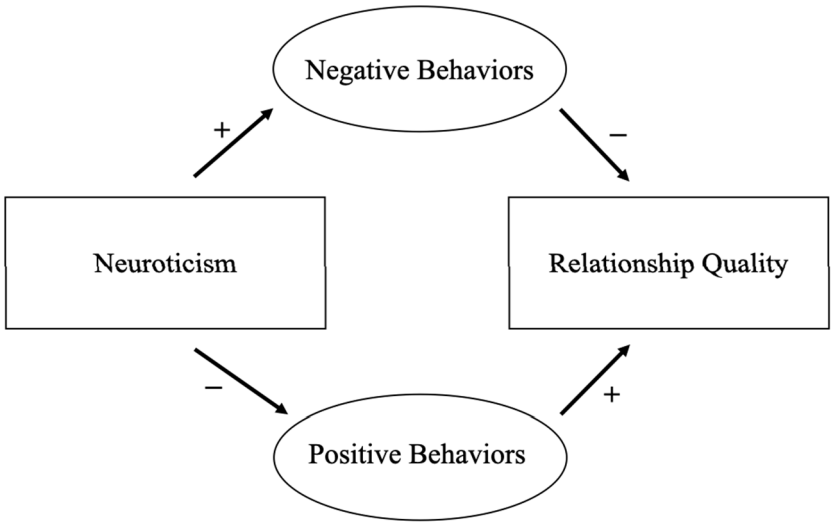
The Association Between Neuroticism and Relationship Satisfaction

In our review of previous research, we looked for behaviors commonly engaged in (or not) by individuals high in neuroticism for inclusion in our daily diary study. The literature review suggested behaviors related to the six facets of neuroticism, intrapersonal functioning, interpersonal functioning, and conflict management. We used these findings to derive behaviors

for our checklist to make our candidate behaviors as grounded in evidence as possible (see Appendix A for a list of all the behaviors).

Figure 1

Framework of Behavioral Influence on Neuroticism and Relationship Satisfaction Link



Note. Two pathways through which behaviors may mediate the link between neuroticism and poor relationship quality—namely, increased negative behaviors or decreased positive behavior.

The Facets of Neuroticism

Research examining the six facets of neuroticism—depression, angry hostility, anxiety, self-consciousness, impulsiveness, and vulnerability—has found a negative association between depression, anxiety, and hostility and relationship satisfaction (Fincham et al.,1997; Renshaw et al., 2010; Rogge et al., 2006; Whisman et al., 2004). The self-consciousness facet of neuroticism includes self-esteem and attachment style components. We found research suggesting that self-esteem has a mediating role in the association of neuroticism and relationship satisfaction (Weidmann, Ledermann, et al., 2017). Moreover, both types of insecure attachment styles have negative influences on relationship satisfaction (Noftle & Shaver, 2006; Scott & Cordova, 2002; Shaver &

Brennan, 1992; Simpson, 1990). Additionally, the neuroticism facet, impulsivity, leads to lower relationship satisfaction – predominantly through ineffective communication styles due to impulsivity (Tan et al., 2017). Lastly, emotional vulnerability was found to impact relationship satisfaction in a therapeutic context (McKinnon & Greenberg, 2017). Together, this research suggests high neuroticism—and its more specific facets, including depression, angry hostility, anxiety, self-consciousness, impulsiveness, and vulnerability—can decrease relationship quality. As such we attempted to generate behaviors that would link to each of these facets.

Intrapersonal Functioning

Next, we focused on the array of effects that neuroticism can have on relationship functioning via intrapersonal functioning—that is, processes that occur within a person. We also address the effects of intrapersonal functioning on the interpersonal relationship. Specifically, neuroticism has been related to dysfunctional emotional regulation, cognitive biases, and trait forgiveness. Neuroticism has been found to be associated with dysfunctional emotion regulation that subsequently leads to lower relationship satisfaction (Vater & Schröder-Abé, 2015). Additionally, research on cognitive biases (or negative perception of ambiguous situations) found that negative relationship-specific interpretation bias has a mediating effect on the neuroticism/relationship satisfaction relationship (Finn et al., 2013). Research has also found that greater levels of trait forgiveness increase relationship satisfaction, and trait forgiveness was found to mediate the relationship between relationship satisfaction and neuroticism (Braithwaite et al., 2016). These intrapersonal mechanisms (dysfunctional emotional regulation, cognitive biases, personality traits) have an impact on interpersonal relational behaviors and were thus represented in the daily behaviors we assessed in the present study.

Level of Neuroticism

Previous research has also highlighted interpersonal functioning and behaviors affected by one's level of neuroticism. First, research on commitment in relationships has found a negative association between neuroticism and *marital work*, described as relationship strategies and effort (Ratcliffe, 2013). This would indicate that individuals high in neuroticism are not implementing the marital work necessary to maintain relationship satisfaction. Next, we found individuals greater in neuroticism reported more negative perceptions of their partners during relational interactions (McNulty, 2008). In this way, neuroticism is related to greater negative interactions in the relationship (Donnellan et al., 2004). Furthermore, women who are higher on neuroticism are more likely than women lower in neuroticism to seek out social support from their partners (Eagly & Crowley, 1986). This puts women at a greater risk of dissatisfaction if their partner's response (or their perception of it) does not appropriately meet their expectations. Neuroticism has also been found to be associated with poor dyadic adjustment, or maladaptive relationship adjustment techniques (Parker et al., 2013). Despite finding contradicting literature on the topic, a substantial amount of literature suggests that there is a positive relationship between personality similarity and relationship satisfaction (Gaunt, 2006; Luo, & Klohnen, 2005; Rogers, 1999; Weidmann, Schönbrodt, et al., 2017; Zentner, 2005). This research would suggest that couples who are either both high in neuroticism or both low in neuroticism would be more satisfied than couples where only one partner has high levels of neuroticism.

Furthermore, we found some more behavioral processes also related to neuroticism and relationship functioning. That is, we found that a uniquely modern behavior called phubbing, or the act of one disregarding his or her partner in favor of being on his or her phone, has a relational impact (Wang et al., 2017). Research has found that phubbing has an indirect negative effect on relationship satisfaction through its positive association with depressive symptoms

(Wang et al., 2017). Lastly, intimacy is a prominent aspect of committed, romantic relationships, and research has examined the moderating role of sexual satisfaction in the association between neuroticism and relationship satisfaction. Researchers found that one's own and partner's neuroticism was negatively associated with level of sexual satisfaction, leading to poor relational functioning (Fisher & McNulty, 2008; Russell & McNulty, 2011). We incorporated behaviors related to each of these constructs into our checklist.

Conflict Management

A major area of research on neuroticism regards conflict management. Individuals high in neuroticism have insufficient abilities to handle stressful situations because they struggle to regulate healthy, effective coping strategies (Watson & Hubbard, 1996). Additionally, individuals high in neuroticism often overreact, misinterpret events as more negative than they are, misattribute blame, avoid problems, and/or implement heavy emotion-focused coping mechanisms (Watson & Hubbard, 1996). This inability to deal with stress bleeds into relationship functioning, and suggests that stress management is a significant mechanism in the association between neuroticism and relationship satisfaction. Furthermore, research has found that family stress is negatively associated with marital satisfaction (Woszidlo & Segrin, 2013). This association between stress, neuroticism, and relationship satisfaction is a big problem since neuroticism alone has been shown to predict future subsequent stressors in life (Watson & Hubbard, 1996). When compared to couples low in neuroticism, couples high in neuroticism reported having more frequent conflict/stressors in their marriages (Hoppmann & Blanchard-Fields, 2011). Additionally, these couples demonstrated more dysfunctional problem solving, including less instrumental problem solving and more passive emotion regulation (i.e., avoidance and suppression of emotion; Hoppmann & Blanchard-Fields, 2011). Lastly, research suggests that

one partner's level of neuroticism predicted the other partner's response in conflict resolution. This suggests the higher neuroticism an individual has, the more negative his or her partner will behave during problem-solving situations (McNulty, 2008). Taken together, these research findings suggest that individuals high in neuroticism are experiencing more stress, handling that stress poorly, and this in turn in effecting their relationship functioning. See Table 1 for example behaviors from the checklist derived from our review of this area of research.

The behaviors we derive from these individual facets of neuroticism, relationship satisfaction, or both, we believe will group together into positive and negative clusters. We predict these clusters based on several prior theories regarding interpersonal relationships. The first to clearly articulate this grouping were Thibaut and Kelley in their social exchange theory (1959). They proposed that individuals evaluate the utility of their romantic relationships by considering the good/beneficial and bad/costs of their relationships (Nakonezny & Denton, 2008). Similarly, Weiss's (1980) theory of sentiment override details how one's perception of his or her partner's behaviors is subjective. Specifically, when asked to report on their relationship (e.g., "over the past two weeks") people don't make accurate judgements of specific behaviors

Table 1

Checklist Behaviors Derived from the Literature

Empirical Facet	Citation	Example Behavior Item
Facets of Neuroticism		
Depression	Fincham et al.,1997	Express sadness
Hostility	Renshaw et al., 2010	Yell at your partner
Anxiety	Whisman et al., 2004	Ask your partner for validation/acceptance
Self-consciousness	Simpson, 1990, etc. Tan et al., 2017	Ask your partner how they feel about you
Impulsivity		Threaten to leave your partner
Vulnerability	McKinnon & Greenberg, 2017	Tell your partner about any negative emotions you felt today
Intrapersonal Functioning		

Emotion Regulation	Vater & Schröder-Abé, 2015	Leave in the middle of an unresolved situation
Cognitive Biases	Finn et al., 2013	Question your partner's motives for his or her positive behavior(s)
Forgiveness	Braithwaite et al., 2016	Tell your partner you forgive them
Interpersonal Functioning		
Marital Work	Ratcliffe, 2013	Spend time doing something with your partner that he or she enjoys
Perceptions	McNulty, 2008	Suppress an emotion or thought you wanted to share with your partner
Social Support	Eagly & Crowley, 1986	Ask your partner for support
Adjustment	Parker et al., 2013	Help your partner celebrate an achievement
Phubbing	Wang et al., 2017	Use your phone during a conversation or interaction you were having with your partner
Sex	Fisher & McNulty, 2008, etc.	Reject your partner's attempt to have a sexual encounter
Conflict Management		
Coping Strategies	Watson & Hubbard, 1996	Isolate yourself from your partner
Family Stress	Woszidlo & Segrin, 2013	Argue with your partner in front of anyone else
Problem Solving	Hoppmann & Blanchard-Fields, 2011	Apologize to your partner

Note. Example behaviors are not necessarily exhaustive of all items included on the checklist for a given empirical facet.

but instead report whether they generally feel a preponderance of positive or negative emotion toward their partner (Hawkins et. al., 2002). This theory again indicates that perceptions of relational behaviors tend to be categorized as either good or bad; however, our daily diary design allows us to more accurately capture whether the daily good or bad behaviors contribute to the emotional climate more broadly (the positive or negative sentiment). Further support for the good/bad grouping comes from research by Gottman et. al., (1998) that suggests that couples in healthy marriages engage in five or more positive interactions for every negative interaction they experience, especially during conflicts. Finally, we consider Baumeister et. al., (2001) theory that in almost all psychological functions, including interpersonal relationships can be usefully

grouped into good or bad dimensions and that the bad stimuli are more potent than the good stimuli. Taken together, these theories and findings further support our hypothesis that our measures of behaviors will group into positive and negative clusters.

Hypotheses

Based on our understanding of this previous literature we expected neuroticism to negatively affect the frequency of positive/negative behaviors and for this to have significant effects on relationship functioning. Specifically, we have the following hypothesis. 1) Individuals with higher levels of neuroticism will report lower relationship satisfaction; 2) Relational behaviors will group into positive and negative clusters; 3) Individuals higher in neuroticism will exhibit greater negative relational behaviors; 4) Individuals higher in neuroticism will exhibit fewer positive relational behaviors; 5) Negative behaviors will mediate the relationship between neuroticism and relationship satisfaction; and 6) Fewer positive behaviors will mediate the relationship between neuroticism and relationship satisfaction.

Method

Study Design

Our study design included a baseline assessment battery that measured trait neuroticism and relationship satisfaction and a seven-day–daily diary component that assessed the frequency of positive and negative relationship behaviors. We addressed whether one's own neuroticism predicted how frequently positive and negative behaviors occurred and whether these behaviors, in turn, were associated with lower relational satisfaction. We also examined specific behavioral clusters within these positive/negative dimensions to attempt to isolate potential effects (e.g., the sexual relationship, conflict tactics) more specifically.

Participants

We recruited community participants from a mid-sized town in the Northeastern United States through Craigslist advertisements (See Appendix B for advertisement materials). In order to participate, respondents had to be over the age of eighteen, in a relationship that had been established for at least one year (average relationship length = 7.27 years), and living with that same relationship partner for at least one year (average length of time living together = 5.2 years). Because the study was conducted in English, participants had to be able to understand English. We recruited 245 total participants to participate in the study to some extent. Of these participants, 202 reported demographic information (age range = 18 – 69 years, mode age range = 18 – 29, 101 males, 100 females, one non-binary person). The sample was 80.2% White, 10.4% Black or African American,50% American Indian or Alaska Native, .99% Asian, .50% Native Hawaiian or Pacific Islander, 3.5% Other ("Black and Puerto Rican," "Hispanic," "Egyptian," "Mixed," "Eastern European," and "Puerto Rican) and, 5.7% of participants identified with two or more races.

To ensure the validity of our data, we made decisions about whether to drop responses before analyzing any of our research questions. We dropped 33 participants who completed less than 50% of the pre-survey battery. We dropped 20 participants who were in the bottom 5% of time it took to complete the pre-survey on the assumption that they did not provide a valid response. We dropped six observations with duplicate participant IDs keeping the observation with the most data. We dropped 14 observations with repeated Internet Protocol (IP) addresses, keeping observations with the most data. Participants were sent a link to complete the diary for seven days straight over the course of a week. We excluded 35 participants who did not complete at least four of the seven diary entries – we decided four entries was the minimum amount

needed to provide reliable ratings of behavior given this was more than half the days possible. This sums to a total of 79 participants who were excluded leaving 166 participant observations for analyses.

Compensation for participation was incremental as participants completed additional surveys. Since it was crucial to the study that participants complete at least 4 out of 7 surveys, there was an increase in payment at the completion of four surveys and a further increase for continual completion of surveys. Participants received $1.00 for completing the pre–survey, $4.00 for completing four diary entries, $4.50 for completing five diary entries, $5.00 for completing six diary entries, and $6.50 for completing all seven diary entries. If participants did not complete at least four entries, or if they chose not to continue participation after the pre–survey, they received a total of $1.00 in compensation.

Pre-survey

Once participants contacted one of our researchers to indicate interest in participating in the study, we sent participants a pre–survey. The pre–survey included an informed consent form which provided all logistical information about the study including information on the length of the survey, when to take the survey, participation compensation, confidentiality, etc. (See Appendix C). In the informed consent, we informed participants that they would be receiving a daily survey with questions regarding their behaviors on that day every night at 8:00 PM Eastern time for the next seven days. The only exception to this was when one of the days fell on Thanksgiving, Christmas, or New Year's Eve. On these days we did not send the participants the survey and resumed the study the next day, picking up on the day (days were numbered 1-7) we left off on before the holiday. The survey link expired after six hours at 2:00 AM Eastern the following day, and we sent a reminder to participants (who had not already completed the day's

survey) at 11:00 PM Eastern to complete the day's survey. The pre–survey also included inclusion criteria (i.e., age, relationship status, and living situation) questions in order to ensure that participants were eligible to participate in our study. Additionally, we prompted participants to answer several demographic questions about themselves regarding gender, age, ethnicity, relationship demographics, and home life demographics. All questions in the pre-survey are included in Appendix D.

Measurement

The pre–survey also included the following scales: the Hendrick's Relationship Assessment Scale to measure relationship satisfaction (RAS; Hendrick, 1988), the Diener Satisfaction with Life Scale to measure life satisfaction (SWLS; Diener, 1985), the Big Five Inventory-2 Short Form to measure the Big Five personality traits (BFI-2-S; Soto &. John, 2017b), and the Experiences in Close Relationship Scale-Short Form to measure attachment style (ECR-S; Wei et al., 2007). The RAS scale was chosen for its good internal consistency ($\alpha = .90 – .92$), test-retest reliability ($r(71) = .74$), item reliabilities ($\alpha = .50 – .84$), convergent validity ($r(414) = –.24$, $p < .001$), predictive validity ($r(110) = –.29$, $p < .01$; $r(186) = –.36$, $p < .001$), and factorial validity one factor with eigenvalue 3.9 and accounted for more than 50% of the variance of the items) for diverse kinds of relationships (Renshaw et al., 2011). The SWLS has been found to have good internal consistency ($\alpha = .81, .63, .61, .75$, and $.66$), test-retest reliability ($r(175) = .82$), factorial validity (accounting for 66% of the variance), and inter-rater reliability (kappa = .73; Diener, 1985). We used the BFI-2-S since it retains most of the reliability and validity found in the full-length BFI-2 – that is good measures of convergent (.92 with the original BFI), test-retest (.76) and construct validity, internal consistency ($\alpha = .83 – .85$), plus a reliable five factor structure (Soto &. John, 2017a; Soto &. John, 2017b). Lastly, we choose the

ECR-S due to its good internal consistency (α = .78 – .84), test-retest reliability (*r* = .80 and *r* = .83), factor structure, and construct validity (Wei et al., 2007). Taken together, the psychometric properties of these scales reliably measure relationship satisfaction, life satisfaction, personality, and attachment style and were justifiably useful in our study.

Daily Diary Procedure

In order to have an organized system for running groups of participants, we ran participants in batches that began on Sunday evening each week and concluded on Saturday evening of the same week. We required participants to complete the pre–survey the Saturday prior to the Sunday they wished to begin the study. Participants took the same survey each evening of the study. On days one through six of the study, the first question of the diary asked, "How satisfied with your relationship are you today?" We then prompted participants to report their daily relationship satisfaction on a scale of 1 (*Not at all satisfied*) to 5 (*Extremely satisfied*) in order to provide us with a daily measure of relationship satisfaction. On the final day of the study, instead of indicating their daily relationship satisfaction, we asked participants to once again complete our measure of relationship satisfaction. With the remainder of the diary, we asked participants to indicate if they did or did not do a variety of behaviors that day. There were a total of 64 behaviors on each survey derived from our review of the literature on neuroticism and relationship satisfaction (See Appendix D for a complete list of behaviors). Participants simply checked a box if they did the behavior that day and left it unchecked if they did not. We calculated averages for each behavior on our daily checklist for each participant. If a person indicated that they did a behavior (1 if the behavior occurred, 0 if it did not). For each participant, we averaged across all days of participation for each behavior so that every

participant had a score ranging from zero to one for all behaviors indicating what percentage of days they enacted the behavior.

Results

Are Relationship Satisfaction and Neuroticism Related?

To test our first hypothesis, that neuroticism and relationship satisfaction are significantly associated, we ran a correlation. First, we used the initial measure of relationship satisfaction from the RAS in the pre-survey and found a significant negative correlation between level of neuroticism ($M = 2.83$, $SD = .721$) and relationship satisfaction ($M = 3.36$, $SD = .551$), $r_s(129) = –.22$, $p = .012$. See Table 2. Next, we tested the association using an average of our daily measure of relationship satisfaction and found a significant negative correlation between level of neuroticism ($M = 2.83$, $SD = .721$) and relationship satisfaction ($M = 3.98$, $SD = .848$), $r_s(129) = –.37$, $p < .001$; see Table 2). Lastly, we tested the association using the measure of relationship satisfaction from the RAS on the final day of the diary study (for those participants who completed the final day) and again found a significant negative correlation between neuroticism ($M = 2.83$, $SD = .721$) and relationship satisfaction ($M = 3.45$, $SD = .517$), $r_s(111) = –.31$, $p < .001$; see Table 2). Taken together, each of these correlational analyses support our first hypothesis (and previous research findings) that there is a negative association between neuroticism and one's relationship satisfaction.

It is notable that these correlations varied across assessments. The variance in values could be due to the fact that when answering the average relationship satisfaction across the week and the final day measure of relationship satisfaction, participants could have been more aware of their relationship functioning since doing the diary. This awareness could have artificially decreased relationship satisfaction. Regardless, since each measure of relationship

satisfaction was significant, we decided to only use one measure of relationship satisfaction for future analyses. We choose to use participants' average daily relationship satisfaction as our measure of relationship satisfaction in further analyses since this data was longitudinal like the diary data.

Table 2

Correlation Matrix for Relationship Satisfaction and Neuroticism

Variable	Neuroticism
Neuroticism	1
Presurvey RAS	-0.2172*
Average RS	-0.3682***
Day 7 RAS	-0.3070***

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

Preliminary Factor Analyses: Establishing Whether Behaviors Cluster into Positive and Negative Dimensions

To test our second hypothesis that our behaviors would broadly cluster into positive and negative factors, we used exploratory factor analysis. The initial extraction had 11 factors with an eigenvalue > 1. However, the first two factors with eigenvalues > 9 accounted for far greater variance than the other seven factors. The first factor accounted for 28% of the variance and the second factor 20% of the variance; whereas, the third factor accounted for only 6% of the variance. Our scree plot (see Appendix E) indicated the 'elbow' occurred at the third factor, suggesting we should again extract the first two factors. We also ran a parallel analysis in which we observed six factors larger than noise generated from random data. Considering each of these tests (eigenvalues, scree plot output, and parallel analysis) we extracted two factors. The first two

factors accounted for the most variance and the next four factors (as suggested for extraction by the parallel analysis). Moreover, the factors after the first two had only a few items with weak loadings and cross-loading on the first two factors. Because we thought these dimensions were likely correlated, we used an oblique rotation to enhance interpretability. The promax-rotated factor analysis output indicated that our two factors explain 50% of the total variance accounted for in the model. These loadings generally align with our a priori predictions about which behaviors would load together. Thirty-one of the behaviors loaded onto a "Negative Behavior" factor. Twenty-one of the items loaded on to a "Positive Behavior" factor (see Table 3). However, a few behavioral items did not load as expected:

"Disclose something that was troubling to you to your partner"

"How many times today did you ask your partner for support?"

"Tell your partner about any negative emotions you felt today"

"Tell your partner you forgive them"

"Ask for forgiveness"

We predicted that each of these behaviors would load with the positive behaviors for being relational repairing behaviors. Now, we believe these behaviors loaded onto the negative behavior factor since each is associated with a behavior that is required in the presence of a negative feeling or as a consequence of a negative action. For example, one would need to ask for forgiveness because a transgression (a negative behavior) had occurred. Ultimately, the results of this factor analysis support our hypothesis that our behaviors would cluster into positive and negative behaviors (with a few exceptions as explained).

Post-hoc Factor Analyses

After examining the results of the factor analysis, but not our substantive tests of mediation, we decided to do two additional exploratory factor analyses to determine if there were

subgroups of behaviors within the positive and negative factors. Based on our understanding of the neuroticism literature we expected factors related to sex (Fisher & McNulty, 2008; Russell & McNulty, 2011), conflict tactics (Hoppmann & Blanchard-Fields, 2011; Watson & Hubbard, 1996; Woszidlo & Segrin, 2013), and emotional expression behaviors (McKinnon & Greenberg, 2017). Using a rational approach based on the content of the items, we identified 11 behaviors that clustered into a conflict tactics factor. Similarly, 11 of the behaviors clustered into an emotional expression factor (see Table 4). We identified only one item that unambiguously examined sexuality ("Did you have a sexual experience with your partner

today?"). Given the established associations between conflict tactics, emotional expression, and sexual frequency to both neuroticism and relationship satisfaction, we examined whether these factors nested within our broader factors mediated the relationship between neuroticism and relationship satisfaction. To test for their incremental utility, we also examined a model in which their parent factor was included to see whether they had an impact above and beyond the effects of the broader positive and negative factors.

Table 3

Two Factor Loadings for Each Behavior

Item	Negative Behavior	Positive Behavior	Communalities
External compassion		.61	.45
Relational compassion		.56	.32
External happiness		.67	.44
Relational happiness		.67	.45
Happiness for partner		.46	.20
External gratitude		.70	.53
External anxiety		.46	.36
Relational anxiety	.45		.20
External sadness	.47		.33
Relational sadness	.67		.43
External hurt	.70		.52
Relational hurt	.77		.59
External anger	.65		.58
Relational anger	.76		.59
External jealousy	.65		.46
Relational jealousy	.53		.28
Surprise			.07
Positive touch		.74	.53
Negative touch	.64		.39
Insult	.71		.48
Asking for support			.21
Disclosure	.40		.32
Emotion expression		.66	.43
Help with task		.64	.41
Encourage emotion			.21
Ask question		.59	.36
Start conversation		.82	.68
Activity with partner		.72	.51
Compliment partner		.82	.67
Gratitude		.88	.77
Threaten harm	.48		.22
Threaten to leave	.56		.31
Make partner cry	.59		.35
Isolate from partner	.76		.56
Upset at partner	.81		.64
Cry	.59		.34
Celebrate with partner			.20
Apologizing to partner	.62		.46
Yell at partner	.62		.38
Sharing negative feelings	.43		.27
Lie to partner	.41		.23
Sex with partner			.06
Reject sex	.55		.32
Infidelity against partner			.03
Phone usage			.13

Ask partner about feelings			.20
Tell partner like/love them		.85	.70
Ask partner to do activity		.52	.27
Ask partner how they feel			.14
Tell partner you care		.77	.58
Ask for validation	.57		.37
Express how you care		.76	.57
Suppress emotion	.62		.50
Question motives	.63		.40
Tell them you love them	.43		.30
Activity outside home		.71	.49
Difficult task together		.44	.28
Try something new			.12
Argue in front of others	.64		.40
Something embarrassing	.47		.21
Leave unresolved conflict	.60		.35
Ask for forgiveness	.73		.54

Note. Each factor loaded onto either the "Negative behavior" factor or the "Positive behavior" factor. Only loadings >.4 are shown. The negative behaviors factor has an eigenvalue of 13.83 and accounted for 28% of the variance The positive behaviors factor has an eigenvalue of 9.87 and accounted for 20% of the variance. Each of these behaviors are the participant indicating if he or she did or did not do each behavior.

Mediational Analyses

Mediation allows us to test whether a variable (M) influences or partially contributes to the relationship between a predictor (X) and an outcome (Y). In testing for mediation, we followed the Shrout and Bolger (2002) approach and notation (i.e., a, b, c, c' paths). We used structural equation modeling to conduct our tests of mediation. This approach is good because it allows us to examine the multiple steps of mediation in a single model rather than a series of separate regressions. Moreover, it easily allows us to provide an estimate of the indirect effect

Table 4

Loadings for Subgroup Behaviors

Item	Conflict Tactics	Emotional Expression
Negative touch	.79	
Insult	.73	
Threaten harm	.46	
Threaten to leave	.77	

Make partner cry	.49	
Isolate from partner	.89	
Upset at partner	.89	
Cry	.65	
Yell at partner	.81	
Argue in front of others	.84	
Leave unresolved conflict	.87	
Ask for support		.43
Emotion expression		.59
Disclosure		.61

Encourage emotion	.60
Gratitude	.71
Sharing negative feelings	.40
Ask partner about feelings	.50
Tell partner like/love them	.63
Tell partner you care	.67
Ask for validation	.48
Suppress emotion	.42

Note. Each factor loaded onto either the "Negative behavior" factor or the "Positive behavior" factor. Only loadings >.4 are shown. Each of these behaviors are the participant indicating if he or she did or did not do each behavior.

(including a 95% confidence interval for inferential tests) using a bootstrap approach. Our first mediation analysis tested whether neuroticism influenced relationship satisfaction via the mechanism of fewer positive behaviors.

Do Positive Behaviors Mediate the Relationship Between Neuroticism and Relationship Satisfaction?

As predicted based on previous research, neuroticism directly predicted relationship satisfaction in a model where the impact of positive behaviors was constrained to 0 (c path β = -0.17, p = .04, 95% CI [-0.33, -0.00]). The effect of neuroticism on relationship satisfaction was not significantly reduced when we account for the role of positive behaviors in the model (c' path β = -0.17, p = .03, CI [-0.33, -0.01]). Contrary to our predictions, neuroticism did not significantly predict positive behaviors, (a path β = 0.01, p = .902, CI [-0.16, 0.18]), although the relationship between positive behaviors and relationship satisfaction was significant, (b path β = 0.28, p < .001, CI [0.13, 0.44]). The 95% confidence interval for the indirect effect included zero ([-0.03, 0.04]), suggesting that positive behaviors do not mediate the relationship between neuroticism and relationship satisfaction (See Figure 2). This does not support our initial prediction.

Figure 2

Mediation of Positive Behaviors on the Relationship Between Neuroticism and Relationship Satisfaction

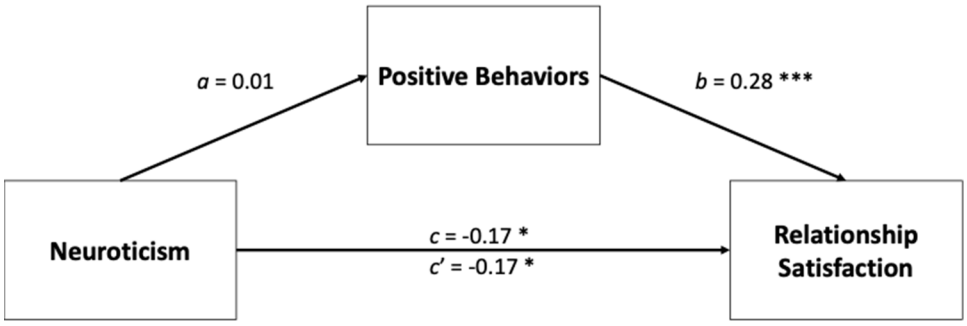


Figure 2. Standardized regression coefficients for the relationship between the level of neuroticism and relationship satisfaction via positive behaviors. *p < .05, ** p < .01, *** p < .001

Do Negative Behaviors Mediate the Relationship Between Neuroticism and Relationship Satisfaction?

Next, we tested our prediction that negative relational behaviors would mediate the neuroticism and relationship satisfaction association (See Figure 3). We found that neuroticism did predict negative behaviors, (a path β = 0.42, p < .001, CI [0.29, 0.56]). When we controlled for neuroticism, the relationship between negative behaviors and relationship satisfaction was also significant, (b path β = -0.24, p = .007, CI [-0.42, -0.07]). The effect of neuroticism on relationship satisfaction was significantly reduced when we account for the role of negative behaviors in the model, (from c' path β = -0.17, p = .044, CI [-0.33, -0.00] to c path β = -0.07, p = .472, 95% CI [-0.25, 0.11]). The 95% confidence interval for the indirect effect does not include zero ([-0.14, -0.01]), suggesting that negative behaviors significantly mediate the effect of neuroticism on relationship satisfaction, effect = -.08. Our effect ratio was 1.14 indicating that negative behaviors fully mediate the impact of neuroticism on relationship satisfaction.

Figure 3

Mediation of Negative Behaviors on the Relationship Between Neuroticism and Relationship Satisfaction

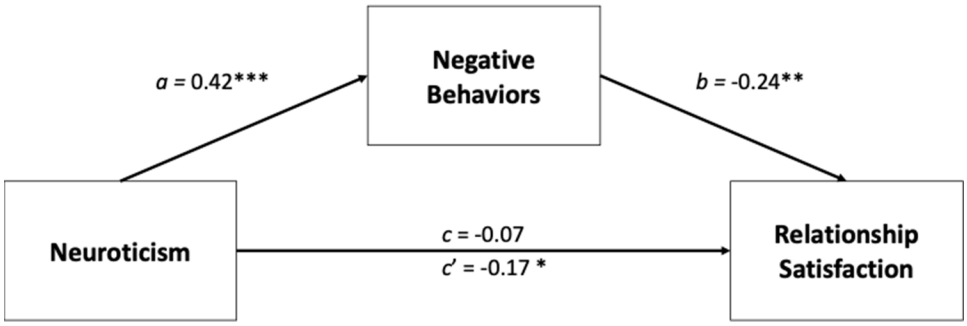


Figure 3. Standardized regression coefficients for the relationship between level of neuroticism and relationship satisfaction by means of negative behaviors. *p < .05, ** p < .01, *** p < .001

Post-hoc Double Mediation Analyses

Does Sex Behavior Mediate the Relationship Between Neuroticism and Relationship Satisfaction?

Next, we ran double mediation analyses in order to assess the mediational impact of the subgroups we created (see "Post-hoc Factor Analyses"). First, we predicted our sex item would mediate the association of neuroticism and relationship satisfaction. Contrary to our prediction and the literature, we found no association between neuroticism and our sex behavior (a_1 path β = 0.01, p = .912, 95% CI [-0.16, 0.18]) or between sex and relationship satisfaction, (b_1 path β = 0.06, p = .501, 95% CI [-0.11, 0.23]). Additionally, there was no significant indirect effect (95% CI [-0.03, 0.04]) suggesting no mediational influence of sexual experiences on the relationship between neuroticism and relationship satisfaction and a lack of support for our prediction (See Figure 4).

Figure 4

Mediation of Sexual Behavior on the Relationship Between Neuroticism and Relationship Satisfaction

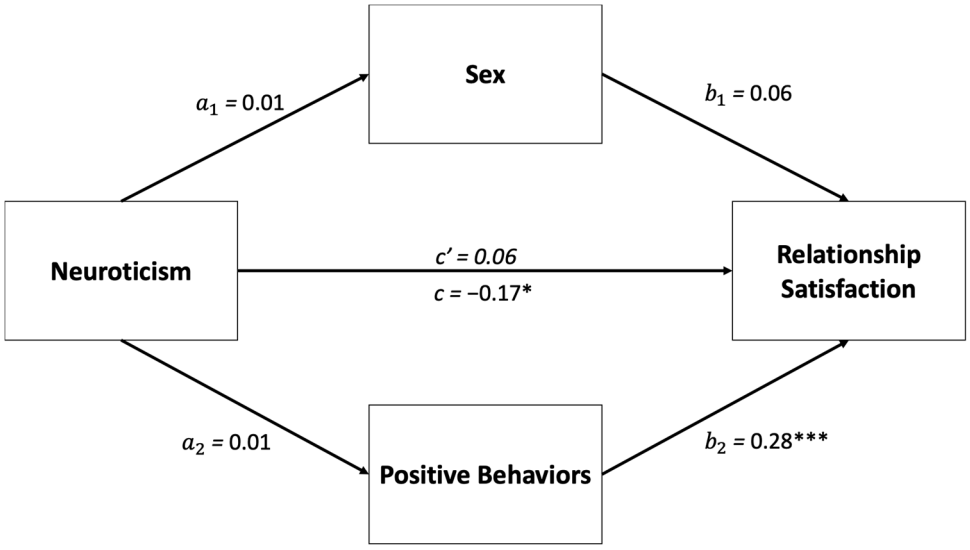


Figure 4. Standardized regression coefficients for the relationship between the level of neuroticism and relationship satisfaction by means of sexual behavior. *p < .05, ** p < .01, *** p < .001

Do Conflict Tactics Behaviors Mediate the Relationship Between Neuroticism and Relationship Satisfaction?

Our double mediation assessing the mediational impact of conflict tactics supported our prediction that conflict related behaviors have a significant impact on the neuroticism/relationship satisfaction association. In fact, the results suggest that conflict tactics are "where the action is" regarding the mediating impact of negative behaviors (see Figure 5). We found that there are significant relationships between neuroticism and conflict tactics (a_1 path β = 0.34, p < .001, 95% CI [0.19, 0.49]) and between conflict tactics and relationship satisfaction, (b_1 path β = -0.45, p < .001, 95% CI [-0.64, -0.25]). The effect of neuroticism on relationship satisfaction was significantly reduced when we account for the role of conflict tactic behaviors in the model, (from c' path β = -0.17, p = .044, CI [-0.33, -0.00] to c path β = -0.10, p

= .220, 95% CI [-0.27, 0.06]). Then we found that although neuroticism still predicted negative behavior, except those considered conflict tactics, (a_2 path β = 0.46, p < .001, 95% CI [0.34, 0.59]), negative behaviors no longer predicted relationship satisfaction, (b_2 path β = 0.21, p = .092, 95% CI [-0.03, 0.46]). This suggests that conflict tactics play a major role in the relationship between neuroticism and relationship satisfaction over and beyond the mediational impact of negative behaviors.

To ensure these findings were not being driven by conflict tactics embedded in the negative behaviors latent factor, we re-ran the analysis with the conflict tactics behaviors removed from the negative behaviors latent factor and observed the same pattern of results. This confirms that conflict tactics are a critical mechanism through which negative relational behaviors influence the neuroticism and relationship satisfaction association.

Figure 5

Mediation of Conflict Tactic Behaviors on the Relationship Between Neuroticism and Relationship Satisfaction

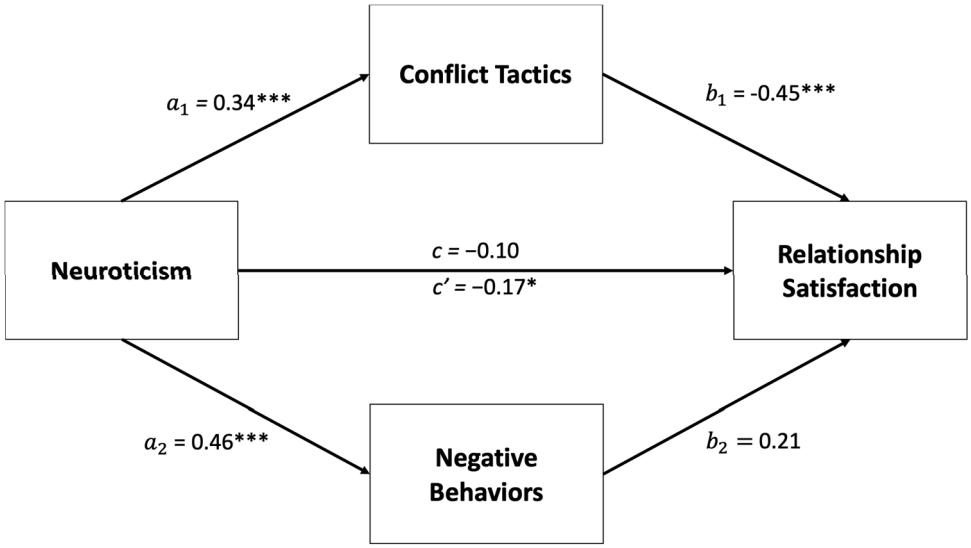


Figure 5. Standardized regression coefficients for the relationship between level of neuroticism and relationship satisfaction by means of conflict tactic behaviors. *p < .05, ** p < .01, *** p < .001

Do Emotional Expression Behaviors Mediate the Relationship Between Neuroticism and Relationship Satisfaction?

Lastly, we tested our prediction that emotional expression behaviors would mediate the relationship between neuroticism and relationship satisfaction (see Figure 6). We found no significant association between neuroticism and emotional expression, (a_1 path β = 0.15, p < .069, 95% CI [-0.01, 0.32), and no significant relationship between emotional expression and relationship satisfaction, (b_1 path β = -0.02, p = .884, 95% CI [-0.31, 0.26]). However, the effect of neuroticism on relationship satisfaction was significantly reduced when we account for the role of emotional expression behaviors in the model, (from c path β = -0.17, p = .044, CI [-0.33, -0.00] to c' path β = -0.16, p = .061, 95% CI [-0.33, 0.01]). With no significant indirect effects, we conclude there is no mediational impact of emotional expression behaviors on the

neuroticism/relationship satisfaction association. These findings do not support our prediction that emotional expression has a mediational impact.

Figure 6

Mediation of Emotional Expression Behaviors on the Relationship Between Neuroticism and Relationship Satisfaction

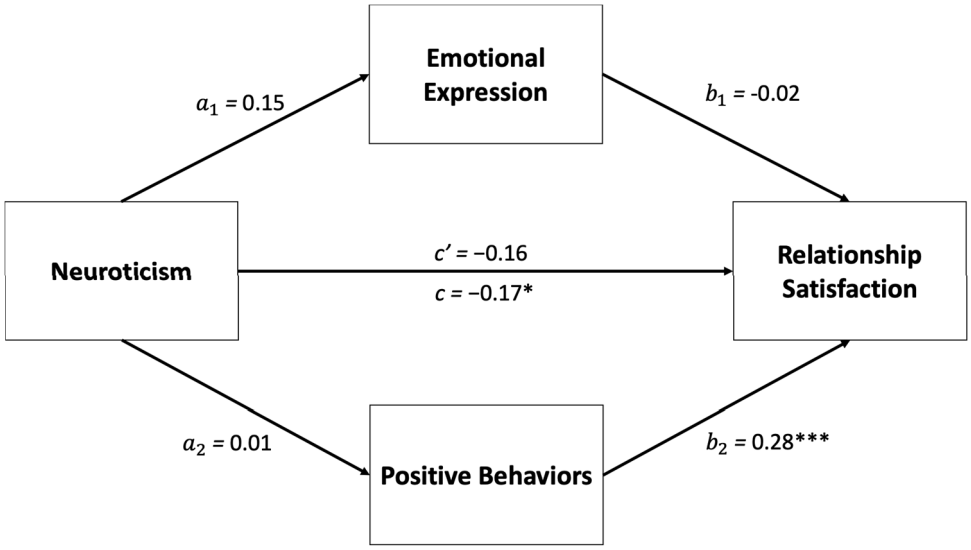


Figure 6. Standardized regression coefficients for the relationship between level of neuroticism and relationship satisfaction by means of emotional expression behaviors. *p < .05, ** p < .01, *** p < .001

Discussion

The personality and relationship functioning literature has repeatedly shown a significant negative association between neuroticism and relationship satisfaction (Beach et al., 2003; Lester et al., 1989; Schaffhuser et al., 2014; Zare et al., 2012; Zimet, 2002). Previous research has also suggested a variety of mechanisms that contribute to and perhaps explain this association as described in the introduction. Separately, there is a variety of research on mechanisms and behaviors that contribute to positive and negative relationship functioning as also described in the introduction. However, there is significantly less research on the behavioral components that may drive the association between neuroticism and relationship satisfaction.

Our study aimed to assess what behaviors influence the relationship between neuroticism and relationship satisfaction. As predicted, we found a significant negative association between self–reported neuroticism and relationship satisfaction. An exploratory factor analysis derived factor of negative behaviors predicted a decrease in relationship satisfaction while the positive behavior factor predicted a positive increase in relationship satisfaction. Mediational analyses found that the negative cluster mediated the association between neuroticism and relationship satisfaction, whereas the positive cluster did not.

As we hypothesized, neuroticism predicted negative behaviors; however, contrary to what we predicted, neuroticism did not significantly predict positive behaviors. We considered two reasons why high levels of neuroticism did not predict fewer positive behaviors. First, our results indicate that individuals higher in neuroticism are engaging in more negative behaviors, so conceivably individuals higher in neuroticism do more positive behaviors to 'make up for' all their negative behaviors. Additionally, negative behaviors could just have more relational impact since they are widely considered to be "bad" (Baumeister et. al., 2001). Or, perhaps individuals higher in neuroticism are reactive and simply just engage in more behaviors in general (negative, positive, etc.). Lastly, we made post-hoc predictions that the sex behavior, a cluster of conflict related behaviors, and a group of emotional expression behaviors would all mediate the neuroticism/relationship satisfaction association. Only the cluster of conflict tactic behaviors had a mediational impact, and this impact was above and beyond that of the negative behavior cluster's mediational impact.

These findings support prior theories regarding interpersonal functioning (Baumeister et. al., 2001; Gottman et. al., 1998; Thibaut & Kelley, 1959; Weiss, 1980) that suggest positive and negative experiences (i.e, behaviors, affect, interactions, etc.) have significant influence on

relationship functioning/quality. They also extend previous literature in tangible ways. This research provides insight to the specific behaviors that, at least partially, influence the impact of neuroticism on relationship satisfaction. This insight is fundamental to romantic relationship research and relationship clinical work given neuroticism's deleterious effects on relationship satisfaction. Neuroticism, as a continuous personality trait, is experienced amongst general populations to varying degrees, and within psychologically distressed populations, to severe degrees (Griffith et al., 2010; Kotov et al., 2010). This makes addressing the effects of neuroticism incredibly relevant to many people. Our work illuminates the impact of neuroticism on all individuals' relationships at the behavioral level. Generally, perceptions of neuroticism and its effects have been seen as a predetermined fate to be endured, but examining their behavioral manifestations provides insight for how to reduce the negative implications of neuroticism in romantic relationships.

However, there are some limitations to the current study that must be addressed. One possible limitation of our study was ambiguity in interpretation of several of our behaviors (i.e., forgiveness related behaviors). Some of the constructs we intended to measure failed to be captured clearly because of the phrasing we used to assess the behavior. Future research would benefit from more concise and specific articulation of behaviors. Another limitation of the current study is that, since it is correlational by nature, we do not know the causal effects of our results. However, when taken together the results of our study seem to clearly suggest that individuals high in neuroticism are engaging in more behaviors that are aversive to their romantic relationships. We are confident these behaviors partially explain the association between neuroticism and relationship satisfaction, making us confident these behaviors are an active ingredient in relationship distress and success.

This study is also limited by a lack of dyadic data collection. The current study provides insight on one individual's self-reported level of neuroticism and one's self-reported level of relationship satisfaction. Although this research was informative in its own right regarding what behaviors might be associated with level of neuroticism, our future research will replicate this research with a dyadic diary study where both partner's report on level of neuroticism, relationship factors (like relationship satisfaction), and behaviors. A lack of dyadic data leaves some questions unanswered. For example, does one's own level of neuroticism predict a partner's perception of the individual's positive and negative behaviors? Additionally, a dyadic diary study can provide data on how one partner's level of neuroticism or behaviors influence his or her partner's relationship satisfaction and behaviors. Dyadic data will also allow us to perform further data analysis on how reciprocal and/or reactive behaviors may be affecting partner's behaviors or relationship satisfaction and other more broad and informative data analyses.

Humans are relational beings who value close relationships, so working to maintain positive relationship functioning is essential to maintain long-term valuable relationship experiences. Our research findings can inform clinical domains to increase the success of relationship outcomes. With a greater understanding of the behavioral effects of neuroticism at the individual and couple level, clinicians can do psychoeducation and psychotherapy with individuals and couples to first educate and then treat relational distress associated with neuroticism. Psychoeducation allows a clinician to teach a client(s) about his or her disorder/issue so they can fully comprehend what the problem is, know why it exists, how it manifests itself, and what he or she can do to manage it. With neuroticism, psychoeducation can look a variety of ways. First, it can look like a background on the Big Five Personality traits, including teaching clients about these traits, how they score on them, and how they might relate

to their problematic behavior. Psychoeducation could also be a discussion about what neuroticism is and how it manifests itself at the individual level, or an explanation of the current research on the effects of neuroticism in one's life – including on one's relationships (romantic, familial, friendly, etc.).

As for relationship focused psychotherapy, once an individual understands the implications of neuroticism, a clinician could work with both partners in a relationship to educate the couple on how to manage the effects of neuroticism in/on the relationship. Our research informs this process. For instance, our research suggests that individuals with higher levels of neuroticism tend to exhibit more negative conflict tactic behaviors. Therefore, a clinician could work, at both the individual and couple level, with clients on how to best cope with stressful situations and how to do so effectively in order to mitigate relationship distress. Then, through learned implementation of combative techniques, individuals can learn to thwart the negative influences of neuroticism in their close relationships. Using research as a foundation for clinical work is essential for progress and effectiveness in counseling.

Taken all together, our research suggests that neuroticism is associated with more frequent negative relational behaviors, and specifically more poor conflict management behaviors. We also found that these behaviors alone decrease relationship satisfaction, but that they also are mechanisms through which neuroticism works to decrease relationship satisfaction. Overall, the implications of these research findings are crucial for continual progress in the personality and relationship functioning research. With the current research as a foundation, we aim to replicate and expand findings in research involving dyads. Further, the implications of our research are also important in the lives of all who experience neuroticism or who are in a

relationship with individuals who do because our research findings can be integrated clinically to improve relationship functioning and satisfaction.

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Appendix A

Daily Diary Survey Questions

Today did you express any of the following emotions to your partner today? (Check all that apply)

- Compassion (for something outside your relationship)
- Compassion (for your partner)
- Happiness (for something outside your relationship)
- Happiness (for your relationship)
- Happiness (for your partner's happiness)
- Gratitude (for something outside your relationship)
- Gratitude (for your partner)
- Anxiety (about something outside your relationship)
- Anxiety (about your relationship)
- Sadness (about something outside your relationship)
- Sadness (about your relationship)
- Hurt (about something outside your relationship)
- Hurt (about your relationship)
- Anger (about something outside your relationship)
- Anger (about your relationship)
- Jealousy (about something outside your relationship)
- Jealousy (about your relationship)

Did you do any of the following behaviors TODAY? (Check all that apply)

- Surprise your partner with something he or should would enjoy
- Physically touch your partner in a positive way (i.e., hold hands, back rub, etc.)
- Physically touch your partner in a negative way (i.e., grab arm, shove, etc.)
- Belittle or insult your partner
- Ask your partner for support
  - If yes → How many times today did you ask your partner for support?
- Disclose something that was troubling to you to your partner
- Express an emotion to your partner
- Help your partner with a task
- Encourage your partner to express his/her feelings to you
- Ask your partner for support today
- Ask your partner a question about themselves
- Start a conversation with your partner
- Participate in an activity with your partner outside the home (i.e., see a movie, go to dinner, go on a hike)
- Compliment your partner
- Express gratitude to your partner
- Threaten harm to your partner
- Threaten to leave your partner
- Make your partner cry
- Isolate yourself from your partner
- Get upset at your partner

Cry
Help your partner celebrate an achievement
Did you consume/use any of the following substances today? (Choose all that apply)
- Alcohol
  - If yes → How many drinks did you consume today?
- Marijuana
  - If yes → How much marijuana did you consume today?
- Tobacco
  - If yes → How much tobacco did you consume today?
- Other drug _____
  - If yes → How much____did you consume today?

Apologize to your partner
Yell at your partner
Tell your partner about any negative emotions you felt today
Lie to your partner
Have a sexual experience with your partner
Reject your partner's attempt to have a sexual encounter
Commit an act of infidelity against your partner
Use your phone during a conversation or interaction you were having with your partner
- If yes → How many times did you use your phone during a conversation or interaction you were having with your partner today?

Ask your partner how they feel about you
Tell your partner that you like or love them
Ask your partner to do an activity with you today
Tell your partner how much you care about them
Ask your partner for validation/acceptance
Express to your partner how much you care about them
Suppress an emotion or thought you wanted to share with your partner
Question your partner's motives for his or her positive behavior(s)
Tell your partner you forgive them
Spend time doing something with your partner that he or she enjoys
Work on a difficult task together with your partner
Try something new with your partner
Argue with your partner in front of anyone else
When in public today with your partner, you did something embarrassing
Leave in the middle of an unresolved situation
Ask for forgiveness

Appendix B

Study Recruitment Materials

Seeking Couples Together for at Least One Year

Are you over the age of 18? Have you been living with your romantic partner for at least 1 year?

If you said yes to both these questions, you qualify to participate in our research study! We are looking for individuals in relationships to participate in a 7-day daily diary study looking at relationship functioning. There is compensation for your participation!

If interested, contact Alexyss Lange at alexyss.lange@yale.edu

Figure B6. Craigslist advertisement poster.

Appendix C

Informed Consent Form
Verbal/Online Informed Consent Script for Participation in a Research Study
HSC #2000026694

We are conducting a research study to examine relationship functioning in couples who live together. Participation in this study will involve the completion of 7 surveys over the course of the next 7 days. Your involvement will require approximately 5-10 minutes of your time each day over the next 7 days. You will receive $1.00 for completing the initial survey. Then, at the end of our daily diary survey, because it is crucial to our study that you complete as many surveys as possible, you will receive $4.00 for completing 4 diary entries, $4.50 for 5 diary entries, $5.00 for 6 diary entries, and $6.50 for completing all 7 diary entries. If you do not complete at least four entries, or if you choose not to continue participation after the initial survey, you will receive a total of $1.00.

You may experience slight distress over the nature of some of the questions; however, we don't anticipate any serious risk to you for participating. Although this study will not benefit you personally, we hope that our results will add to the general knowledge about relationship functioning.

All of your responses will be held in confidence. Only the researchers involved in this study and those responsible for research oversight will have access to the information you provide. Your responses will be kept in secure data files under password protection.

Your responses will be numbered and your responses stored only with that number will be kept in a locked file cabinet. A code linking your number with your name will be stored in a separate locked file cabinet. All identifying information (meaning your name and linked code number) will be destroyed after our study and any extensions of our study are completed.

Participation in this study is completely voluntary. You are free to decline to participate, to end participation at any time for any reason, or to refuse to answer any individual question without penalty or loss of compensation. You need not agree to participating in any extension of the study. Your decision whether or not to participate in this study will not affect your relationship with the community in any way.

If you have any questions about this study, you may contact the investigator, Alexyss Lange, alexyss.lange@yale.edu or her supervisor Margaret Clark at Margaret.clark@yale.edu.

If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or

to discuss your rights as a research participant, you may contact the Yale University Human Subjects Committee, 203-785-4688, human.subjects@yale.edu. Additional information is available at https://your.yale.edu/research-support/human-research/research-participants/rights-research-participant

If you would like to participate in the study, proceed to the next page.

Appendix D

Pre-Survey Questions

Inclusion Criteria Questions:

Are you over the age of 18?
Are you currently in a relationship?
Have you been in a relationship for at least 1 year?
Have you and your partner been living together for at least 1 year?

Demographic Questions:

With which gender do you identify?
What is your age? (in years)
Please indicate how you identify yourself. (Choose all that apply)
- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other/I'd like to explain more ____

How many years ago did you and your partner's romantic relationship begin?
How many years ago did you and your partner move in together?
Which statement best describes your romantic relationship?
Are any of the following people living in your home with you and your partner? (Check all that apply)
How many_____(insert answer choice from above)?
- Children - biological or adopted, excluding step children
- Step children
- Foster children
- Your parent(s)
- Your partner's parent(s)
- Other ____

Life Satisfaction Scale Questions: (Answered on a scale of 1 (strongly disagree) to 7 (strongly agree))

In most ways my life is close to ideal.
The conditions of my life are excellent.
I am satisfied with my life.
So far, I have gotten the important things I want in life.
If I could live my life over, I would change almost nothing.

Relationship Satisfaction Scale Questions: (Answered on a 5-point scale)

How well does your partner meet your needs?
In general, how satisfied are you with your relationship?
How good is your relationship compared to most?
How often do you wish you hadn't gotten into this relationship?
To what extent has your relationship met your original expectations?
How much do you love your partner?
How many problems are there in your relationship?

Big Five Personality Assessment: (Answered from 1 (disagree strongly) to 5(agree strongly))

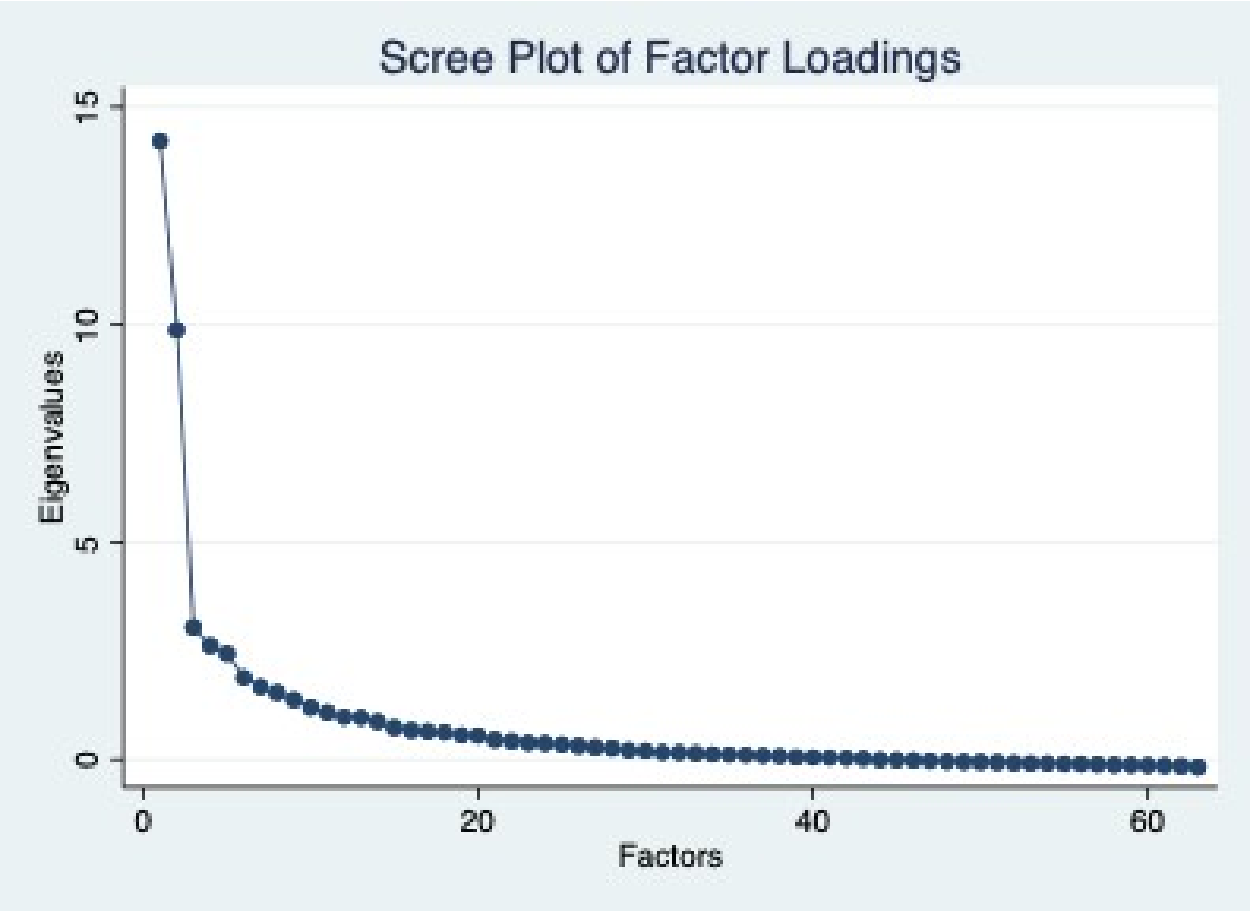
Tends to be quiet.
Is compassionate, has a soft heart.
Tends to be disorganized.
Worries a lot.
Is fascinated by art, music, or literature.
Is dominant, acts as a leader.
Is sometimes rude to others.
Has difficulty getting started on tasks.
Tends to feel depressed, blue.
Has little interest in abstract ideas.
Is full of energy.
Assumes the best about people.
Is reliable, can always be counted on.
Is emotionally stable, not easily upset.
Is original, comes up with new ideas.
Is outgoing, sociable.
Can be cold and uncaring.
Keeps things neat and tidy.
Is relaxed, handles stress well.
Has few artistic interests.
Prefers to have others take charge.
Is respectful, treats others with respect.
Is persistent, works until the task is finished.
Feels secure, comfortable with self.
Is complex, a deep thinker.
Is less active than other people.
Tends to find fault with others.
Can be somewhat careless.
Is temperamental, gets emotional easily.
Has little creativity.

Attachment Style Scale: (Answered from 1 (strongly disagree) to 7 (strongly agree))

It helps to turn to my romantic partner in times of need.
I need a lot of reassurance that I am loved by my partner.
I want to get close to my partner, but I keep pulling back.
I find that my partner(s) don't want to get as close as I would like.
I turn to my partner for many things, including comfort and reassurance.
My desire to be very close sometimes scares people away.
I try to avoid getting too close to my partner.
I do not often worry about being abandoned.
I usually discuss my problems and concerns with my partner.
I get frustrated if romantic partners are not available when I need them.
I am nervous when partners get too close to me.
I worry that romantic partners won't care about me as much as I care about them.

Appendix E

Scree Plot of Factor Loadings



Note. The scree plot of factors and their associated eigenvalues. The scree plot's elbow is at three factors suggesting extraction of two factors.