Testing an Integrated Interpersonal Theory of Depression: The Role of Dysphoria, Negative Relationship Cognitions and Excessive Reassurance-Seeking in Predicting Rejection

by

Jeremy Gordon Stewart

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Abstract

Coyne’s (1976) interpersonal theory of depression proposes that individuals suffering from depressive symptoms tend to engage in excessive reassurance-seeking (ERS), defined as repetitively asking for assurances from close others about one’s lovability and worth. Research has shown that ERS is associated with negative evaluations from close others and lower partner-reported romantic relationship satisfaction, specifically (Starr & Davila, 2008). In a recent elaboration of Coyne’s theory, Evraire and Dozois (2011) proposed that ERS might only lead to rejection among individuals who possess core beliefs about the instability and unpredictability of relationships. The primary goal of the current study was to provide the first empirical test of this revised model. Furthermore, I sought to extend previous research in 2 important ways by: 1) employing both self-reported and behaviorally-assessed measures of ERS and 2) defining rejection in objective, behavioral terms. I recruited a sample of 118 women who attended an initial laboratory session with their male dating partners. The couple completed measures of ERS, depressive symptoms, anxious attachment (AA), rejection sensitivity (RS), and relationship satisfaction, and engaged in a laboratory task that was later coded for incidences of female ERS. AA and RS were combined to index core beliefs reflecting insecurity in relationships (i.e., “negative relationship cognitions”; NRC). Women completed a contextual interview to retrospectively assess historical romantic relationship rejection events. The women were re-contacted four months later to determine their relationship status. Consistent with hypotheses, behavioral ERS was significantly associated with concurrent male relationship dissatisfaction, but only among dysphoric women with high NRC. Surprisingly, ERS was only significantly associated with historical rejection in non-dysphoric women with low levels of NRC. In the prospective models, I found a main effect of self-reported ERS on partner-initiated rejection, but
behavioral ERS was only associated with rejection among non-dysphoric women. My results were inconsistent with theory and previous research in models defining rejection behaviorally. Thus, I proposed revisions to existing interpersonal models to better capture the relationship between ERS and “real-world” rejection. My results underscore the importance of evaluating ERS in a particular relationship when predicting rejection outcomes in that specific relationship.
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Chapter 1

Introduction

Major Depressive Disorder (MDD) is a mood disorder characterized by intense feelings of sadness and despair and/or loss of interest in one’s usual activities or pastimes. It is a highly prevalent mental disorder that has serious documented consequences for individuals who suffer from it and for society more broadly. In their lifetimes, 12.2% of Canadians will develop full-blown MDD (Patten et al., 2006), and milder, subclinical forms of depression with too few symptoms to meet full diagnostic criteria are even more common. For instance, in a large community sample, Wells and colleagues (1989) found that nearly 22% of individuals exceeded a cutoff score for clinically meaningful symptoms of depression. MDD significantly impairs general workforce function in adults (McIntyre et al., 2008), and costs the Canadian economy an estimated 1.4 billion dollars per year in lost work time alone (Stephens & Joubert, 2001).

Currently, MDD ranks fourth highest in the global burden of disease overall and causes the largest non-fatal burden, accounting for approximately 12% of all total years lived with disability worldwide (Ustun, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004). Therefore, it is not surprising that research on the etiology, development, pathology and treatment of MDD and its symptoms has been identified as a top health priority (Kessler et al., 2003).

The impact of depression is perhaps most evident in its impairment of the social functioning of afflicted individuals. Joiner, Coyne and Blalock (1999) wrote: “regardless of what other factors may be involved, the interpersonal context affects greatly whether a person becomes depressed, the person’s subjective experience while depressed, and the behavioral manifestations and resolution of the disorder. Consideration of the interpersonal context is simply a necessity for an adequate account of the disorder” (p. 3). Indeed, the impact of the
interpersonal context in depression has received both empirical attention, and broad support in the literature. For instance, in a large meta-analysis on general social skills, Segrin (1990) reported medium to large effect sizes for differences between depressed and non-depressed individuals’ ratings of their own social skills, and small to medium effects for group differences in partner or observer ratings of social skills. Furthermore, relative to non-depressed individuals, depressed individuals have less integrated social networks (e.g., Gotlib & Lee, 1989) and report that the social interactions they engage in are less enjoyable and less rewarding (e.g., Nezlek, Hampton, & Shean, 2000). The current study will focus on a central interpersonal problem that is both a cause and consequence of clinical and sub-clinical forms of depression: rejection from other people. More specifically, the goal of the current study is to test a cognitive-interpersonal mechanism through which depressed individuals may elicit rejection from close others.

**Depression and Interpersonal Rejection**

A large body of early research demonstrated that individuals with symptoms of depression tend to elicit rejection and other negative behaviors from others. The first studies used a 20-minute telephone conversation paradigm and found that depressed targets were more often rejected by, and produced more negative affect in, their conversation partners than non-depressed outpatients and than healthy controls (Coyne, 1976a; Strack & Coyne, 1983). However, these findings were not replicated in a series of later studies (see Marcus & Nardone, 1992, for a summary), leading some to suggest that the depression-rejection link is more appropriately studied in interactions between individuals in long-term relationships, rather than short-term interactions primarily involving strangers (Doerfler & Chaplin, 1985).

Subsequent to these early studies, researchers developed more sophisticated methods of mimicking depressive symptoms in interactions between trained ‘depressed’ confederates and
 naïve research participants. These subsequent studies were consistent in their documentation of rejection of depressed individuals, even in stranger interactions (e.g., Amstutz & Kaplan, 1987; Elliott, MacNair, Herrick, Yoder, & Byrne, 1991). Furthermore, studies with college roommates have found that depressed targets in a roommate pair produce more symptoms of depression in their roommates over time (Howes, Hokanson & Loewenstein, 1985), are more negatively evaluated by their roommates (Siegel & Alloy, 1990), and are rejected more by their roommates (Burchill & Stiles, 1988), compared to healthy controls.

The negative impact of depression on close others has also been explored in romantic relationships. There is a strong and consistent association between symptoms of depression (e.g., Beach & O’Leary, 1993; Olin & Fennell, 1989), as well as clinical depression (Weissman, 1987), and relationship satisfaction in marital relationships (see Whisman, 2001 for a review). Furthermore, MDD predicts divorce in these relationships (Kessler, Walter, & Forhofer, 1998). As in marital relationships, depression is also associated with poor self-reported relationship satisfaction in samples of undergraduate university students in dating relationships (e.g., Katz & Beach, 1997; Katz, Beach & Joiner, 1999), and there is evidence that depressive symptoms in target participants predict lower relationship satisfaction in their dating partners (Katz & Beach, 1997). The results of the studies reviewed above have been confirmed in prospective research showing that depressed individuals generate stressful life events (Hammen 1991, 2006), particularly in the interpersonal domain (Daley et al., 1997; Hankin et al., 2007). Many of these events would involve rejection from family members, friends, romantic partners, and coworkers.

The link between depression and interpersonal rejection appears to be specific to depression. For example, Siegle and Alloy (1990) found that even mildly depressed individuals were more negatively evaluated by their roommates compared with both control participants and
participants with elevated symptoms of anxiety. Furthermore, this relation generalizes across different cultures (Vanger, Summerfield, Rosen & Watson, 1991) and has been found in child (e.g., Rudolph, Hammen, & Burge, 1994) and adolescent (e.g., Conolly, Geller, Marton, & Kutcher, 1992) samples, as well as in numerous studies of college-aged adults. These features have led reviewers to conclude that the interpersonal rejection of depressed individuals is a reliable and robust phenomenon (Segrin & Dillard, 1992).

**Summary.** The evidence reviewed above suggests that both clinical and subclinical forms of depression put individuals at risk for experiencing various types of interpersonal rejection. This relationship has been confirmed in strangers (e.g., Elliott et al., 1991), close ties (e.g., Siegle & Alloy, 1990; Burchill & Stiles, 1988), and in the context of romantic relationships (e.g., Katz & Beach, 1997; Kessler et al., 1998). Depression is prospectively associated with the generation of interpersonal stressful life events (Hammen, 2006), and these rejection events may, indeed, be preferentially associated with subsequent onsets of MDD (e.g., Monroe, Rohde, Seeley, & Lewinsohn, 1999; Slavich, Thornton, Torres, & Monroe, 2009). Below I review a theoretical framework that integrates these findings and provides a mechanism through which depressed individuals generate rejecting responses from close others.

**Coyne’s (1976b) Interpersonal Theory of Depression**

A great deal of the research on the relation of depression to interpersonal rejection has been guided by James Coyne’s (1976b) classic interpersonal theory of depression. Coyne’s theory rests on the basic premise that it can be an irritating, negative experience to interact with a depressed person, and that particular interpersonal behaviors that depressed individuals engage in bring about negative responses from close others. These responses in turn serve to maintain or
exacerbate depressive symptoms. The behavior that is most central to this theory is *excessive reassurance-seeking (ERS)*.

ERS is defined as a behavioral tendency to repetitively and persistently ask assurances of close others about one’s worth and lovability. A visual depiction of the cycle of ERS is provided in Figure 1. Coyne described this cycle as beginning with mildly depressed (i.e., dysphoric) individuals seeking assurances from individuals close to them about whether those individuals truly care about them and find them worthwhile. Theoretically, this behavior occurs in response to the dysphoric individual experiencing negative affect (e.g., guilt; low self-worth). Initially, Coyne proposed that close others react with supportiveness and warm reassurance, to which dysphoric individuals respond with doubts of the sincerity of the statements. This doubt is followed by more extreme and/or frequent demands for reassurance. This behavior on the part of the dysphoric individual leads to growing frustration and irritation in close others, whose attempts to reassure and support the dysphoric individual become increasingly less genuine. Coyne proposed that the cycle of ERS produces negative affect in the close ties to whom it is directed, and contributes to interpersonal conflict. Ultimately, the dysphoric individual’s close relationships are hypothesized to deteriorate as these close ties outright reject and/or avoid these individuals.
ERS and Depression. Consistent with Coyne’s (1976b) theory, the association between ERS and concurrent depressive symptoms is well established. This association has been investigated using the 4-item ERS scale of the Depressive Interpersonal Relationships Inventory (DIRI-RS; Coyne, 1976b; Joiner et al., 1992) and self-reported depressive symptoms in undergraduate students (Anestis, Selby, & Joiner, 2007; Burns, Brown, Plant, Sachs-Ericsson, & Joiner, 2006; Davila, 2001; Haefel, Voelz, & Joiner, 2007; Joiner, 1994; Joiner, Alfano, & Metalsky, 1992; 1993; Joiner & Metalsky, 1995; 2001; Joiner & Rudd, 1996; Luxton & Wenzlaff, 2005; Potthoff, Holahan, & Joiner, 1995; Shih & Auerbach, 2010) children and adolescents (Abela et al., 2005; Abela, Zuroff, Ho, Adams, & Hankin, 2006; Prinstein, Borelli, Cheah, Simon, & Aikins, 2005), air force cadets (Joiner & Schmidt, 1998), clinically depressed
samples (Benazon, 2000; Joiner, 1999; Joiner & Metalsky, 2001; Joiner, Metalsky, Gencoz, & Gencoz, 2001; Minnix et al., 2004) and women in romantic relationships (Katz & Beach, 1997; Katz, Beach, & Joiner, 1998, 1999). In a recent meta-analysis, Starr and Davila (2008) found that the depression-ERS relationship is stronger in non-clinical, community samples (ES = .32) than in clinical samples (ES = .24), and some clinical studies do not find a significant association between these constructs (Benazon, 2000).

Furthermore, ERS is relatively specific to depression and depressive symptoms. For instance, Joiner and colleagues have found higher DIRI-RS scores in clinically depressed samples than in comparison groups of adults suffering from other, non-depression psychiatric disorders (Joiner & Metalsky, 2001; Joiner et al., 2001) and anxiety disorders, specifically (Joiner & Metalsky, 2001). Other research has shown that ERS is significantly associated with depressive symptoms, but not self-reported anxiety symptoms (Burns et al., 2006; Joiner & Schmidt, 1998) nor self-reported eating disorder symptoms (Burns et al.). Finally, Parrish and Radomsky (2010) conducted an interview measuring compulsive checking and reassurance-seeking behaviors on a small sample of individuals suffering from MDD or Obsessive-Compulsive Disorder (OCD). Individuals with MDD sought reassurance regarding social threats (e.g., close others abandoning them) whereas individuals with OCD sought reassurance about general threats (e.g., the possibility of a house fire). Thus, there is compelling evidence to suggest that ERS targeting interpersonal content, in the manner that Coyne (1976b) conceptualized, may be specific to depression.

ERS and Interpersonal Rejection. Coyne’s (1976b) prediction that ERS in the presence of depressive symptoms ultimately contributes to rejection from close others has also been empirically tested. Studies have operationalized the construct of interpersonal rejection in a
number of different ways. Most commonly, ERS, depression and rejection have been examined in romantic relationships, with “rejection” being operationalized as lower relationship satisfaction. Among these studies, Benazon (2000) found the strongest relationship ($r = -.38$) between ERS and partner relationship satisfaction, measured with the Dyadic Adjustment Scale (DAS; Spanier, 1976).

A series of studies conducted by Katz and her colleagues (Katz & Beach, 1997; Katz et al. 1998, 1999) found small direct associations between ERS and partner-reported relationship satisfaction, as well as partner appraisals ($rs .01 - .12$). However, consistent with Coyne’s (1976b) model, the authors reported a three-way interaction, such that high levels of reassurance seeking, negative feedback seeking (another depressotypic interpersonal behavior; Swann, Wenzlaff, Krull, & Pelham, 1992), and depressive symptoms all predicted low levels of male partners’ relationship satisfaction (Katz & Beach, 1997). Finally, a study employing a daily diary method found that dyadic conflict on the previous day predicted the female partner’s reassurance seeking reported by both the male and female partner (Shaver, Schachner, & Mikulincer, 2005). The same study failed to find a concurrent association between ERS and partner-reported relationship satisfaction, controlling for the effects of attachment anxiety (Shaver et al., 2005).

Research on ERS and interpersonal rejection has also focused on other, close relationships. For instance, the early studies conducted by Joiner and his colleagues used same-sex roommates and found that for men (but not women), a combination of high reassurance seeking, high depressive symptoms and either low self-esteem (Joiner et al., 1992) or high negative feedback-seeking (Joiner & Metalsky, 1995) predicted increases in roommate rejection, defined as negative evaluation from the roommate. In contrast, Joiner and Metalsky (2001) failed
to find a concurrent relationship between roommate negative evaluations and ERS, but did find that high scores on both significantly predicted prospective increases in depressive symptoms.

Finally, several studies have investigated ERS in the broader context of interpersonal stress generation. For example, in a large sample of undergraduates, Potthoff et al. (1995) found a significant positive association between ERS and the prospective occurrence of minor interpersonal stressors over a 5-week period. Similarly, Eberhardt and Hammen (2009) found that ERS predicted increases in conflict stressors in undergraduate dating couples (i.e., minor and major arguments in the relationship) over a 4-week follow-up. In another study, ERS was specifically prospectively associated with stress related to individuals’ romantic partner (measured using a checklist of stressful life events) at a 5-week follow-up (Shahar, Joiner, Zuroff, & Blatt, 2004). Finally, in a daily diary study with undergraduates, Shih and Auerbach (2010) found that ERS predicted a greater occurrence of interpersonal stressful life events in female, but not male, participants.

**Key Limitations of the Extant Literature.** There are four very important limitations of existing studies examining the relationship between ERS and rejection. First is the manner in which rejection is defined. No study that I am aware of has employed an *objective or behavioral* measure of rejection. Coyne’s (1976b) theory proposes that the close ties of dysphoric individuals who engage in ERS will ultimately end their relationship with them and/or avoid interacting with them. However, most studies to date have operationalized rejection as satisfaction in the relationship, or appraisal of the dysphoric individual (measured, in many cases, using a re-worded version of the Rosenberg Self-Esteem Inventory; Rosenberg, 1965). Dissatisfaction in the relationship or a negative evaluation of the target individual may ultimately predict rejection, but these are not rejection as defined in Coyne’s model, per se. The studies that
have attempted to define rejection in terms of behaviors (Joiner et al., 1992; Joiner & Metalsky, 1995) have used a questionnaire measure completed by roommates about their “willingness to interact” with the dysphoric individual. These studies did not find significant associations between willingness to interact and the target participants’ self-reported ERS. The studies that have examined ERS within an interpersonal stress generation framework have presented promising results, although it is unclear what proportion of interpersonal stressors involved rejection versus arguments and other related problems. In sum, one of the key tenets of Coyne’s (1976b) theory has yet to be rigorously investigated in the manner in which it was initially conceptualized. That is, no study to date has used rejection by a close other as the ultimate outcome variable when studying the effects of ERS and dysphoria.

The second limitation of existing research on the relation of ERS to rejection is the assessment of reassurance-seeking. As noted above, ERS is typically assessed using the same 4-item, self-report questionnaire (i.e., the DIRI-RS). Specifically, there are close to zero studies that have made an effort to capture actual (as opposed to self-reported) ERS behaviors, either in the laboratory or in naturalistic settings. In the only published effort to do so, Joiner and Metalsky (2001) used a laboratory paradigm and coding system to provide support for the validity of the DIRI-RS. Specifically, a sample of same-sex roommates completed a questionnaire that they believed was being used to help clinical psychology students practice test interpretation, and they were subsequently given sham feedback on this questionnaire about their scores on broad personality attributes (e.g., “active”). The roommates were then videotaped for 5 minutes, during which time they were asked to try to get detailed information regarding one another’s opinions of the ratings. Statements indicative of reassurance seeking were subsequently coded. The authors reported a medium-sized correlation ($r = .39$) between the observer-rated
coding of reassurance-seeking behaviors during the task and participants’ self-reported scores on the DIRI-RS. Results of this study were taken to support the use of the questionnaire in future studies as a valid measure of ERS that correlates significantly with observer ratings of actual reassurance-seeking behavior.

Despite evidence for the validity of the 4-item DIRI-RS, further studies testing the tenets of Coyne’s (1976b) interpersonal theory of depression using a behavioral measure of ERS are important for several reasons. First, the associations among ERS, depression, and rejection, particularly when all are measured simultaneously, are likely strongly influenced by mood state. The use of a behavioral measure of ERS would allay some of these method invariance effects and allow researchers to determine whether findings are solely due to these effects. Second, the use of a 4-item self-report measure of ERS assumes that individuals actually have appropriate insight into these behaviors. Although Joiner and Metalsky’s (2001) results suggest that self-reported ERS does map on to laboratory-measured behaviors relatively well, this was only for one type of relationship (i.e., roommates), and depression status was not considered. It is possible that depressed and non-depressed participants differ in their level of insight into their ERS behaviors. Third, the DIRI-RS is a very transparent measure, and it asks individuals to report on how frequently they perform a negative social behavior. Thus, there may be effects of socially desirable responding on responses to the DIRI-RS that may be exacerbated in depressed individuals. This hypothesis is supported by a fact that Evraire and Dozois (2011) aptly pointed out in their review of the ERS literature – across studies using the DIRI-RS, mean ERS scores tend to fall well below the “average” score on the measure (i.e., typically between 2 and 3 out of 7). Further, 2 of the 4 items on the DIRI-RS actually ask individuals about their experiences of rejecting behaviors from close others (i.e., others becoming irritated or getting “fed up” with the
individual). Using a behavioral measure of ERS keeps the behavior separate from the individual’s beliefs about whether or not close others are acting in a rejecting manner.

Third, in the few prospective studies of the association between ERS and rejection (Eberhart & Hammen, 2009; Joiner & Metalsky 1995; Joiner et al., 1992; Potthoff et al., 1995; Shih & Auerbach, 2010; Shahar et al., 2004; Shaver et al., 2005), the specified follow-up periods have ranged from 2 to 5 weeks, a relatively short period of time. In their review, Starr and Davila (2008) suggested that “the follow-up intervals … may not have been appropriate to test the core tenets of the ERS model” (p. 773). Longer follow-up periods may be required to actually investigate the ultimate hypothesized consequences of ERS to close relationships (i.e., rejection), whereas shorter-term periods may simply be capturing transient distress. To my knowledge, only one prospective study of ERS and rejection employed a long-term follow-up period. The authors studied rejection, indexed using a sociometer peer nomination (i.e., all respondents reported on who they “liked the most” and “liked the least” and these scores were combined to create an index of rejection) in adolescent friendships and found that ERS did not predict rejection over the 3 assessment points in the 2-year follow-up (Prinstein et al., 2005).

A fourth and final limitation are the lingering questions regarding whether actual ERS behavior is a necessary component of Coyne’s (1976b) model. Greenberg (1999) suggested that ERS might be best conceptualized as a proxy variable for psychological vulnerabilities that are related to both rejection and depression. Researchers have explicitly advanced two particular candidate psychological vulnerabilities that may moderate the relationship between ERS and rejection – attachment anxiety and rejection sensitivity. Attachment anxiety refers to the degree of security individuals feel about their close others’ (e.g., romantic partners) availability and responsiveness, and concerns worries about rejection and abandonment. Brennan and Carnelley
(1999) proposed that like attachment anxiety, ERS has its roots in childhood and develops from experiences with inconsistent caregivers. Thus, they suggested that ERS could be one facet of attachment anxiety (also see Evraire & Dozois, 2011). Very few studies investigating Coyne’s (1976b) theory have included measures of attachment and ERS simultaneously. However, Shaver and colleagues (2005) found that the cross-sectional association between ERS and depressive symptoms was non-significant when controlling for attachment anxiety. Furthermore, ERS was not associated with partner romantic relationship satisfaction cross-sectionally, nor relationship conflict prospectively, after controlling for attachment. In contrast, Davila (2001) found that the cross-sectional and prospective associations between ERS and depressive symptoms remained significant over and above the effects of attachment anxiety and avoidance. Given these mixed findings, it is crucial to measure attachment when examining models of ERS, depression and rejection, and more fine-grained research is required to examine the inter-relationships among these constructs.

Starr and Davila (2008) have suggested that the ERS-rejection relationship could reflect an underlying association among both constructs and rejection sensitivity (RS). RS is defined as a stable cognitive-affective processing disposition, such that individuals high in RS anxiously expect, readily perceive, and overreact to rejection from close others (Downey & Feldman, 1996; Feldman & Downey, 1994). Starr and Davila hypothesized that “ERS is the behavioral manifestation of rejection sensitivity” (p. 771) and that individuals high in RS are likely to seek more reassurance and be unsatisfied with the reassurance that they receive. Although there is some evidence for the association between RS and ERS (reviewed below), no published work to date has tested Coyne’s (1976b) theory controlling for, or including, a measure of RS.
Summary. The most consistently supported element of Coyne’s (1976b) model is the specific cross-sectional association between depressive symptoms and self-reported ERS. Research on the association between ERS and rejection is more mixed. Studies have reported small direct associations between ERS and rejection in romantic relationships, but one study (Shaver et al., 2005) has argued that these are a product of both constructs’ relationships to attachment anxiety. Studies on rejection from roommates have reported that ERS interacts with other, related constructs to predict proxies of rejection (e.g., devaluation), but the effect has only been found in men, which is surprising given that women are more vulnerable to depression (e.g., Hankin & Abramson; Nolen-Hoeksema & Girgus, 1994). A group of studies examining Coyne’s (1976b) theory within a stress generation framework have consistently shown that ERS prospectively predicts minor interpersonal stressors. Some of these interpersonal events likely constituted rejection, although many other non-rejection life events were likely a part of the outcome measures, making these a non-specific test of Coyne’s theory.

The inconsistency of the ERS-rejection component of Coyne’s (1976b) model may be due to the following limitations: 1) the manner in which studies have operationalized rejection, 2) the exclusive dependence on a 4-item self-report measure of ERS (i.e., the DIRI-RS), 3) the relatively short-term follow-up periods employed in the few prospective investigations of this theory, and 4) the lack of research investigating the manner in which ERS may be related to psychological vulnerabilities that are associated with both depression and rejection. Recently, Evraire and Dozois (2011) have suggested revisions to Coyne’s interpersonal theory of depression that provide a model for testing the interrelationships among ERS and underlying psychological constructs, and their associations with rejection.
Evraire and Dozois’s (2011) Integrated Interpersonal Model

In the broader MDD literature, a growing amount of attention has been paid to the importance of incorporating both cognitive and interpersonal factors in MDD. In an early review paper, Safran (1990) argued that traditional cognitive theories of depression “[paid] insufficient attention to the role of interpersonal and environmental variables” (p. 88) and proposed a modification of cognitive theory that emphasized underlying cognitive representations of self-other relationships (i.e., “interpersonal schemata”). Since then, others have discussed the manner in which interpersonal factors in MDD may be partly explained by underlying cognitive structures that influence who people interact with, how they perceive and remember social exchanges, and the interpersonal behavioral strategies that they employ (Schmidt, Schmidt, & Young, 1999; Zuroff, Mongrain, & Santor, 2004). As I reviewed above, several researchers have independently suggested that ERS may operate through, or interact with, cognitive constructs related to depression and rejection (Brennan & Carnelley, 1999; Greenberg, 1999; Starr & Davila, 2008), although none proposed a testable model detailing these relationships.

Thus, Evraire and Dozois’s (2011) integrated interpersonal theory of depression addressed an important theoretical gap in the literature by specifying a model of the interrelationships between cognitive factors and ERS in predicting interpersonal rejection. Specifically, they proposed that “early core beliefs reflecting insecurity in relationships” that involve “fear of abandonment and rejection” (p. 1300) are central features that explain why ERS behavior is not in and of itself interpersonally toxic. A visual depiction of integrated interpersonal theory is presented in Figure 2. The authors proposed that dysphoric individuals who posses core beliefs reflecting insecurity in relationships and fears of abandonment engage in a type of ERS that is interpersonally aversive, rather than beneficial, which contributes to
rejection. In contrast, individuals with the opposite core beliefs (i.e., security in relationships) who engage in ERS are predicted to experience positive relationship outcomes.

To my knowledge, the hypotheses of the integrated interpersonal model described above have yet to be formally tested—specifically, no study has investigated whether the combination of dysphoria, ERS and core beliefs about the insecurity and instability of relationships is associated with rejection. The ability to test this model rests on identifying constructs that appropriately capture the “core beliefs about relationships” portion, which is the issue to which I now turn.

![Figure 2](image.png)

**Figure 2.** A visual depiction of Evraire and Dozois’s (2011) integrated interpersonal theory of depression. ERS = Excessive Reassurance-Seeking.

**The Role of Negative Relationship Cognitions (NRC)**

As I reviewed above, researchers have identified cognitive constructs that they propose are theoretically most germane to interpersonal models involving ERS. Specifically, Brennan
and Carnelley (1999) speculated that ERS and attachment anxiety both develop from experiences with inconsistent caregivers. Shaver and colleagues (2005) extended this work to suggest that ERS results from hyperactivating strategies (see Mikulincer & Shaver, 2003) that are a part of an anxious attachment style. Similarly, Starr and Davila (2008) proposed that ERS may be a behavioral strategy employed by individuals who are high in rejection sensitivity, a construct that primarily involves a fear of, and sensitivity to, rejection. Taken together, anxious attachment and rejection sensitivity are cognitive constructs that seem to reflect the spirit of what Evraire and Dozois (2011) termed beliefs that reflect insecurity in relationships, and particularly, fears of abandonment and rejection. The current study will use anxious attachment and RS together to index the negative relationship cognitions (NRC) portion of the integrated interpersonal model.

**Anxious Attachment, Depression and Rejection.** Attachment theory proposes that, early in life, children develop mental models of themselves and relationships, including expectations of whether others will be rejecting or satisfy their needs. These mental models are theorized to be largely dependent on individual differences in infant-parent interactions and how they impact the quality of emotional bonding (Bowlby, 1982). Hazan and Shaver (1987) extended attachment theory to adult romantic relationships and proposed that the working models of self and others that individuals derive from early relationships with caregivers influence experiences within these adult relationships. Hundreds of studies have confirmed that individual differences in attachment are related to the quality of romantic relationships (see Mikulincer & Shaver, 2012, for a review).

Although several conceptualizations of adult attachment style have been proposed (see Brennan, Clark, & Shaver, 1998 for a review), most studies employ self-report measures that assess two broad underlying dimensions of attachment that have been confirmed in large factor
analytic studies (Brennan et al., 1998; Fraley, Waller, & Brennan, 2000). The first dimension, *attachment anxiety*, measures the degree of security individuals feel about their partner’s availability and responsiveness, and their concerns and worries about rejection and abandonment. The second dimension, *attachment avoidance*, measures the degree to which individuals are uncomfortable being emotionally close to, and depending on, others. Higher scores on either, or both, of these dimensions reflect a higher degree of insecure, versus secure, attachment.

Carnelley, Pietromonaco and Jaffe (1994) proposed that depression is associated with high scores on the attachment anxiety dimension in particular, because both depression and attachment anxiety involve negative cognitive representations of the self and others (i.e., the self as unworthy of love and others as unreliable and untrustworthy). Indeed, anxious attachment is associated with depression in both clinical (e.g., Carnelley et al., 1994; Cyranowski et al., 2002) and non-clinical (e.g., Carnelley et al., 1994; Eberhart & Hammen, 2009; Shaver et al., 2005) samples. Furthermore, the combination of high scores on attachment anxiety and attachment avoidance was prospectively associated with new episodes of depression in studies using both community (Bifulco, Moran, Ball, & Bernazzani, 2002) and undergraduate (Hankin, Kassel, & Abela, 2005) samples.

Attachment anxiety is also associated with poor outcomes in close interpersonal relationships. In general, individuals with low scores on both dimensions of attachment tend to have long and stable close relationships featuring high involvement, trust, intimacy, warmth, support, and cohesion (e.g., Hazan & Shaver, 1987; Mikulincer & Florian, 1999). People with high levels of attachment anxiety report feeling less satisfied with their close relationships (e.g., Feeney, 1999) and employ proximity-seeking behaviors (e.g., clinging, intrusive, and/or
controlling behaviors) that paradoxically contribute to partner rejection and the exacerbation of relationship conflicts (e.g., Mikulincer & Shaver, 2003). In addition, attachment anxiety is associated with a variety of other attributes, such as distrust of close others, low tendency to forgive and low interpersonal competence, that contribute to rejection and other relationship stressors (see Feeney, 1999, for a review). Studies examining the association between attachment anxiety and stress generation have found prospective associations between anxious attachment and general interpersonal life events (many of which likely involved rejection; Bottonari, Roberts, Kelly, Kashdan, & Ciesla, 2007; Hankin et al., 2005) and major and/or minor arguments in romantic relationships, specifically (Eberhart & Hammen, 2009; Shahar et al., 2004).

In a series of tests of the association between ERS, attachment anxiety and relationship outcomes, Shaver and colleagues (2005) recruited a sample of undergraduate students in romantic relationships to complete daily assessments of these variables over a 2-week period. The authors found that anxious attachment moderated the relationship between relationship conflict and male ERS behaviors during the following day, such that conflict was associated with next day reassurance seeking at high, but not low, levels of anxious attachment. For women there was only a main effect of anxious attachment on daily ERS. Furthermore, the authors reported a main effect of attachment anxiety in predicting lower daily mood for both men and women. Among women, the main effect was qualified by an interaction with previous day ERS, such that ERS was associated with lower next-day mood for women high in anxious attachment, but an improved next-day mood for women low in anxious attachment.

As described above, anxious attachment and ERS share a close conceptual link. Mikulincer and Shaver (2003) proposed that individuals high in anxious attachment regulate distress and insecurities by employing hyperactivating strategies, which include behaviors that
are similar to ERS (i.e., persistently seeking comfort, reassurance and support from close others). Furthermore, studies that measure attachment and ERS simultaneously generally find medium to large correlations between these two constructs ($r_s = .40 – .68$; Davila, 2001; Eberhart & Hammen, 2009; Pearson, Watkins, Mullan, & Moberly, 2010; Shaver et al., 2005). Although Shaver and colleagues (2005) argued that the relationship between depression and ERS could be primarily explained by the relationship of both variables to anxious attachment, other studies have confirmed the depression-ERS association controlling for attachment anxiety (Abela et al., 2005; Davila, 2001).

**Attachment Summary.** Bowlby’s (1982) initial theory of attachment has been extended and applied to adult relationships (Hazan & Shaver, 1987) and suggests that people develop working models of relationships based on early interactions with caregivers which shape their adult relationships. Individuals high in anxious attachment generally have concerns about abandonment and rejection from close others, and thus, attachment anxiety fits nicely with Evraire and Dozois’s (2011) integrated interpersonal theory of depression. Attachment anxiety is related to clinical depression and depressive symptoms, and high levels of attachment anxiety are associated with experiencing dissatisfaction, devaluation and rejection in close relationships. Finally, attachment anxiety is conceptually and empirically related to ERS. The current study will shed light upon the association between attachment anxiety and ERS by evaluating specific hypotheses about the manner in which they interact to predict rejection. By employing both behavioral and self-report measures of ERS, the current study can evaluate whether the effects are strictly intrapersonal, or whether the core schemas corresponding to anxious attachment interact with the behavior to predict rejection.
Rejection Sensitivity, Depression and Rejection. A large body of research has implicated rejection sensitivity (RS) in our understanding of the pathology of depression, as well as in the prediction of rejection and responses to rejection. Geraldine Downey and her colleagues described rejection sensitivity as a stable cognitive-affective processing disposition, such that individuals high in RS anxiously expect, readily perceive, and overreact to rejection from close others (Downey & Feldman, 1996; Feldman & Downey, 1994). A psychometric evaluation of the authors’ Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996) indicated that RS is best conceptualized as a unitary construct that operates broadly across multiple interpersonal relationships (e.g., parents, peers, dating relationships etc).

High RS is associated with clinical and non-clinical forms of depression. The research involving clinical depression has employed the Interpersonal Sensitivity Measure (IPSM; Boyce & Parker, 1989) to measure interpersonal sensitivity (i.e., an excessive awareness of the behavior and feelings of others), a construct that shares some of the features of RS. Boyce, Parker and their colleagues have found that individuals suffering from depression have higher levels of interpersonal sensitivity compared to controls (Boyce & Parker, 1989), and that interpersonal sensitivity is related to the onset (Boyce, Hickie, & Parker, 1991; Boyce, Parker, Barnett, Cooney, & Smith, 1991) and maintenance (Boyce et al., 1992) of MDD.

The literature on the link between RS and symptoms of depression using the RSQ is less well established. This is partly a conceptual matter – RS is generally described as an underlying diathesis that is activated by experiences of actual or perceived rejection, leading to maladaptive behavioral patterns (e.g., hostility, depression). Consistent with this conceptualization, Ayduk, Downey, and Kim (2001) recruited a sample of 223 undergraduate women and found an increase in symptoms of depression following a partner-initiated breakup for individuals high in RS,
compared with individuals low in RS, even after controlling for initial depressive symptoms. As the authors hypothesized, there was no RS by “rejection” interaction in predicting depressive symptoms when an academic stressor (i.e., grade disappointment) was examined.

Contrary to the theoretical description of RS above, two studies have suggested that the link between RS and depressive symptoms may be more direct. One study, using a large sample of undergraduate students, found that the relationship between self-reported childhood sexual abuse and depressive symptoms was fully mediated by individuals’ scores on the IPSM (Luterek, Harb, Heimberg, & Marx, 2004). Another cross-sectional study of undergraduate students found that rejection sensitivity explained a modest amount of the variance ($R^2 = .11$) in self-reported depressive symptoms (Mellin, 2008) among both males and females. Significant associations between RS and symptoms of depression have also been reported in adolescent samples (e.g., Harper, Dickson, & Welsh, 2006; McDonald, Bowker, Rubin, Laursen, & Duchene, 2010).

Most germane to the present study, research has demonstrated that individuals high in RS create a self-fulfilling prophecy in their close relationships whereby they are more likely to be rejected. One study using undergraduate dating couples found that scoring high versus low on RS predicted relationship dissolution over a 1-year follow-up period even after controlling for partner RS, relationship satisfaction and commitment before the period (Downey, Freitas, Michaelis, & Khouri, 1998). Theoretically, the RS-rejection link is explained through maladaptive interpersonal behaviors, whereby high RS men engage in more jealous and controlling behavior, while high RS women engage in more hostile behavior, towards their romantic partners. Research has shown that these maladaptive behaviors are positively related to partner dissatisfaction for men and women (Downey & Feldman, 1996). This process was supported in women only using videotaped interaction data – partners of high RS women were
angrier about their relationship following a conflict discussion than partners of low RS women (Downey et al., 1998). Similarly, in a sample of 154 adolescent girls, RS predicted increased physical aggression and nonphysical hostility during conflicts (Purdie & Downey, 2000).

Although a great deal of attention has been paid to the dynamics between RS, conflict, and rejection in romantic relationships, less attention has been paid to a) the impact of RS on relationships outside of direct conflict situations and b) the factors that may contribute to an individual reporting high RS. Some have speculated that, depending on the type and timing of rejection (or perceived rejection), individuals high in RS may respond with efforts to maintain or salvage the interpersonal relationship and/or behaviors that appease their partner, in contrast to anger, hostility and withdrawal. Purdie and Downey (2000) found some evidence for this possibility – in their study, high RS girls were more likely to report that they would do anything to keep their boyfriends, even if it was something they knew was wrong. A more recent study hypothesized that individuals high in RS would engage in ingratiating behaviors (i.e., socially desirable behaviors aimed at regaining acceptance) when they perceived rejection in self-defining situations. Among young women, the authors found higher ingratiating behaviors (i.e., gift giving) in response to rejection (i.e., not attending a scheduled date) from an online dating match, confirming hypotheses (Romero-Canyas et al., 2010).

There is limited direct evidence for an association between RS and ERS. However, given the research above, it is possible that individuals high in RS employ ERS as a form of ingratiating behavior in response to perceived rejections in their close relationships. As Evraire and Dozois (2011) postulated, these behaviors might be viewed by the individual as an attempt to repair the relationship, but would be conveyed in an interpersonally damaging manner due to the presence of underlying cognitions about rejection in relationships. Pearson and her colleagues
have provided some preliminary support for an association between ERS and RS. Two studies to date have reported medium-sized, positive associations between these constructs, in heterogeneous samples of clinically depressed and non-depressed adults (Pearson, Watkins, & Mullan, 2010; Pearson, et al., 2010).

**RS Summary.** Despite a well-established association between high RS and actual rejection across several different relationship types, the interpersonal mechanisms that translate RS into rejection have yet to be thoroughly studied. It is quite clear that *actual or perceived threats* to a valued interpersonal relationship produce maladaptive reactions (e.g., hostility, anger, violence) in high RS individuals (e.g., Downey et al., 1998; Downey & Feldman, 1996; Downey, Feldman, & Ayduk, 2000). However, in many cases, particularly in long-standing and/or highly valued relationships (e.g., romantic relationships; long-term friendships), the road to rejection can be long and may involve much more subtle interpersonal behaviors. There is some preliminary evidence that, under certain circumstances, individuals high in RS engage in ingratiating behaviors as an attempt to repair or salvage relationships following perceived rejection. In the context of RS, ERS may be an example of a maladaptive ingratiating behavior that contributes to high RS individuals’ experiences of rejection in close relationships.

**The Relationship Between Anxious Attachment and RS.** Above I have described two constructs – attachment anxiety and rejection sensitivity – that are conceptually consistent with what Evraire and Dozois (2011) described as core beliefs reflecting insecurity in relationships in their theoretical model. Furthermore, the initial conceptualization of RS was grounded in assumptions similar to those of attachment theory, that is, that early in life, children develop mental models of themselves and relationships, including expectations of whether others will be rejecting or satisfy their needs. In retrospective studies of college and high school students, RS
was associated with self-reported family violence (Feldman & Downey, 1994), sexual abuse (Luterek et al., 2004) and being a victim of bullying in childhood (Butler, Doherty, & Potter, 2007). These studies provide some support for the notion that attachment anxiety and RS may develop from common underlying experiences. In the two studies that measured both attachment anxiety and RS, the strength of the association between the two variables varied widely depending on the method employed to assess attachment. Downey and Feldman (1996) reported a small correlation \( r = .24 \) using the continuous version of the Adult Attachment Style Questionnaire (Levy & Davis, 1988), while Pearson and colleagues reported a large correlation \( r = .65 \) using the revised version of the Experiences in Close Relationships Questionnaire (ECR-R; Fraley et al., 2000).

**Summary of the Literature to Date**

Coyne’s (1976b) interpersonal theory of depression has long been used as a central theory to explain why depressed individuals generate rejection from individuals close to them. Research to date has confirmed a strong association between self-reported ERS and depressive symptoms, but studies using ERS to predict rejection from close others have suffered from methodological and conceptual setbacks. Most notably, several researchers (i.e., Brennan & Carnelley, 1999; Greenberg, 1999; Starr & Davila, 2008) have proposed that ERS may forecast rejection most strongly when it occurs in conjunction with psychological vulnerabilities that are associated with both depression and rejection.

Building from these criticisms of Coyne’s original interpersonal model, Evraire and Dozois (2011) formulated an integrated interpersonal theory of depression that highlighted the central importance of core beliefs reflecting insecurity in relationships. They proposed that ERS only leads to rejection when individuals possess these core beliefs, and that ERS coupled with
core beliefs reflecting security in relationships would actually lead to positive relationship outcomes. Although Evraire and Dozois’s theory has yet to be explicitly tested, both anxious attachment and rejection sensitivity have been put forward as candidate constructs that fit into the model as cognitions surrounding the insecurity of relationships, unpredictability of close others and anxiety about experiencing rejection. Both of these constructs are associated with ERS, depression and rejection and are conceptually and empirically linked to one another. By using anxious attachment and RS to test the hypotheses of the integrated interpersonal model with self-reported and laboratory measures of ERS, the current study addresses important conceptual questions about the mechanisms through which ERS operates (i.e., intrapersonally, interpersonally or both).

The Current Study: Objectives and Hypotheses

The overall objective of the current study is to provide the first test to my knowledge of Evraire and Dozois’s (2011) integrated interpersonal theory of depression. Specifically, I tested whether ERS, negative relationship cognitions (i.e., anxious attachment and RS), and dysphoria interacted to predict rejection in young adult romantic relationships. I focused on dating couples for the current study because it is easier to identify objective, behavioral rejection (e.g., being “dumped”) in romantic relationships than it is in other types of close relationships.

The current study improved upon previous investigations in a number of important ways. First, the study included objective and behavioral measures of rejection as the primary outcome variables of interest. Specifically, I defined prospective rejection as a romantic relationship dissolution or a break initiated by the other relationship partner (in this case, men breaking up with women). I also examined retrospective rejection using a behaviorally anchored, contextual interview of life stress that is coded by raters blind to participant characteristics. These objective,
behavioral measures of rejection supplemented more conventional methods of defining rejection, which I also evaluated (i.e., male-reported relationship satisfaction).

Second, the current study used both the DIRI-RS and a laboratory measure of behavioral ERS to test hypotheses derived from interpersonal theories of depression. I developed this laboratory task following the general methods of Joiner and Metalsky (2001) to assess reassurance-seeking behaviors performed by women with their partners during a circumscribed period of time. In developing and using a behavioral measure of ERS to predict rejection in romantic relationships, I addressed some of the pitfalls of relying exclusively on self-report and evaluated whether these two methods of assessing ERS are differentially related to outcomes.

Third, the current study employed a 4-month prospective follow-up period, which is substantially longer than any other study, with one exception, in the literature to date. This longer follow-up interval allowed this study to more directly test the tenets of the integrated interpersonal theory of depression – that is, I sought to capture the end product of ERS behaviors (i.e., rejection from close others) rather than transient distress and/or partner dissatisfaction.

Finally, the current study explicitly incorporated a measure of negative relationship cognitions (i.e., the combination of anxious attachment and RS), which is consistent with the integrated interpersonal model of depression. The inclusion of this cognitive measure also allowed this study to address suggestions (e.g., Brennan & Carnelley, 1999; Greenberg, 1999; Starr & Davila, 2008) that ERS generates interpersonal rejection through its associations with cognitive vulnerabilities that are related to both depression and rejection.

The current study proposed one general hypothesis derived from Evraire and Dozois’s (2011) model that was applied to each of the study’s levels of analysis (i.e., concurrent partner-reported relationship satisfaction, retrospective rejection experiences, and prospective partner-
initiated rejection). I hypothesized that negative relationship cognitions would moderate the association between ERS and the three major outcome variables (i.e., relationship dissatisfaction and/or rejection), such that ERS would be positively associated with partner dissatisfaction / rejection at high, but not low, levels of these cognitions. I predicted that this effect would only occur for couples with dysphoric women, and not in non-dysphoric couples. Furthermore, I predicted that this relationship would hold in models using both self-reported and behavioral measures of ERS.
Chapter 2

Method

Participants

The sample consisted of 118 couples in a current heterosexual romantic relationship that had lasted at least one month prior to participation ($M = 16.27$, $SD = 10.84$, range $= 1 – 45$ months). The female participants were recruited using a combination of the Psychology Department’s research subject pool and flyers and other advertisements (e.g., presentations at lectures, recruitment emails) targeting Queen’s University students. All recruitment materials were directed towards females in romantic relationships and who were either experiencing significant symptoms of depression (i.e., dysphoric) or non-dysphoric at the time of participation (see Appendix A-C for example recruitment materials).

Among the female participants, approximately one third ($n = 43$) fell into the dysphoric group (i.e., BDI ≥14) and the remainder ($n = 75$) were non-dysphoric (i.e., BDI < 14). The young women were 17 – 23 years old at their first appointment ($M = 18.58$, $SD = 1.13$) and their partners were 17 – 26 years old ($M = 19.15$, $SD = 1.81$). Six of the couples (5.1%) were cohabiting when they participated in the study and 27 (22.9%) were involved in long-distance relationships (i.e., the partners were living in separate cities). The majority of the sample were of European ancestry - approximately 75% of women ($n = 88$) and 77% of men ($n = 91$) self-identified as White / Caucasian. Demographic characteristics and descriptive statistics corresponding to study variables for the sample, stratified by depressive symptom status (i.e., dysphoric vs. non-dysphoric) are given in Table 1.
Table 1

Demographic and Relationship Characteristics of the Sample, Stratified by Dysphoric Group Status

<table>
<thead>
<tr>
<th></th>
<th>Dysphoric (n = 43)</th>
<th>Non-Dysphoric (n = 75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Age; M (SD)</td>
<td>18.58 (1.24)</td>
<td>18.57 (1.07)</td>
</tr>
<tr>
<td>Male Age; M (SD)</td>
<td>19.40 (2.10)</td>
<td>19.01 (1.62)</td>
</tr>
<tr>
<td>Female Ethnicity; n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>31 (72.1)</td>
<td>57 (76.0)</td>
</tr>
<tr>
<td>Asian</td>
<td>6 (14.0)</td>
<td>11 (14.7)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (14.0)</td>
<td>7 (9.3)</td>
</tr>
<tr>
<td>Male Ethnicity; n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>33 (76.6)</td>
<td>58 (77.3)</td>
</tr>
<tr>
<td>Asian</td>
<td>5 (11.6)</td>
<td>5 (6.7)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (11.6)</td>
<td>12 (16.0)</td>
</tr>
<tr>
<td>Relationship Duration (months); M (SD)</td>
<td>15.41 (12.37)</td>
<td>16.76 (9.92)</td>
</tr>
<tr>
<td>Cohabiting (yes), n (%)</td>
<td>4 (9.3)</td>
<td>2 (2.7)</td>
</tr>
<tr>
<td>Long Distance Relationship (yes); n (%)</td>
<td>9 (20.9)</td>
<td>18 (24.0)</td>
</tr>
</tbody>
</table>

Note. “Other” ethnicity included participants who identified as Black / African-Canadian and Hispanic.

My initial sample included 121 heterosexual couples. Two couples were excluded from all analyses because they were engaged to be married at the time of participation. One further couple was excluded because they had substantial difficulties communicating in English, casting doubt on the validity of their comprehension of questionnaire, and overall study, instructions.
Measures

All measures are provided in Appendix D-P.

Demographics Interview (Stewart, unpublished document). This is a structured interview designed to collect basic demographic data such as age, sex and ethnicity to describe the sample.

Relationships Interview (RI; Stewart, unpublished document). This is a semi-structured interview designed to collect detailed information about the women’s current relationship and past relationship history to help structure the more extensive life event interview described below. The interviewee provided information about the current relationship such as relationship duration, periods of separation, and the presence or absence of past infidelity.

The RI was re-administered to the female participant at Time 2 (RI-2) to assess whether or not the respondent was still in her Time 1 romantic relationship, which partner initiated the relationship dissolution and the date of the break-up (if relevant), as well as the presence or absence of infidelity. The RI-2 also queried breaks in the relationship that did not result in complete relationship dissolution, and which partner initiated these breaks.

Life Events and Difficulties Schedule (LEDS; Bifulco et al., 1989). The LEDS is a semi-structured contextual interview and rating system that assesses stressful life events across eight different domains. For the purposes of this study, only the “Marital/Partner Relationships” domain was administered. Stressful life events related to the current and all past romantic relationships were assessed by interviewing women at the initial laboratory appointment.

Following the interview, one member of a team of trained research assistants listened to the digital recordings of interview content and wrote summaries of each relationship event (e.g., relationship break up, disclosure of partner infidelity). These written vignettes were then read
aloud to a panel of 2 research assistant raters who were unaware of any other participant characteristics (e.g., dysphoric group status). Events were rated in terms of their severity on a 5-point scale: 5-marked, 4-high moderate, 3-low moderate, 2-some, 1-little/none. Ratings for events were based on the LEDS manual, which contains over 5,000 examples that are used to standardize the ratings. The raters received extensive training on contextual stress assessment by Dr. Kate Harkness, an international expert in these methods. I measured inter-rater agreement for the stressful life events used in my primary analyses using a linearly weighted kappa statistic, which is appropriate when the possible outcomes are ordinal (Cohen, 1968). The separate raters had reliability in the “substantial agreement” range (Landis & Koch, 1977) (K = .66) and the value represented nearly 84% of the maximum possible linearly weighted kappa (i.e., K = .79) given the observed marginal frequencies. In the instances of inter-rater disagreement, a consensus severity score was arrived upon through discussion. All primary analyses employed these consensus ratings.

Life events were also rated for whether or not they constituted “targeted rejection” of the study participant. Targeted rejection is defined as “social rejection that is directed at, and meant to affect, a single person, and that involves an active and intentional severing of relational ties with that person” (Slavich et al., 2009, p. 224). These events are characterized by some kind of social demotion or loss of social status and have been shown to be specifically and preferentially important in the precipitation of MDD (Slavich et al., 2009). Partner-initiated relationship dissolution events nearly always involve targeted rejection, and it was these events that were the focus of study analyses.

For each individual, three LEDS outcome measures were analyzed: 1) the number of targeted rejection events each respondent experienced, 2) the average event threat associated
with participants’ targeted rejection events (i.e., the sum of the event threat associated with each rejection event divided by the number of targeted rejection events experienced), and 3) whether or not individuals experienced at least one severe targeted rejection event (rated 4 or 5 for event threat severity) versus experiencing exclusively non-severe targeted rejection (rated 1, 2 or 3 for event threat severity) versus not experiencing any targeted rejection.

**Beck Depression Inventory – II (Beck, Steer, & Brown, 1996).** The BDI-II is a 21-item self-report questionnaire that assesses severity of current (i.e., over the past 2 weeks) depressive symptoms. Items represent a range of depressive symptoms, including “Sadness”, “Pessimism”, “Change in Appetite” and “Change in Sleep Patterns”, all of which are rated on a 4-point scale from 0 to 3. Total BDI-II scores range from 0 to 63, with higher scores representing more severe depressive symptoms. The BDI-II has good psychometric properties and is the most widely used measure of depression severity in research and clinical practice (Beck et al., 1996). The internal consistency of the BDI-II in our sample was excellent for women (α = .93) and good for men (α = .89).

Couples were separated into two distinct groups based on the female partner’s total score on the BDI-II, using the labels of depressive symptom severity proposed by Beck and colleagues (1996). Couples in the non-dysphoric group were those couples in which the female partner had a BDI-II score of 13 or less, corresponding to Beck et al.’s none/minimal depressive symptom category. Couples in the dysphoric group were those couples in which the female partner had a BDI-II score of 14 or greater, thus falling into Beck et al.’s mild, moderate or severe depression categories.

**Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996).** The RSQ assesses an individual’s general expectations and anxiety about whether or not close others will
be rejecting. The measure contains 18 items that describe hypothetical interpersonal situations in which rejection is possible. For each item, the participant is asked to rate his or her degree of anxiety about the outcome of the situation on a 6-point scale from 1 (very unconcerned) to 6 (very concerned), as well as the likelihood that the individual would respond in an accepting fashion from 1 (very unlikely) to 6 (very likely). In order to compute each participant’s mean RS score, the rating for likelihood of acceptance was first reverse-coded, yielding an index of the participant’s assessment of the likelihood that they would be rejected in each of the 18 situations. Participant’s “likelihood of rejection” score (range 1 – 6) on each of the 18 situations was then multiplied by the degree of anxiety the individual reported feeling about the outcome (range 1 – 6) (i.e., rejection expectancy * anxiety / concern rating). Therefore, participants had a possible score of 6 to 36 on each of the 18 items describing the hypothetical interpersonal situations. The mean score for the 18 items was used to index each participant’s RS, with higher values indicating more RS.

The RSQ has good internal consistency and test-retest reliability, and, in one factor analysis using data from college students, the 18 items were found to represent a single cross-situational factor (Downey & Feldman, 1996). The internal consistency of the original 18 items in our sample was good for women (α = .86). Both women and men completed the RSQ, but only the data from the women were used in the current analyses.

**Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale (DIRI-RS; Coyne, 1976b; Joiner & Metalsky, 2001).** The DIRI is a 24-item self-report questionnaire that assesses the depressive attitudes and behaviors originally described by Coyne (1976b). Although both members of the couple completed the DIRI, only the data collected from the women were used in the current study. The DIRI has demonstrated 3 clear factors:
Reassurance-Seeking, General Dependency, and Doubt in the Sincerity of Others (Joiner & Metalsky, 2001). Items are all examples of things people may think, feel or do in interpersonal relationships, and the statements are rated from 1 (*Not At All*) to 7 (*Very Much*). Each of the three factors has demonstrated acceptable to good internal reliability (alphas ranging from .74 - .89) (Joiner & Metalsky, 2001).

For the purpose of the current study, self-reported excessive reassurance seeking was operationalized as the respondent’s mean score on the Reassurance-Seeking subscale of the DIRI (i.e., the DIRI-RS). To calculate the DIRI-RS, items 20, 21, 22 and 23 of the DIRI were summed and divided by 4, yielding a mean value ranging from 1 to 7. The coefficient alpha for the DIRI-RS has ranged from .85 - .95 in past studies (see Joiner & Schmidt, 1998 for a summary). The internal consistency of the DIRI-RS in our sample was good for females (α = .89).

Experiences of Close Relationships – Revised (ECR-R; Fraley et al., 2000). The ECR-R is a 36-item self-report measure designed to capture adult romantic attachment. Both members of the couple completed the ECR-R and data from both men and women were used in my primary analyses. The measure includes two subscales: attachment avoidance (i.e., the degree to which individuals are comfortable being close to others and/or depending on others) and attachment anxiety (i.e., the degree of security or insecurity individuals feel regarding their partners’ availability and responsiveness). Attachment avoidance and anxiety were each assessed using 18 items that range from 1 (*strongly disagree*) to 7 (*strongly agree*). Following the reverse coding of several items on each of the subscales, mean scores can be obtained to index attachment avoidance and attachment anxiety, with higher scores in each case indicating that the participant endorses more features of each broad type of attachment.
The ECR-R was originally designed by applying item response theory to the items that made up four commonly used self-report measures of attachment. The resultant 36 items thus have a strong relationship with the underlying latent traits (i.e., attachment avoidance and anxiety) and, unsurprisingly, the ECR-R has demonstrated excellent psychometric properties, including excellent internal consistency for each scale (e.g., Eberhart & Hammen, 2010; Pearson et al., 2010). The internal consistency of the ECR-R attachment avoidance subscale in our sample was excellent for both women (α = .91) and men (α = .93). Similarly, internal consistency of the ECR-R attachment anxiety subscale in our sample was excellent for both women (α = .92) and men (α = .90).

**Revised Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995; Spanier, 1976).** The RDAS is a 16-item questionnaire in which 15 items are rated on a 6-point scale (0-5), and one item is rated on a 5-point scale (0-4). Items are organized into three subscales: dyadic consensus (8 items), dyadic satisfaction (4 items) and dyadic cohesion (4 items). Total scores on the measure ranging from 0 to 79 can be computed by summing the 16 items, or subscale scores may be computed. Higher total RDAS scores indicate greater romantic relationship adjustment. Both members of the couple completed the RDAS, and responses from men and women were both included in my primary analyses. Busby and colleagues (1995) reported that the internal consistency of each of the three subscales was good (αs = .80 - .85) and the internal consistency of the overall measure was excellent (α = .90). The internal consistency of RDAS items in our sample was not as strong – for both women and men, the internal consistency of the total scale fell into the acceptable range (αs = .79 and .78, respectively).

**Behavioral Reassurance-Seeking Task (BRST; Joiner & Metalsky, 2001; Stewart, unpublished protocol).** The BRST is loosely based on earlier work by Joiner and Metalsky
(2001), who designed a laboratory task to elicit reassurance-seeking behavior between same-sex, non-relative roommates. At the time of the study, I did not have access to the details of the authors’ protocols. My version of the BRST was completed at Time 1 and involved both partners first separately completing a sham personality questionnaire (Appendix N), which took approximately 5 minutes. The questionnaire included 24 items rated by participants on a 5-point scale (1 = strongly disagree to 5 = strongly agree) that purported to briefly assess personality factors that participants were told are important for young people in relationships. Following completion of the questionnaire, the experimenter collected the responses for “scoring”, which, participants were told, would take approximately 5 minutes. During this time, participants were instructed to relax, to not discuss their specific answers to the personality questionnaire, and that they would be video recorded while they did so. After turning the video camera on, the experimenter left the room for approximately 5 minutes.

Upon the experimenter’s return, women were given their “personality profile” (see Appendix O), which included their scores on ambiguous personality traits such as “edgy” and “moody”. The couple was reminded of the purpose of the task and was asked to discuss the female participant’s results for 5 minutes while they were filmed and voice recorded on a digital recording device. They were further reminded that their discussion was important to the validation of this questionnaire for use in future studies. A detailed transcript of the entire BRST protocol is provided in Appendix M.

Two advanced undergraduate students in psychology coded the 5-minute audiotaped interaction between the couple after they received the woman’s “personality profile” for reassurance seeking behaviors. Prior to coding, I intensively instructed the research assistants on the theoretical and conceptual underpinnings of ERS, and assigned two readings on the subject
(Coyne, 1976b; Joiner & Metalsky, 2001). As part of their training, the research assistants were also familiarized with the criteria applied to code reassurance-seeking in the study, and were given the coding manual (Appendix P) to review.

Following training, the research assistants took an initial “first pass” of the voice recording in order to identify the start and end time of the 5 minute coding period, as well as to transcribe every single statement made by women and the times at which these occurred in the audiotapes. Research assistants took note of the total amount of time female participants spent speaking and the number of statements that they made. Finally, research assistants took detailed notes on each tape and documented any signs that either member of the couple doubted the veracity of the task (i.e., saw through the deception) – this was done for the whole 10-minute recorded period. Only 5 couples gave any kind of behavioral indication that they doubted the veracity of the deception used in the BRST.

Each statement made by the female participants was evaluated by the coders for the presence or absence of reassurance-seeking based on the following 3 necessary criteria: 1) the statement sought feedback about personal information related to the female participant, 2) the statement was phrased in such a way that the feedback obtained was highly likely to be positive (i.e., different than negative feedback seeking), and 3) the statement was phrased in such a way that the logical response set of responses available to the partner was limited. A detailed description of the coding criteria, with examples, is provided in Appendix P.

To establish inter-rater reliability, both research assistants coded reassurance-seeking in 65 (53.7%) of the audiotapes. For each separate female statement, the coders were evaluated on

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1 I re-computed the bivariate correlations between the BRST-RS and DIRI-RS after removing the 5 couples who showed behavioral signs of not believing the deception. The pattern of correlations remained the same, and the values were nearly the same magnitude in all cases.

2 All analyses using the data from the Behavioral Ressurance-Seeking Task were re-run
whether they agreed or disagreed on whether or not it met criteria for behavioral reassurance-seeking. The coders agreed on the coding of approximately 91% of all transcribed female statements, and the resultant Cohen’s Kappa statistic (K = .73) fell into the “substantial agreement” range using the cutoffs suggested by Landis and Koch (1977). This value was nearly identical to the inter-rater agreement reported by Joiner and Metalsky (2001) (K = .72) for same-sex roommates during their laboratory-based reassurance-seeking task.

Despite the reliability of our measure, we found only a modest correlation between the BRST reassurance-seeking score (BRST-RS) and female participants’ DIRI-RS score in our full sample, $r = .13, p = .155$. Within the sample, there was one extreme univariate outlier on the BRST-RS, but the removal of this case did not substantially improve the correlation ($r = .14, p = .139$). The correlations between self-reported and behavioral reassurance-seeking were small and statistically non-significant among both dysphoric women ($r = .24, p = .135$) and non-dysphoric women ($r = .08, p = .493$).

Procedure

The current study was conducted in compliance with the guidelines put forward in the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. There were two waves of data collection, each with a longitudinal follow-up portion. Couples attended the initial laboratory session (Time 1) either between September and December, 2010 (Wave 1; $n = 65$) or between September, 2011 and March, 2012 (Wave 2; $n = 56$). Following the initial laboratory visit, female participants were re-contacted approximately 4 months later (Time 2; $M = 4.16, SD = 0.32, \text{range} = 3.77 – 5.57$) – thus, the follow-up portion of the study took place between January and April, 2011 (Wave 1) or between January and July, 2012 (Wave 2). The 4-month follow-up session for participants in Wave 1 was an in-person laboratory session, whereas for
participants in Wave 2 it was conducted over the phone or via e-mail. Initially, in Wave 1, I wanted to collect LEDS data from the women at the 4-month follow-up that assessed life events in their relationship in between Time 1 and Time 2. After the first wave of data collection, I found that the Time 2 LEDS was adding very little of interest to the study, and so this feature of the study was dropped. Given that I no longer needed to conduct an in depth interview with the women at Time 2, measures were collected by phone or e-mail to reduce participant burden.

At the Time 1 laboratory appointment, all couples were welcomed and each partner provided written, informed consent (see Appendix Q-T). Following this, each member of the couple was led to a separate room where they completed all study questionnaires – the BDI-II, RSQ, DIRI-RS, ECR-R and RDAS – which took approximately 30 to 45 minutes. Once all questionnaires were completed, the experimenter administered the Demographics Interview to each member of the couple. Participants then participated in the BRST laboratory protocol (see description above), which took approximately 20 minutes. Once the protocol was complete, participants were alerted to the nature of the deception within the task and given a short, verbal debriefing (see Appendix M). They were told that the measure they completed was not real, and informed that the purpose of the discussion was to capture how couples interact. Each member of the couple was given an opportunity to withdraw their videotape and/or audiotape data after the debriefing, although none of the couples chose to do so.

The men were then informed that their part in the study had concluded. Male participants were welcomed to stay in the laboratory’s waiting area, or to leave if they chose. If they chose to leave, they were given the Time 1 Debriefing Form (Appendix U) and the experimenter ensured that all questions about the study were answered. The Debriefing Form provided more explicit detail about the videotaped interaction and thoroughly described the deception used, along with
the reasoning for its use. At the formal debriefing, men were once again given the opportunity to withdraw their videotape and/or audiotape data. Male participants were compensated with either $10 or 1.0 credits towards their Psychology 100 course, when applicable.

The Time 1 laboratory session ended with the completion of the RI and the Marital/Partner Relationships domain of the LEDS interview with the women. Following this, they were given the Time 1 Debriefing Form (Appendix U) and debriefed in the same manner as the men. In instances where the male partner chose to remain in the laboratory, both members of the couple were debriefed and compensated at the same time. Female participants either received 1.5 credits towards their Psychology 100 course or $10 cash as compensation for their participation. During debriefing, contact information for female participants was confirmed and they were reminded about the follow-up portion of the study. The entire Time 1 protocol typically lasted approximately 1 hour for male participants and 1.5 hours for female participants.

Approximately 4 months following the Time 1 laboratory appointment, women were re-contacted over the telephone or via email by a research assistant and asked to participate in a second, shorter session, either in-person (Wave 1) or remotely (Wave 2). Of the 118 Time 1 participants, 103 (87.3%) provided Time 2 data relevant to the current study. The 15 participants I was unable to re-contact did not differ from the participants that made up the Time 2 sample in terms of female age, \( t(116) = .40, p = .689, d = .111 \), male age, \( t(116) = 1.43, p = .16, d = .399 \), female ethnicity, \( \chi^2(3, n = 118) = .43, p = .933 \), Cramer’s \( V = .061 \), male ethnicity, \( \chi^2(4, n = 118) = 3.08, p = .544 \), Cramer’s \( V = .162 \), relationship duration, \( t(116) = .36, p = .723, d = .099 \), whether or not they were cohabiting, \( \chi^2(1, n = 118) = .92, p = .337, d = .117 \), whether or not they were in a long-distance relationship, \( \chi^2(1, n = 118) = .08, p = .776, d = .052 \), or dysphoric group status, \( \chi^2(1, n = 118) = .09, p = .759, d = .055 \).
Written and informed consent for all Time 2 procedures was obtained at Time 1, although all participants were asked if they needed a refresher of study procedures. Women first completed the RI-2, either in person or over the phone, which provided information on relationship status and potential rejection events. They also completed a subset of the original self-report measures administered at Time 1 online, although these data were not used in the current study. Following this, women were thanked for their time and given the Time 2 Debriefing Form (see Appendix V). They were given the opportunity to discuss the nature of the study with the experimenter and to ask questions. As compensation for their participation in the Time 2 portion of the study, women were entered into a draw for 1 of 3 valuable prizes (IPods).

Data Analysis

The first step of the data analysis process was to determine the factor structure of the RSQ prior to creating the composite variable representing women’s negative cognitions about relationships (Negative Relationship Cognitions; NRC). To my knowledge, there has only been one factor analysis of the RSQ, and this employed a Principal Components Analysis procedure on a sample of non-selected undergraduate students (Downey & Feldman, 1996). Thus, the rationale for conducting an Exploratory Factor Analysis (EFA) on the female RSQ data was threefold: 1) to provide data on the factor structure of the RSQ in a sample of female undergraduate students in a current romantic relationship and with varying degrees of depressive symptom severity, 2) to attempt to replicate the original factor structure using a more methodologically rigorous approach to EFA and 3) to be able to potentially exclude items from my main analyses if they failed to load solidly on the derived factor(s), which would enhance the psychometric properties of our composite variable and reduce unique variance.
To this end, I conducted an EFA on the female RSQ data according to the suggestions made by Fabrigar, Wegener, MacCallum, & Strahan (1999). I used Maximum Likelihood Estimation (MLE) with a Direct Oblimin rotation to determine the number and nature of factors, assuming moderate inter-correlation among factors if more than one was found. To determine the factor structure I employed a combination of the following techniques: examination of the scree plot, parallel analysis, consideration of the Root Mean Squared Error of Approximation (RMSEA) value associated with various factor solutions, and evaluation of the pattern of loadings for the items. I only included items with loadings above .35 on at least one of the factors and excluded items that loaded complexly (i.e., items where the loading on the primary factor was less than two times the loading on another factor) in order to minimize unique variance.

Following the EFA, I created a composite score representing female NRC which was the combination of attachment anxiety, measured using the ECR-R, and rejection sensitivity, measured using the RSQ. I had four reasons for choosing to proceed in this manner. First, and most importantly, the combination of anxious attachment and rejection sensitivity captures the core beliefs described in the integrated interpersonal model of depression (Evraire & Dozois, 2011). Second, these constructs have been shown to be strongly associated in previous studies. Third, female attachment anxiety and rejection sensitivity were significantly, moderately correlated in the current sample (see below). Finally, creating the composite reduces the number of predictor variables that would need to be inserted into my primary regression models, and tempers the complexity of the interactions that would need to be followed up (i.e., models would be limited to one 3-way interaction, instead of 3 3-way interactions and a 4-way interaction). With these factors in mind, I chose to create a NRC composite variable by summing the standardized scores of female attachment anxiety and mean RSQ.
My primary analyses were organized into three sections based on the outcome variable under consideration. Broadly, I analyzed the effects of female dysphoric status, ERS (i.e., DIRI-RS or BRST-RS), NRC and their interactions on 1) male relationship satisfaction at Time 1, indexed by the RDAS, 2) historical targeted rejection in romantic relationships, indexed by the LEDS, and 3) prospective romantic relationship rejection, indexed by cases of partner-initiated relationship dissolution or relationship breaks, as well as partner-perpetrated infidelity. For each set of analyses, self-reported (DIRI-RS) and behaviorally-observed (BRST-RS) ERS were considered in separate models.

For my male RDAS models, I conducted a series of two Multiple Linear Regression (MLR) analyses, using a hierarchical approach to entering predictors. In Step 1 of the models, I included any demographic (e.g., age, ethnicity) or relationship variables (e.g., relationship duration) that were significantly correlated with male relationship satisfaction. In Step 2, I controlled for male characteristics that influence self-reported relationship satisfaction (e.g., male anxious attachment, avoidant attachment and depressive symptoms) if they were correlated with the outcome variable. In Step 3, the main effects of dysphoric group (0 = non-dysphoric, 1 = dysphoric), ERS (either DIRI-RS or BRST-RS), and NRC were entered. In Step 4 I entered all possible 2-way interactions, and finally, in Step 5, I entered the 3-way interaction. I created interaction terms by centering continuous variables at their means, and multiplying them together. I followed-up significant 3-way interactions by examining lower order interactions separately in the non-dysphoric and dysphoric group. The original model provided the effects within the non-dysphoric group, and the effects within the dysphoric group were obtained by reversing the coding of the grouping variable (i.e., 0 = dysphoric, 1 = non-dysphoric) and re-
running analyses. I computed simple slopes following Aiken and West’s (1991) guidelines to follow-up significant 2-way interactions within the dysphoric and non-dysphoric groups.

For my historical targeted rejection models, I considered three separate dependent variables: 1) the number of targeted rejection events women reported in their relationship history, 2) the average event threat severity associated with women’s targeted rejection events, and 3) a categorical targeted rejection variable in which women were grouped into a no targeted rejection (coded 0), a non-severe rejection (i.e., one or more non-severe targeted rejection events, but no severe targeted rejection events; coded 1), or a severe targeted rejection (i.e., at least one severe targeted rejection event; coded 2) group.

The first two LEDS dependent variables were examined using 4 separate MLR models, 2 for each dependent variable. These models were organized in a fashion similar to the RDAS models described above. Step 1 for both types of dependent variables controlled for the number of previous relationships the participant had had, so that results were not simply a function of certain women having more relationships, and thus, more opportunities to experience targeted rejection. Step 2 included any demographic variables significantly correlated with the outcome variable, followed by main effects in Step 3, and interactions in Step 4 and 5. I again used a simple slopes procedure to follow-up significant 3-way, and lower-order 2-way, interactions.

For the third set of analyses, I used two multinomial logistic regression (MNLR) models, given that my dependent variable involved nominal outcomes with case-specific data (Long & Freese, 2006). The analysis requires selecting a “base outcome” from the possible outcomes and the predictor variables are evaluated on the strength with which they discriminate the base outcome from all other outcomes. I selected the “no historical targeted rejection” group (i.e., coded “0”) as the base outcome. Given this choice, the MNLR provided two sets of coefficients:
the effect of predictor variables in discriminating between no historical targeted rejection and a
history of non-severe targeted rejection and the effects of these variables in discriminating
between those who experienced no rejection and those who experienced at least one instance of
severe targeted rejection. In these models, I once again controlled for the number of past
relationships and any demographic variables significantly related to outcomes. Dysphoric group,
ERS (DIRI-RS and BRST-RS separately), NRC and their interactions were analyzed in two
separate models. Simple slopes analyses were again used to follow-up significant interactions
(MNLR produces beta weights for predictor variables similar to linear regression). When it came
to visually depicting the effects, I plotted the estimated probability of belonging to each of the
two compared groups, at high and low levels of the predictor variables.

My third and final set of primary analyses involved the relationship outcomes at the 4-
month follow-up assessment. Two separate MNLR models were employed, with male-initiated
rejection (i.e., male-initiated relationship dissolution or break, mutual relationship dissolution or
break, and/or male perpetrated infidelity) chosen as the base outcome and being compared to no
rejection, as well as female-initiated rejection of the partner (i.e., female-initiated relationship
dissolution or break and/or female perpetrated infidelity). My models controlled for demographic
and relationship variables related to the outcome, including baseline relationship quality (female
and male RDAS), as well as any male characteristics related to outcome. The main effects of,
and interactions among, the primary variables of interest (i.e., ERS, NRC and dysphoric group)
were also included in the model, with interactions again explored using simple slopes.
Chapter 3

Results

Exploratory Factor Analysis (EFA) – RSQ

I conducted an EFA on female responses to the 18-item RSQ. A more detailed description of the EFA results is provided in Appendix W. Using MLE with Direct Oblimin rotation and setting the factor identification rule to Eigenvalues greater than 1, 6 factors were extracted in the first run and these accounted for 55.08% of the variance in the items. A visual inspection of the scree plot of Eigenvalues from the reduced correlation matrix suggested that 6 factors was an appropriate upper limit, but that the best solution might be 2 or 3 factors. I conducted a parallel analysis, and computed the RMSEA from chi-square values corresponding to results specifying 1 to 6 factors in a series of runs using FITMOD (Browne, 1992).

My final 2-factor solution was deemed the best combination of parsimony, relative fit and ease of interpretation. The 3-factor solution offered a marked improvement in fit over my 2-factor solution, but any solution past two factors suffered from at least one under-identified factor (i.e., factors with only one strongly loading item) and several items that loaded complexly. The 1-factor solution was a mediocre fit to the data (RMSEA = .086, 90% CI = .069 - .103), even after eliminating two items that loaded below .35.

After selecting the 2-factor solution, I removed items that loaded complexly and/or below .35 on both factors and re-ran the EFA with the remaining items. In total, 4 RSQ items were removed prior to arriving at the final solution (items 3, 10, 11, and 13; see Appendix I). The solution converged in 6 iterations, explained approximately 37.04% of the variance in the remaining 14 items, and was an acceptable fit to the data, $\chi^2(64, n = 118) = 100.83, p = .002,$.
RMSEA = .069 (90% CI: .042 - .094). The pattern matrix of factor loadings of the items on the 2 factors is presented in Table 2.

Table 2

*Pattern Matrix of Factor Loadings ≥ .35 for Rejection Sensitivity Questionnaire Items in the Final Two-Factor Solution*

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Other Relationships</th>
<th>Factor Close Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Ask classmate to coffee</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td>4. Ask stranger on a date</td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>17. Ask someone to dance</td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>15. Ask friend for big favor</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>8. Saying/doing something that upset close friend</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>1. Ask classmate to borrow notes.</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>7. Ask professor for extra help after class</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>16. Ask partner if they really love you</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>12. Call partner after argument</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>5. Tell partner you want to spend time with them</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>2. Ask partner to move in with you.</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>18. Ask partner to meet your parents.</td>
<td>.40</td>
<td></td>
</tr>
<tr>
<td>14. Ask parents to attend occasion with you</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>6. Ask parents for extra money.</td>
<td>.35</td>
<td></td>
</tr>
</tbody>
</table>
The factors were named “Other Relationships” and “Close Relationships”. The “Other Relationships” factor included items describing hypothetical situations involving relative strangers (e.g., classmates; “someone you don’t know”) or friends/acquaintances. The “Close Relationships” factor included items describing hypothetical situations involving romantic partners or parents. The internal consistency of the “Other Relationships” items was good ($\alpha = .81$) while the internal consistency of the “Close Relationships” items was acceptable ($\alpha = .75$). The entire 14-item scale had a nearly identical internal consistency to the original 18-item scale in our sample ($\alpha = .84$). Mean scores on “Other Relationships” and “Close Relationships” for females in our sample were strongly, positively associated, $r = .52$, $p < .001$. Based on the results of the EFA, mean scores on this reduced 14-item RSQ were used in all analyses.

**Descriptive Statistics**

In total, 47 couples (39.8%) had at least one missing item on at least one of the measures that either the male or female participant completed. Twenty-eight women (23.7%) and 28 men (23.7%) had missing data somewhere on at least one of the questionnaires they completed. Missing values on measures were replaced using multiple imputation within each individual measure for men and women separately. I chose multiple imputation because it is currently considered the most respectable method of dealing with missing data (Tabachnick & Fidell, 2007), has the advantage of not requiring the missing data to be missing completely at random (MCAR) and can be used for any General Linear Model (GLM) analysis. I generated 10 random samples from the distributions of the variables with missing data, which was relatively conservative, given that as few as 3 random samples have been shown to be adequate in most situations (Rubin, 1996).
Couples in the dysphoric and non-dysphoric groups did not significantly differ in terms of female age, \( t(116) = .04, p = .970, d = .008 \), male age, \( t(116) = 1.11, p = .270, d = .212 \), female ethnic distribution, \( \chi^2(3, n = 118) = 1.59, p = .661 \), Cramer’s \( V = .116 \), male ethnic distribution, \( \chi^2(4, n = 118) = 2.00, p = .735 \), Cramer’s \( V = .130 \), romantic relationship duration, \( t(116) = .65, p = .516, d = .124 \), whether or not they were cohabiting, \( \chi^2(1, n = 118) = 2.49, p = .114, d = .294 \), or whether or not they were in a long-distance relationship, \( \chi^2(1, n = 118) = .15, p = .702, d = .071 \). See Table 1 for means and standard deviations for these variables, stratified by dysphoric group status.

Descriptive statistics for all primary study variables, stratified by female dysphoric status, are given in Table 3. As Table 3 shows, and as expected, the dysphoric women had significantly higher BDI-II, attachment anxiety, attachment avoidance, RSQ and DIRI-RS scores compared to non-dysphoric women. Furthermore, dysphoric women reported significantly lower relationship quality than did non-dysphoric women. However, dysphoric and non-dysphoric women did not significantly differ on their BRST-RS scores. In contrast, male partners of dysphoric and non-dysphoric females did not significantly differ in terms of BDI-II, attachment anxiety and attachment avoidance, and they did not report significantly different relationship quality.
Table 3

Descriptive Statistics, and Between Group Comparisons, for all Primary Study Variables, Stratified by Female Dysphoric Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dysphoric (n = 43)</th>
<th>Non-Dysphoric (n = 75)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female RDAS Total</td>
<td>56.76 (7.13)</td>
<td>60.91 (6.14)</td>
<td>3.33</td>
<td>.001</td>
<td>.624</td>
</tr>
<tr>
<td>Male RDAS Total</td>
<td>57.52 (7.90)</td>
<td>59.37 (6.01)</td>
<td>1.43</td>
<td>.16</td>
<td>.264</td>
</tr>
<tr>
<td>Female Attachment Anxiety</td>
<td>3.86 (.98)</td>
<td>2.52 (.82)</td>
<td>7.92</td>
<td>&lt;.001</td>
<td>1.48</td>
</tr>
<tr>
<td>Male Attachment Anxiety</td>
<td>3.25 (1.03)</td>
<td>2.88 (1.00)</td>
<td>1.93</td>
<td>.06</td>
<td>.364</td>
</tr>
<tr>
<td>Female Attachment Avoidance</td>
<td>2.71 (.80)</td>
<td>2.07 (.71)</td>
<td>4.51</td>
<td>&lt;.001</td>
<td>.846</td>
</tr>
<tr>
<td>Male Attachment Avoidance</td>
<td>2.52 (.98)</td>
<td>2.22 (.83)</td>
<td>1.72</td>
<td>.09</td>
<td>.330</td>
</tr>
<tr>
<td>Female BDI</td>
<td>23.69 (8.28)</td>
<td>6.67 (3.69)</td>
<td>15.34</td>
<td>&lt;.001</td>
<td>2.66</td>
</tr>
<tr>
<td>Male BDI</td>
<td>8.86 (7.69)</td>
<td>8.67 (7.61)</td>
<td>.13</td>
<td>.90</td>
<td>.025</td>
</tr>
<tr>
<td>Female RSQ</td>
<td>12.00 (3.77)</td>
<td>8.40 (3.38)</td>
<td>5.33</td>
<td>&lt;.001</td>
<td>1.01</td>
</tr>
<tr>
<td>Female DIRI-RS</td>
<td>3.72 (1.51)</td>
<td>2.47 (1.10)</td>
<td>5.15</td>
<td>&lt;.001</td>
<td>.946</td>
</tr>
<tr>
<td>Female BRST-RS</td>
<td>3.09 (3.69)</td>
<td>2.72 (2.58)</td>
<td>.64</td>
<td>.52</td>
<td>.116</td>
</tr>
</tbody>
</table>

Note. RDAS = Revised Dyadic Adjustment Scale; BDI = Beck Depression Inventory, 2nd Edition; RSQ = Rejection Sensitivity Questionnaire; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale; BRST-RS = Behavioral Reassurance-Seeking Task.

Table 4 presents simple bivariate correlations among the major study variables. Not surprisingly, the scores for women in the sample on many of the major independent variables
(i.e., RS, DIRI-RS, Attachment Anxiety) were moderately inter-correlated. However, the BRST-RS was only significantly associated with male attachment avoidance, although there was also a small, non-significant correlation between this measure and female attachment anxiety. The correlations among study variables that have been shown to impact relationship satisfaction (i.e., attachment, self-reported ERS, depressive symptoms, and rejection sensitivity) mostly reached statistical significance and were all in the expected direction.

For all primary analyses, I created an aggregate variable that combined two theoretically meaningful constructs – anxious attachment and rejection sensitivity – to capture cognitions characterized by a high level of concern about close relationships (i.e., fears of abandonment and rejection; beliefs that partner’s affection is unstable and unpredictable). Given the high correlation between attachment anxiety and mean, 14-item RSQ scores, standardized scores for each variable were computed and these were then summed to create the composite. Correlations between the composite variable and other study variables are presented in Table 4.
Table 4

Simple Bivariate Correlations Among Major Study Variables for the Entire Sample

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
<th>11.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Female RDAS Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td>--</td>
</tr>
<tr>
<td>2. Male RDAS Total</td>
<td></td>
<td></td>
<td>.35***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Female Attachment Anxiety</td>
<td>-.40***</td>
<td>-.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Male Attachment Anxiety</td>
<td>-.37***</td>
<td>-.53***</td>
<td>.27**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Female Attachment Avoidance</td>
<td>-.36***</td>
<td>-.14</td>
<td>.52***</td>
<td>.34***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Male Attachment Avoidance</td>
<td>-.20*</td>
<td>-.54***</td>
<td>.24***</td>
<td>.37***</td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Female BDI</td>
<td></td>
<td></td>
<td>-.24**</td>
<td>-.06</td>
<td>.52***</td>
<td>.19*</td>
<td>.42***</td>
<td>.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Male BDI</td>
<td></td>
<td></td>
<td>-.11</td>
<td>-.42***</td>
<td>-.10</td>
<td>.42***</td>
<td>.06</td>
<td>.27**</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Female RSQ</td>
<td></td>
<td></td>
<td>-.30**</td>
<td>-.02</td>
<td>.59***</td>
<td>.12</td>
<td>.37***</td>
<td>.23*</td>
<td>.52***</td>
<td>-.20*</td>
<td></td>
</tr>
<tr>
<td>10. Female DIRI-RS</td>
<td></td>
<td></td>
<td>-.25**</td>
<td>-.21*</td>
<td>.66***</td>
<td>.18</td>
<td>.20*</td>
<td>.16</td>
<td>.39***</td>
<td>-.10</td>
<td>.41***</td>
</tr>
<tr>
<td>11. Female BRST-RS</td>
<td></td>
<td></td>
<td>-.02</td>
<td>-.08</td>
<td>.18</td>
<td>-.10</td>
<td>-.02</td>
<td>.20*</td>
<td>-.02</td>
<td>.12</td>
<td>.09</td>
</tr>
<tr>
<td>12. Female NRC</td>
<td></td>
<td></td>
<td>-.37***</td>
<td>-.10</td>
<td></td>
<td></td>
<td>.19*</td>
<td>.47***</td>
<td>.26**</td>
<td>.57***</td>
<td>-.18</td>
</tr>
</tbody>
</table>

Note. *** = p < .001; ** = p < .01; * = p < .05; RDAS = Revised Dyadic Adjustment Scale; BDI = Beck Depression Inventory, 2nd Edition; RSQ = Rejection Sensitivity Questionnaire; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score; NRC = Negative Relationship Cognitions.
Primary Analyses – Predicting Time 1 Male Relationship Satisfaction

I first conducted preliminary analyses to determine if any demographic or relationship variables were significantly associated with male relationship satisfaction. Male RDAS scores were not significantly associated with female age, \( r = -.11, p = .245 \), male age, \( r = -.10, p = .266 \), female ethnicity, \( F(3, 144) = .66, p = .579 \), partial \( \eta^2 = .017 \), male ethnicity, \( F(4, 113) = 1.27, p = .288 \), partial \( \eta^2 = .043 \), cohabitation status, \( t(116) = 1.62, p = .11, d = .685 \), or long distance relationship status, \( t(116) = 1.50, p = .14, d = .332 \). However, higher male RDAS scores were associated with shorter romantic relationship duration, \( r = -.18, p = .049 \). Thus, relationship duration was included in Step 1 of the MLR models.

Male Relationship Satisfaction and Self-Reported ERS. The first model examined whether female dysphoric status, NRC, self-reported ERS assessed by the DIRI-RS, and their interactions significantly predicted male RDAS scores. I entered relationship duration in Step 1 of the model, followed by male attachment anxiety, attachment avoidance and depressive symptoms (all significantly associated with the dependent variable; see Table 3) in Step 2. Step 3 included the main effects of ERS, NRC, and dysphoric group, Step 4 included all 2-way interactions and Step 5 included the 3-way interaction.

Given the moderate inter-correlation between male attachment anxiety and both attachment avoidance and depressive symptoms, the latter two variables were regressed onto the former and standardized residuals were computed for attachment anxiety. I chose to do so to limit the multicollinearity among these variables and thus decrease the likelihood of difficulties in testing and interpreting regression coefficients. The standardized residuals for attachment anxiety were entered into my model instead of the actual scores. In the initial model, the addition of the 2-way interactions in Step 4 and 3-way interaction in Step 5
resulted in no significant increase in variance explained in male relationship satisfaction, \( \Delta R^2 = .02, \Delta F(3, 107) = 1.26, p = .291 \) and \( \Delta R^2 = .002, \Delta F(1, 106) = .38, p = .540 \), respectively.

For the sake of parsimony, the 2-way interactions involving dysphoric group were removed as these added very little to the explained variance. The new model thus included the covariates on Step 1 and Step 2, the main effects of DIRI-RS, NRC and dysphoric group on Step 3, and the DIRI-RS X NRC interaction on Step 4. Regression coefficients are provided in Table 5. Step 1 produced a significant increment in variance explained in male relationship satisfaction, \( R^2 = .03, F(1, 116) = 3.95, p = .049 \). Furthermore, the addition of the male attachment measures and depressive symptoms on Step 2 was significant over and above the effects of relationship duration, \( \Delta R^2 = .47, \Delta F(3, 113) = 36.01, p < .001 \). The addition of the main effects of ERS, NRC and dysphoric group were again statistically non-significant, \( \Delta R^2 = .02, \Delta F(3, 110) = 1.86, p = .140 \), although DIRI-RS scores had a significant unique association with lower male RDAS scores in Step 3 of the model, \( B = -.89, SE = .39, t(110) = 2.26, p = .026, d = .431 \). The inclusion of the DIRI-RS X NRC interaction was non-significant in the final step of the model, \( \Delta R^2 = .01, \Delta F(1, 110) = 1.82, p = .180 \). A longer relationship duration, higher scores on male anxious and avoidant attachment and male BDI-II scores, and higher scores on female ERS were all significant unique predictors of lower male relationship satisfaction in Step 4 of the model. In total, the final model accounted for approximately 54% of the variance in male RDAS scores.
Table 5

Regression Coefficients for the Final Step of the Self-Reported ERS Model Predicting Male Relationship Satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship Duration</td>
<td>-.14 (.04)</td>
<td>3.47</td>
<td>.001</td>
<td>.665</td>
</tr>
<tr>
<td>Male Anxiety (residual)</td>
<td>-2.10 (.47)</td>
<td>4.50</td>
<td>&lt;.001</td>
<td>.862</td>
</tr>
<tr>
<td>Male Avoidance</td>
<td>-3.66 (.55)</td>
<td>6.66</td>
<td>&lt;.001</td>
<td>1.28</td>
</tr>
<tr>
<td>Male BDI-II</td>
<td>-.25 (.06)</td>
<td>3.95</td>
<td>&lt;.001</td>
<td>.757</td>
</tr>
<tr>
<td>Female NRC</td>
<td>.37 (.25)</td>
<td>1.46</td>
<td>.147</td>
<td>.280</td>
</tr>
<tr>
<td>Female DIRI-RS</td>
<td>-.98 (.40)</td>
<td>2.47</td>
<td>.015</td>
<td>.473</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-.30 (1.13)</td>
<td>.27</td>
<td>.789</td>
<td>.052</td>
</tr>
<tr>
<td>DIRI-RS x NRC</td>
<td>.15 (.11)</td>
<td>1.35</td>
<td>.180</td>
<td>.259</td>
</tr>
</tbody>
</table>

*Note.* BDI-II = Beck Depression Inventory, 2nd Edition; NRC = Negative Relationship Cognitions; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.

**Male Relationship Satisfaction and Objectively Rated ERS**. The MLR model predicting male relationship satisfaction from objectively-rated ERS assessed using the BRST-RS was organized identically to the model reported above, and regression coefficients are reported in Table 6. The results of Step 1 and 2 were identical to the model above. The addition of the main effects of BRST-RS, female NRC, and dysphoric group on Step 3 did not...

\[\text{All analyses using the data from the Behavioral Ressurance-Seeking Task were re-run excluding the 5 couples who showed signs of doubting the veracity of instructions. The pattern of results in all primary analyses were unaffected, thus, results using the full sample were presented.}\]
result in a significant increment in the variance explained in male RDAS scores, $\Delta R^2 = .01$, $\Delta F(3, 110) = .45, p = .715$. In Step 4, the addition of all 2-way interactions similarly did not produce a significant increase in explained variance, $\Delta R^2 = .02, \Delta F(3, 107) = 1.83, p = .145$

However, the addition of the 3-way interaction of BRST-RS, NRC and dysphoric group in Step 5 significantly improved the model, $\Delta R^2 = .03, \Delta F(1, 106) = 6.16, p = .015$. The final model accounted for 56% of the variance in male relationship satisfaction.

Table 6

*Regression Coefficients for the Final Step of the Behaviorally-Assessed ERS Model Predicting Male Relationship Satisfaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$ (SE)</th>
<th>$t$</th>
<th>$p$</th>
<th>$d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship Duration</td>
<td>-.15 (.04)</td>
<td>-3.56</td>
<td>.001</td>
<td>.692</td>
</tr>
<tr>
<td>Male Anxiety (residual)</td>
<td>-2.31 (.48)</td>
<td>-4.84</td>
<td>&lt;.001</td>
<td>.940</td>
</tr>
<tr>
<td>Male Avoidance</td>
<td>-3.41 (.55)</td>
<td>-6.17</td>
<td>&lt;.001</td>
<td>1.20</td>
</tr>
<tr>
<td>Male BDI-II</td>
<td>-.27 (.06)</td>
<td>-4.20</td>
<td>&lt;.001</td>
<td>.816</td>
</tr>
<tr>
<td>Female NRC</td>
<td>.31 (.42)</td>
<td>.75</td>
<td>.456</td>
<td>.146</td>
</tr>
<tr>
<td>Female BRST-RS</td>
<td>-.46 (.39)</td>
<td>-2.02</td>
<td>.046</td>
<td>.392</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-.18 (1.17)</td>
<td>-.15</td>
<td>.878</td>
<td>.029</td>
</tr>
<tr>
<td>NRC x BRST-RS</td>
<td>-.12 (.18)</td>
<td>-.69</td>
<td>.495</td>
<td>.134</td>
</tr>
<tr>
<td>Group x NRC</td>
<td>-.79 (.64)</td>
<td>-1.24</td>
<td>.218</td>
<td>.241</td>
</tr>
<tr>
<td>Group x BRST-RS</td>
<td>-.49 (.45)</td>
<td>-1.07</td>
<td>.287</td>
<td>.208</td>
</tr>
<tr>
<td>Group x NRC x BRST-RS</td>
<td>.57 (.23)</td>
<td>2.48</td>
<td>.015</td>
<td>.482</td>
</tr>
</tbody>
</table>

*Note.* BDI-II = Beck Depression Inventory, 2nd Edition; NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.
In order to explore the 3-way interaction, I re-ran the MLR model reversing the coding of the dysphoric group variable (i.e., 0 = dysphoric, 1 = non-dysphoric) to determine the effects of lower-order 2-way interactions among the couples with dysphoric females. In the dysphoric group, but not the non-dysphoric group, there was a significant 2-way interaction between NRC and BRST-RS, $B = .45, SE = .15, t(106) = 2.92, p = .004, d = .567$. Furthermore, the effect of BRST-RS within the dysphoric group at the final step (i.e., at mean levels of NRC) was stronger compared to the non-dysphoric group, $B = -.94, SE = .40, t(106) = 2.39, p = .019, d = .464$.

In order to explore the significant 2-way NRC x BRST-RS interaction, I re-ran the MLR for the dysphoric group twice, first centering the NCR variable at one standard deviation above the mean (i.e., high values) and then centering NRC at one standard deviation below the mean (i.e., low values), following the recommendations of Aiken and West (1991). A visual depiction of the simple slopes corresponding to the 2-way interaction is presented in Figure 3. Consistent with hypotheses, among dysphoric female participants with high NRC, their scores on the BRST-RS were significantly associated with lower male relationship satisfaction, $B = -1.75, SE = .65, t(106) = -2.70, p = .008, d = .524$. However, at low levels of NRC, dysphoric female’s BRST-RS was not significantly associated with male RDAS scores, $B = -.14, SE = .21, t(106) = -.66, p = .511, d = .128$. 
Figure 3. A visual depiction of the interaction between female negative relationship cognitions and behaviorally-assessed ERS among dysphoric women in predicting male relationship satisfaction. RDAS = Revised Dyadic Adjustment Scale; NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

Summary. My first set of analyses examined whether dysphoria, negative relationship cognitions, ERS and their interactions were associated with concurrent partner relationship satisfaction. I used male relationship satisfaction here as a proxy of interpersonal rejection to test the tenets of interpersonal models of depression, as has been done in numerous previous studies. For both the self-reported and behaviorally-assessed ERS model, I hypothesized that ERS would only be significantly, negatively associated with partner relationship satisfaction among dysphoric women with high negative relationship cognitions. Contrary to my
hypothesis, neither negative relationship cognitions, nor dysphoric group, moderated the association between self-reported ERS and lower male relationship satisfaction. However, my results for using behaviorally-assessed ERS were consistent with my hypothesis; among dysphoric, but not non-dysphoric women, ERS was associated with lower male relationship satisfaction at high, but not low, levels of negative relationship cognitions. This result provides direct support for Evraire and Dozois’s (2011) integrated interpersonal model of depression.

**Primary Analyses – Retrospective Targeted Rejection**

In a series of 6 regression models, I tested hypotheses derived from interpersonal models of depression, this time using self-reported historical romantic rejection events as the outcome variable. Importantly, I defined rejection in an objective, narrow manner that fits closely with how rejection is defined in behavioral terms in interpersonal theories. This is the first study to explore the relationship between a tendency to engage in ERS and past rejection experiences. For all models described below, I again hypothesized a 3-way interaction among dysphoria, negative relationship cognitions and ERS (whether self-reported or behaviorally assessed) such that ERS would only be associated with indexes of rejection among dysphoric women with high negative relationship cognitions.

For the purposes of my analyses of retrospective targeted rejection, I considered only female participants who reported at least one previous romantic relationship prior to beginning their relationship with their current partner. Thus, 17 of the 118 females (14.4%) were excluded, leaving a subsample of 101 participants. The excluded participants did not differ from the original sample in terms of their age, $t(116) = .88, p = .380, d = .231$, ethnic distribution, $\chi^2(3, n = 118) = 2.78, p = .427$, Cramer’s $V = .154$, dysphoric group distribution,
As described above, the outcome variables for this set of analyses included the number of targeted rejection events reported in the LEDS, the average event threat associated with retrospective targeted rejection events, and the targeted rejection event severity grouping variable (i.e., no targeted rejection vs. non-severe vs. severe). For the severity grouping variable, 35 (34.7%) women reported no rejection, 45 (44.6%) reported only non-severe targeted rejection, and 21 (20.8%) reported at least one severe targeted rejection event. None of these variables were significantly related to female age (all $p$s > .11) or ethnicity (all $p$s > .10). However, number ($r = .59$, $p < .001$), average threat ($r = .31$, $p = .002$), and severity grouping, $F(2, 98) = 10.94$, $p < .001$, partial $\eta^2 = .183$, of targeted rejection events were each significantly associated with the total overall number of past relationships female participants reported. Therefore, I controlled for the number of past relationships reported in all analyses.

**Number of Targeted Rejection Events and Self-Reported ERS.** I conducted a MLR model with number of past relationships entered in Step 1, followed by the main effects of female NRC, ERS as assessed by the DIRI-RS, and dysphoric group in Step 2. The 2-way interactions and 3-way interactions were entered in Steps 3 and 4 of the model, respectively. The first step of the model was significant, and contributed a substantial proportion of variance in predicting the number of targeted rejection events, $R^2 = .35$, $F(1, 99) = 53.21$, $p < .001$. However, the addition of the main effects did not significantly improve the model, $\Delta R^2 = .01$, $\Delta F(3, 96) = .56$, $p = .642$, nor did the 2-way, $\Delta R^2 = .02$, $\Delta F(3, 93) = 1.00$, $p = .397$, or 3-way, $\Delta R^2 = .001$, $\Delta F(1, 92) = .20$, $p = .652$, interactions. None of the main effects of NRC,
DIRI-RS or dysphoric group significantly contributed to the model at Step 2 (all $p$s > .26). The final model explained approximately 38% of the variance historical targeted rejection.

**Number of Targeted Rejection Events and Objectively-Rated ERS.** The MLR model for BRST-RS was structured identically to the DIRI-RS model described above. Step 1 was identical to the result described above, and the addition of the main effects in Step 2 once again was non-significant, $\Delta R^2 = .02, \Delta F(3, 96) = .97, p = .412$. The addition of the 2-way interactions in Step 3 resulted in an increment in the variance explained in number of targeted rejection events that approached conventional levels of statistical significance, $\Delta R^2 = .04, \Delta F(3, 93) = 2.32, p = .080$. BRST-RS was a significant unique predictor of more targeted rejection events in Step 3 of the model, $B = .10, SE = .04, t(93) = 2.41, p = .018, d = .500$. The addition of the 3-way interaction in Step 4 was non-significant, $\Delta R^2 = .003, \Delta F(1, 92) = .47, p = .497$, although BRST-RS remained a significant unique predictor, $B = .10, SE = .04, t(92) = 2.42, p = .017, d = .505$. The total model accounted for 42% of the variance in historical targeted rejection events.

For the sake of parsimony, I re-ran the model removing the 3-way interaction, as well as 2-way interactions that added little predictive power to the model. The resultant, simplified model only included the main effects and the Group X BRST-RS interaction and still explained 41% of the variance in number of past targeted rejection events. Step 2 of the model was identical to the results reported above, although the addition of the Group X BRST-RS in Step 3 resulted in a significant increment in variance, $\Delta R^2 = .04, \Delta F(1, 95) = 6.04, p = .016$. Regression coefficients for the final model are presented in Table 7. Number of reported past relationships and BRST-RS were both significant unique predictors of more targeted rejection events in the final step.
Table 7

Regression Coefficients for the Final Step of the Behaviorally-Assessed ERS Model Predicting Number of Historical Targeted Rejection Events

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Relationships</td>
<td>.39 (.05)</td>
<td>7.28</td>
<td>&lt;.001</td>
<td>1.49</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-.14 (.19)</td>
<td>-.74</td>
<td>.464</td>
<td>.152</td>
</tr>
<tr>
<td>BRST-RS</td>
<td>.10 (.04)</td>
<td>2.59</td>
<td>.011</td>
<td>.531</td>
</tr>
<tr>
<td>NRC</td>
<td>.05 (.05)</td>
<td>.99</td>
<td>.326</td>
<td>.203</td>
</tr>
<tr>
<td>Group X BRST-RS</td>
<td>-.12 (.05)</td>
<td>-2.46</td>
<td>.016</td>
<td>.505</td>
</tr>
</tbody>
</table>

Note. NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

In order to explore the nature of the 2-way interaction, I once again re-ran the MLR model reversing the coding of the dysphoric group variable. A visual depiction of this interaction is presented in Figure 4. Contrary to hypotheses, in the MLR model for dysphoric women, the effect of BRST-RS was non-significant in the final step, $B = -.02$, $SE = .03$, $t(95) = -.72$, $p = .476$, $d = .148$. Thus, the positive association between BRST-RS and retrospective targeted rejection events was qualified by an interaction with dysphoric group, such that the association existed in non-dysphoric, but not dysphoric, women.
Figure 4. A visual depiction of the interaction between female dysphoric status and behaviorally-assessed ERS in predicting number of historical targeted rejection events. BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

Average Event Threat for Targeted Rejection Events and Self-Reported ERS. I conducted a MLR model with number of past relationships entered in Step 1, followed by the main effects of female NRC, DIRI-RS, and dysphoric group in Step 2. The 2-way and 3-way interactions were entered in Steps 3 and 4 of the model, respectively. Step 1 of the model accounted for a statistically significant proportion of the variance in average event threat, $\Delta R^2 = .10, F(1, 99) = 10.42, p = .002$. The addition of the main effects did not significantly improve the model, $\Delta R^2 = .03, \Delta F(3, 96) = 1.09, p = .357$. However, both Step 3, $\Delta R^2 = .05, \Delta F(3, 93) = 1.13, p = .134$, and Step 4, $\Delta R^2 = .02, \Delta F(1, 92) = 2.62, p = .109$ approached conventional levels of statistical significance. In Step 3, both the Group X NRC, $B = -.41, SE$
=.24, \( t(95) = -1.76, p = .082, d = .361 \), and DIRI-RS X NRC, \( B = .12, SE = .07, t(95) = 1.74, p = .085, d = .357 \), interactions approached statistical significance. In Step 4, the lower order 2-way interactions were qualified by a 3-way interaction that approached conventional levels of statistical significance, \( B = -.25, SE = .16, t(92) = -1.62, p = .109, d = .332 \).

Although the addition of the 3-way interaction only explained an additional 2.3% of the variance in the outcome variable, this accounted for approximately 12% of the variance explained by the whole model, and had an effect between small and medium (Cohen, 1988) as a unique predictor in the final step. This, in conjunction with my reduced power to detect such complex interactions in a sample of this size, led me to choose to interpret the 3-way interaction despite the fact that it did not reach conventional statistical significance. As Table 8 shows, number of past relationships, NRC, and the DIRI-RS X NRC interactions were all significant unique predictors in the final step of the model, which explained approximately 20% of the variance in retrospective average targeted rejection event threat.
Table 8

Regression Coefficients for the Final Step of the Self-Reported ERS Model Predicting Average Event Threat of Historical Targeted Rejection Events

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Relationships</td>
<td>.33 (.10)</td>
<td>3.34</td>
<td>.001</td>
<td>.696</td>
</tr>
<tr>
<td>NRC</td>
<td>.36 (.16)</td>
<td>2.32</td>
<td>.023</td>
<td>.484</td>
</tr>
<tr>
<td>DIRI-RS</td>
<td>.36 (.22)</td>
<td>1.63</td>
<td>.106</td>
<td>.340</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>.21 (.37)</td>
<td>.57</td>
<td>.573</td>
<td>.119</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>-.43 (.23)</td>
<td>-1.85</td>
<td>.068</td>
<td>.386</td>
</tr>
<tr>
<td>Group X DIRI-RS</td>
<td>-.44 (.30)</td>
<td>-1.43</td>
<td>.155</td>
<td>.298</td>
</tr>
<tr>
<td>DIRI-RS X NRC</td>
<td>.31 (.13)</td>
<td>2.30</td>
<td>.024</td>
<td>.480</td>
</tr>
<tr>
<td>Group X DIRI-RS X NRC</td>
<td>-.25 (.16)</td>
<td>-1.62</td>
<td>.109</td>
<td>.338</td>
</tr>
</tbody>
</table>

Note. NRC = Negative Relationship Cognitions; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.

To explore the nature of 3-way interaction, I re-ran the MLR model reversing the coding for the dysphoric group variable. The lower-order, DIRI-RS X NRC was non-significant among dysphoric women, $B = .05$, $SE = .08$, $t(92) = .66$, $p = .514$, $d = .138$, thus, the 2-way interaction was explored exclusively in the non-dysphoric group. To do so, I once again centered NRC at one standard deviation above and below its mean, following Aiken and West (1991) and re-ran the MLR model twice. A visual depiction of 2-way interaction is presented in Figure 5. Among non-dysphoric women at high levels of NRC, self-reported ERS was not significantly associated with past average target rejection threat, $B = -.19$, $SE =$
.22, \( t(92) = .86, p = .394, d = .179 \). However, and contrary to hypotheses, DIRI-RS was associated with higher average rejection event threat at low levels of NRC, \( B = .91, SE = .40, t(92) = 2.26, p = .026, d = .471 \).

*Figure 5.* A visual depiction of the interaction between female negative relationship cognitions and self-reported ERS among non-dysphoric women in predicting the average event threat of historical targeted rejection events. TR = Targeted Rejection; NRC = Negative Relationship Cognitions; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.

**Average Event Threat for Targeted Rejection Events and Objectively-Rated ERS.** The MLR model for BRST-RS was structured identically to the self-report model described above. Step 1 was identical to the result described above, and the addition of the main effects in Step 2 was once again statistically non-significant, \( \Delta R^2 = .06, \Delta F(3, 96) = \).
2.14, $p = .100$. However, the unique effect of BRST-RS in Step 2 approached conventional levels of statistical significance, and was associated with higher average event threat, $B = .08$, $SE = .05$, $t(96) = 1.76$, $p = .081$, $d = .359$. The addition of the 2-way interactions in Step 3 resulted in an increment in the variance explained in average event threat that neared statistical significance, $\Delta R^2 = .07$, $\Delta F(3, 93) = 2.63$, $p = .055$. The Group x BRST-RS interaction was a significant unique predictor in Step 3 of the model, $B = -.29$, $SE = .13$, $t(93) = -2.27$, $p = .026$, $d = .471$.

Similarly to the self-report model above, Step 4 of the behavioral model approached conventional levels of statistical significance, $\Delta R^2 = .02$, $\Delta F(1, 92) = 2.91$, $p = .091$. Once again, the 3-way interaction only explained approximately 2.4% of the variance in my outcome measure, but this accounted for approximately 10% of the total variance the full model explained. I once again chose to interpret the trend-level 3-way interaction effect given the substantial portion of variance explained that the term added, and the low power to detect a 3-way interaction in these analyses. Taken together, the full model accounted for 24% of the variance in the average event threat associated with past experiences of targeted rejection in our sample. The coefficients for all predictors in the Step 4 of the model are presented in Table 9. Both the BRST-RS X NRC interaction and BRST-RS were significant unique predictors of average event threat in this model.
Table 9

Regression Coefficients for the Final Step of the Behaviorally-Assessed ERS Model Predicting the Average Event Threat of Historical Targeted Rejection Events

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Relationships</td>
<td>.30 (.10)</td>
<td>2.99</td>
<td>.004</td>
<td>.623</td>
</tr>
<tr>
<td>NRC</td>
<td>.22 (.13)</td>
<td>1.66</td>
<td>.101</td>
<td>.346</td>
</tr>
<tr>
<td>BRST-RS</td>
<td>.20 (.07)</td>
<td>2.78</td>
<td>.007</td>
<td>.580</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>.24 (.36)</td>
<td>.69</td>
<td>.506</td>
<td>.144</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>-.24 (.20)</td>
<td>-1.22</td>
<td>.226</td>
<td>.254</td>
</tr>
<tr>
<td>Group X BRST-RS</td>
<td>-.18 (.14)</td>
<td>-1.26</td>
<td>.210</td>
<td>.263</td>
</tr>
<tr>
<td>BRST-RS X NRC</td>
<td>.12 (.06)</td>
<td>2.11</td>
<td>.037</td>
<td>.440</td>
</tr>
<tr>
<td>Group X BRST-RS X NRC</td>
<td>-.13 (.07)</td>
<td>-1.71</td>
<td>.091</td>
<td>.357</td>
</tr>
</tbody>
</table>

Note. NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

Similar to the approach taken above, I re-ran the MLR model with the reverse-coded dysphoric group variable. The BRST-RS X NRC interaction was non-significant among dysphoric women, $B = -.01, SE = .05, t(92) = -.11, p = .915, d = .023$, thus, I explored the interaction exclusively in the non-dysphoric group. I again centered NRC at one standard deviation above and below its mean, and re-ran the MLR model twice. A visual depiction of 2-way interaction is presented in Figure 6. As with self-reported ERS, among non-dysphoric women with high levels of NRC, BRST-RS was not significantly associated with average targeted rejection event threat, $B = -.02, SE = .12, t(92) = -.17, p = .865, d = .035$. However, at
low levels of NRC, BRST-RS was significantly associated with higher average threat, $B = .42, SE = .13, t(92) = 3.23, p = .002, d = .674.$

Figure 6. A visual depiction of the interaction between female negative relationship cognitions and behaviorally-assessed ERS among non-dysphoric women in predicting the average event threat of historical targeted rejection events. TR = Targeted Rejection; NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

**Targeted Rejection Severity Group and Self-Reported ERS.** For the purposes of these analyses, the base outcome was no rejection (“0”) and thus predictors were assessed on whether they predicted belonging to 0 versus 1 and 0 versus 2. I began by specifying a MNLR model with only number of past relationships as a predictor. The model accounted for a significant proportion of the variance in outcomes, $LR \chi^2(2, n = 101) = 22.08, p = < .001,$
Pseudo $R^2 = .11$. When considering both no rejection versus non-severe rejection and no rejection versus severe rejection, a unit increase in number of past relationships predicted a greater than 2 fold increase in belonging to the targeted rejection group, $B = .99$, $SE = .25$, $z = 3.96$, $p < .001$, $OR = 2.68$ and $B = .83$, $SE = .27$, $z = 3.07$, $p < .001$, $OR = 2.29$, respectively.

The MNLR model with the main effects of DIRI-RS, NRC and dysphoric group did not substantially improve the prediction of severity group membership in the sample, $LR \chi^2(8, n = 101) = 25.03$, $p = .002$, Pseudo $R^2 = .12$. None of the main effects were significant predictors of either no rejection versus non-severe rejection, or no rejection versus severe rejection (all $zs > -.22$ and $< .62$; all $ps > .54$). The addition of all 2-way interactions produced a small increment in the model, $LR \chi^2(14, n = 101) = 33.66$, $p = .002$, Pseudo $R^2 = .16$, and the 2-way NRC x DIRI-RS interaction predicting the no rejection versus severe targeted rejection pair approached conventional levels of statistical significance as a unique predictor, $B = .32$, $SE = .17$, $z = 1.89$, $p = .059$, $OR = 1.38$.

The addition of the 3-way interaction to the MNLR model also resulted in a small increment in variance explained, $LR \chi^2(16, n = 101) = 36.56$, $p = < .001$, Pseudo $R^2 = .17$. The coefficients for the final MNLR model predicting membership in the no rejection versus severe rejection group are listed in Table 10. Although the 3-way interaction only approached statistical significance, I interpreted this effect for the same reasons listed above. The lower order 2-way NRC X DIRI-RS interaction was statistically significant, and the effects of NRC and the Group X NRC interactions approached statistical significance. Aside from number of previous relationships, none of the coefficients predicting no rejection versus non-severe rejection were statistically significant (all $zs < 1.44$ and $> -1.41$, all $ps > .148$).
Table 10

Regression Coefficients for the Final Step of the Self-Reported ERS Model Predicting Historically Experiencing No Rejection Versus Severe Targeted Rejection

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>z</th>
<th>p</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Relationships</td>
<td>.94 (.29)</td>
<td>3.23</td>
<td>.001</td>
<td>2.56</td>
</tr>
<tr>
<td>DIRI-RS</td>
<td>.76 (.56)</td>
<td>1.36</td>
<td>.172</td>
<td>2.14</td>
</tr>
<tr>
<td>NRC</td>
<td>.80 (.43)</td>
<td>1.85</td>
<td>.064</td>
<td>2.23</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>.65 (.80)</td>
<td>.81</td>
<td>.418</td>
<td>1.91</td>
</tr>
<tr>
<td>Group X DIRI-RS</td>
<td>-.99 (.70)</td>
<td>-1.42</td>
<td>.157</td>
<td>0.37</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>-1.04 (.56)</td>
<td>-1.86</td>
<td>.062</td>
<td>0.35</td>
</tr>
<tr>
<td>DIRI-RS X NRC</td>
<td>.79 (.34)</td>
<td>2.34</td>
<td>.019</td>
<td>2.21</td>
</tr>
<tr>
<td>Group X DIRI-RS X NRC</td>
<td>-.61 (.37)</td>
<td>-1.64</td>
<td>.102</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Note. Positive regression coefficients indicate that the variable is associated with a higher probability of severe targeted rejection. NRC = Negative Relationship Cognitions; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.

In order to explore the nature of the lower NRC X DIRI-RS interaction, I re-ran the MNLR model reversing the coding of the dysphoric group variable. Contrary to hypotheses, the interaction predicting no rejection versus severe rejection was non-significant in the dysphoric group, $B = .18$, $SE = .17$, $z = 1.07$, $p = .283$, $OR = 1.20$, and thus was only statistically significant among non-dysphoric females. To follow up the 2-way interaction, I centered NRC at one standard deviation above and below the mean and re-ran two further MNLR models. A visual depiction of the 2-way interaction is presented in Figure 7. Among
non-dysphoric females with high NRC, DIRI-RS was not significantly related to experiencing no rejection versus severe targeted rejection, $B = -.66$, $SE = .63$, $z = -1.05$, $p = .296$, $OR = 0.52$. However, at low levels of NRC, DIRI-RS was significantly related to a higher probability of experiencing severe targeted rejection, versus no targeted rejection, $B = 2.18$, $SE = .98$, $z = 2.23$, $p = .026$, $OR = 8.89$. 
Figure 7. A visual depiction of the interaction between female negative relationship cognitions and self-reported ERS among non-dysphoric women in predicting the probability of experiencing both severe historical targeted rejection (top panel) and no rejection (bottom panel). NRC = Negative Relationship Cognitions; DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.
Targeted Rejection Severity Group and Objectively-Rated ERS. The MNLR model for BRST-RS was structured identically to the DIRI-RS model described above. Number of past relationships was entered as the lone predictor in the model to begin, and the results were the same as those described above. Next, the main effects of NRC, BRST-RS, and dysphoric group were entered into the model, resulting in an improvement of the variance explained, LR $\chi^2(8, n = 101) = 31.85, p = < .001$, Pseudo $R^2 = .15$. BRST-RS was a significant unique predictor of an increased likelihood of experiencing both non-severe targeted rejection, $B = .26, SE = .12, z = 2.15, p = .031$, $OR = 1.30$, and severe targeted rejection, $B = .29, SE = .13, z = 2.31, p = .021$, $OR = 1.34$, compared to not experiencing targeted rejection.

The addition of all 2-way interactions also led to an improvement in the variance explained in the outcome measure, LR $\chi^2(14, n = 101) = 41.21, p = < .001$, Pseudo $R^2 = .19$. In the model predicting no rejection versus non-severe rejection, BRST-RS remained a significantly associated with experiencing rejection, $B = .52, SE = .24, z = 2.15, p = .032$, $OR = 1.69$. For the no rejection versus severe rejection pair, both BRST-RS, $B = .62, SE = .26, z = 2.35, p = .019$, $OR = 1.86$, and the Group X BRST-RS interaction, $B = -.79, SE = .39, z = -2.04, p = .042$, $OR = 0.45$, were significant unique predictors in the model.

To examine the nature of the Group X BRST-RS interaction in the no rejection versus severe rejection pair, I re-ran the main effects and 2-way interactions model for dysphoric women. A visual depiction of the 2-way interaction is provided in Figure 8. Contrary to hypotheses, BRST-RS was not significantly associated with the probability of experiencing severe rejection among dysphoric women, $B = -.17, SE = .25, z = -.69, p = .492$, $OR = 0.84$. 

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However, among non-dysphoric women, BRST-RS was associated with a higher likelihood of experiencing a history of severe romantic relationship rejection, $B = .62$, $SE = .26$, $z = 2.35$, $p = .019$, $OR = 1.86$.

Figure 8. A visual depiction of the interaction between female dysphoric status and behavioral ERS in predicting the probability of experiencing both severe targeted rejection (top panel) and no rejection (bottom panel). BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.
Finally, the addition of the 3-way interaction to the model also led to an improvement in the model, \( \chi^2(16, n = 101) = 49.87, p = < .001 \), Pseudo \( R^2 = .23 \). The coefficients corresponding to all variables in the final model are presented in Table 11. The 3-way interactions for both pairs of outcomes (i.e., no rejection versus non-severe and no rejection versus severe) were statistically significant. In the no rejection versus non-severe pair, there was also a statistically significant lower order BRST-RS X NRC interaction. In the no rejection versus severe pair, there were significant BRST-RS X NRC, Group X BRST-RS and Group X NRC interactions.
Table 11

Regression Coefficients for the Final Step of the Behaviorally-Assessed ERS Model Predicting Historical Rejection Severity Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$ (SE)</th>
<th>$z$</th>
<th>$p$</th>
<th>OR</th>
<th>$B$ (SE)</th>
<th>$z$</th>
<th>$p$</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Rejection vs. Non-Severe</td>
<td></td>
<td></td>
<td></td>
<td>No Rejection vs. Severe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Relationships</td>
<td>1.15 (.29)</td>
<td>3.94</td>
<td>&lt;.001</td>
<td>3.15</td>
<td>.94 (.32)</td>
<td>2.96</td>
<td>.003</td>
<td>2.57</td>
</tr>
<tr>
<td>BRST-RS</td>
<td>1.23 (.48)</td>
<td>2.54</td>
<td>.011</td>
<td>3.41</td>
<td>1.33 (.50)</td>
<td>2.65</td>
<td>.008</td>
<td>3.77</td>
</tr>
<tr>
<td>NRC</td>
<td>.95 (.50)</td>
<td>1.89</td>
<td>.059</td>
<td>2.58</td>
<td>1.17 (.57)</td>
<td>2.06</td>
<td>.039</td>
<td>3.22</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-1.89 (1.12)</td>
<td>-1.68</td>
<td>.093</td>
<td>0.15</td>
<td>-.77 (1.16)</td>
<td>-0.66</td>
<td>.510</td>
<td>0.46</td>
</tr>
<tr>
<td>Group X BRST-RS</td>
<td>-.92 (.53)</td>
<td>-1.73</td>
<td>.083</td>
<td>0.40</td>
<td>-1.23 (.55)</td>
<td>-2.23</td>
<td>.026</td>
<td>0.29</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>-.84 (.57)</td>
<td>-1.47</td>
<td>.141</td>
<td>0.43</td>
<td>-1.33 (.64)</td>
<td>-2.09</td>
<td>.037</td>
<td>0.26</td>
</tr>
<tr>
<td>BRST-RS X NRC</td>
<td>.53 (.26)</td>
<td>2.06</td>
<td>.040</td>
<td>1.69</td>
<td>.80 (.29)</td>
<td>2.78</td>
<td>.005</td>
<td>2.23</td>
</tr>
<tr>
<td>Group X BRST-RS X NRC</td>
<td>-.61 (.28)</td>
<td>-2.22</td>
<td>.027</td>
<td>0.54</td>
<td>-.80 (.31)</td>
<td>-2.59</td>
<td>.010</td>
<td>0.45</td>
</tr>
</tbody>
</table>

*Note.* Positive regression coefficients indicate that the variable is associated with a higher probability of experiencing some form of rejection (non-severe in the first column from the left, severe in the second column from the left). NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.
I first examined the 3-way interaction in the no rejection versus non-severe rejection pair by re-running the MNLR model for dysphoric women. Among dysphoric women, the BRST-RS X NRC interaction was non-significant, $B = -.09$, $SE = .09$, $z = -.92$, $p = .360$, $OR = 0.92$. Thus, I explored the BRST-RS X NRC interaction in the non-dysphoric women using simple slopes analyses. A visual depiction of the 2-way interaction within the non-dysphoric group is presented in Figure 9. Contrary to hypotheses, BRST-RS was not associated with the probability of experiencing non-severe targeted rejection at high levels of NRC, $B = .28$, $SE = .25$, $z = 1.10$, $p = .271$, $OR = 1.32$. However, at low levels of NRC, BRST-RS was significantly associated with experiencing non-severe rejection versus no rejection, $B = 2.17$, $SE = .91$, $z = 2.39$, $p = .017$, $OR = 8.78$. 
Figure 9. A visual depiction of the interaction between female negative relationship cognitions and behaviorally-assessed ERS among non-dysphoric women in predicting the probability of experiencing both non-severe historical rejection (top panel) and no rejection (bottom panel). BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.
Second, I examined the 3-way interaction in the no rejection versus severe rejection pair using the same procedure as above. The results were consistent with the pattern found in the no rejection versus non-severe rejection pair of outcomes. For dysphoric women, there was no significant BRST-RS X NRC interaction, $B = .004$, $SE = .10$, $z = .05$, $p = .961$, $OR = 1.00$. Again, the BRST-RS X NRC interaction was followed up for the non-dysphoric group using simple slopes analyses. A visual depiction of the 2-way interaction among non-dysphoric women is presented in Figure 10. Among non-dysphoric women with high levels of NRC, BRST-RS was not associated with the probability of experiencing severe targeted rejection versus no rejection, $B = -.11$, $SE = .36$, $z = -.31$, $p = .758$, $OR = 0.90$. At low levels of NRC, BRST-RS was significantly associated with a higher likelihood of experiencing severe rejection, $B = 2.77$, $SE = .95$, $z = 2.90$, $p = .004$, $OR = 15.89$. 
Figure 10. A visual depiction of the interaction between female negative relationship cognitions and behaviorally-assessed ERS among non-dysphoric women in predicting the probability of experiencing both severe targeted rejection (top panel) and no rejection (bottom panel). BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

Summary. My results for all models described above diverged from the pattern of relationships that I hypothesized. When rejection was defined as the number of reported
targeted rejection events, I found no relationship between self-reported ERS and depression. In contrast, behaviorally-assessed ERS was associated with more targeted rejection events, but surprisingly, only among non-dysphoric women. For the models operationalizing historical rejection as either average targeted rejection event threat or targeted rejection severity group, the results were remarkably consistent across self-reported and behaviorally-assessed ERS. Contrary to hypotheses, I found 3-way interactions among dysphoria, negative relationship cognitions and ERS such that ERS was associated with historical rejection only among non-dysphoric women with low levels of relationship cognitions. Although this pattern existed in all four analyses, it was strongest for behaviorally-assessed ERS and when comparing the probability of experiencing no rejection versus severe targeted rejection. These results are contrary to the interpersonal theory proposed by Evraire and Dozois (2011) and are inconsistent with previous studies of ERS and dysphoria that define rejection in non-behavioral, subjective terms.

**Primary Analyses – Prospective Romantic Relationship Rejection**

In my final set of MNLR models, I examined whether dysphoria, negative relationship cognitions, ERS and their interactions were prospectively associated with actual rejection from participants’ romantic partner. Previous studies have found that ERS is associated with the prospective occurrence of interpersonal life events among individuals with high depressive symptoms, but no study has yet limited analyses specifically to rejection, nor has any study examined the potential additional effects of negative relationship cognitions prospectively. I once again hypothesized that a 3-way interaction among dysphoria, NRC and ERS (self-reported and behaviorally assessed) such that ERS would only be associated with prospective rejection among dysphoric women with high NRC.
Over the course of the 4-month follow-up period, 20 (19.4%) of the 103 couples for whom I had data ended their romantic relationship. Of the remaining 83 couples, 5 (6.0%) experienced a break that did not result in the dissolution of their relationship and 2 (1.9%) reported some form of infidelity in the relationship. The rejection grouping variable was formed as follows: “0” indicated couples in which the relationship did not end, and in which there were no breaks or reports of infidelity \((n = 78, 75.7\%)\); “1” indicated cases in which the female participant was rejected \((n = 10, 9.7\%)\) i.e., the sum of male-initiated relationship dissolution \((n = 5)\), mutual relationship dissolution \((n = 2)\), male-initiated breaks \((n = 1)\), mutual breaks \((n = 1)\) and male-perpetrated infidelity \((n = 1)\); “2” indicated cases in which the male participant was rejected \((n = 16, 15.5\%)\) i.e., the sum of female-initiated relationship dissolution \((n = 13)\), female-initiated breaks \((n = 2)\) and female-perpetrated infidelity \((n = 1)\).

My grouping variable was not significantly related to female age, \(F(2, 100) = 2.09, p = .129\), partial \(\eta^2 = .040\), male age, \(F(2, 100) = 1.67, p = .193\), partial \(\eta^2 = .032\), female ethnicity, \(\chi^2(6, n = 103) = 3.37, p = .762\), Cramer’s \(V = .128\), male ethnicity, \(\chi^2(8, n = 103) = 6.74, p = .565\), Cramer’s \(V = .181\), romantic relationship duration, \(F(2, 100) = .87, p = .421\), partial \(\eta^2 = .017\), cohabitation status, \(\chi^2(2, n = 103) = 1.37, p = .504\), Cramer’s \(V = .115\), or long distance relationship status, \(\chi^2(2, n = 103) = .69, p = .708\), Cramer’s \(V = .082\). Furthermore, the rejection grouping variable was not significantly associated with female, \(F(2, 100) = .96, p = .385\), partial \(\eta^2 = .019\), or male, \(F(2, 100) = .17, p = .842\), partial \(\eta^2 = .003\), avoidant attachment, nor with male depressive symptoms, \(F(2, 100) = .33, p = .717\), partial \(\eta^2 = .007\). However, rejection status at Time 2 was significantly related to male attachment anxiety, \(F(2, 100) = 3.54, p = .033\), partial \(\eta^2 = .066\), female Time 1 relationship.
satisfaction, \( F(2, 100) = 2.90, p = .060 \), partial \( \eta^2 = .055 \), and male Time 1 relationship satisfaction, \( F(2, 100) = 3.35, p = .039 \), partial \( \eta^2 = .063 \). Thus, male attachment anxiety and male and female Time 1 RDAS scores were included as covariates in all primary analyses.

**Prospective Romantic Relationship Rejection and Self-Reported ERS.** I conducted a series of MNLR models predicting rejection status at follow-up from DIRI-RS, NRC and dysphoric group, controlling for male and female T1 relationship satisfaction and male attachment anxiety. I regressed male relationship satisfaction onto female relationship satisfaction and saved the standardized residuals prior to conducting my main analyses. I used male relationship satisfaction and the standardized residuals of female satisfaction in order to minimize the effects of the inter-correlation between the two constructs \((r = .39, p < .001)\).

My model including only the three covariates was statistically significant above the base MNLR model, \( LR \chi^2(6, n = 103) = 14.94, p = .021 \), Pseudo \( R^2 = .10 \). Male relationship satisfaction was a significant predictor of a higher likelihood of belonging to the no rejection versus the male-initiated rejection group, \( B = .14, SE = .06, z = 2.39, p = .017, OR = 1.15 \), and a higher likelihood of belonging to the female-initiated rejection group versus the male-initiated rejection group, \( B = .15, SE = .07, z = 2.13, p = .033, OR = 1.17 \). Male anxious attachment also predicted higher likelihood of female-initiated rejection versus male-initiated rejection, \( B = 1.10, SE = .53, z = 2.07, p = .039, OR = 3.01 \).

The addition of the main effects substantially improved the variance explained by my model, \( LR \chi^2(12, n = 103) = 28.54, p = .005 \), Pseudo \( R^2 = .19 \). For the no rejection versus male-initiated rejection pair, female DIRI-RS was the only significant predictor, and it was associated with a higher likelihood of male-initiated rejection, \( B = -.82, SE = .38, z = -2.15, p \)

\(^3\) The relationship approached conventional levels of statistical significance and female relationship satisfaction was included in primary analyses in order to be conservative.
=.031, OR = 2.28. For the male-initiated versus female-initiated rejection pair, male anxious attachment continued to be associated with a higher likelihood of female-initiated rejection, B = 1.36, SE = .60, z = 2.25, p = .024, OR = 3.90. Both belonging to the dysphoric group, and higher levels values of DIRI-RS, were associated with belonging to the male-initiated rejection group at statistical trends, B = -2.40, SE = 1.27, z = -1.89, p = .058, OR = 11.03 and B = -.80, SE = .44, z = -1.82, p = .068, OR = 2.23, respectively.

The addition of the 2-way and 3-way interactions, resulted in small increases in variance and none of the interaction terms were significant unique predictors for either pair of outcomes, LR $\chi^2(18, n = 103) = 35.59$, p = .008, Pseudo $R^2 = .24$ and LR $\chi^2(20, n = 103) = 35.68$, p = .017, Pseudo $R^2 = .24$, respectively. The Group X NRC interaction approached statistical significance in the models including 2-way and 3-way interactions, and thus, the interaction was included alone in a model with the main effects and control variables. The coefficients corresponding to this final model are presented in Table 12.

To explore the nature of the 2-way interaction, I re-ran an identical MNLR model with the re-coded dysphoric grouping variable. A visual depiction of this interaction is presented in Figure 11. In the dysphoric group, higher female NRC was non-significantly associated with a higher probability of not experiencing rejection versus experiencing male-initiated rejection, B = .74, SE = .47, z = 1.58, p = .114, OR = 2.10, whereas in the non-dysphoric group, as Table 12 depicts, higher female NRC was associated with a non-significantly lower likelihood of being in the not experiencing rejection versus experiencing male-initiated rejection.
Table 12

Regression Coefficients for the Final Step of the Self-Reported ERS Model Predicting Prospective Romantic Relationship Rejection

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male-Initiated vs. No Rejection</th>
<th>Male-Initiated vs. Female-Initiated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>z</td>
</tr>
<tr>
<td>Male RDAsTotal</td>
<td>.11 (.07)</td>
<td>1.65</td>
</tr>
<tr>
<td>Female RDAsTotal (residual)</td>
<td>.23 (.45)</td>
<td>.52</td>
</tr>
<tr>
<td>Male Attachment Anxiety</td>
<td>.65 (.56)</td>
<td>1.15</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-2.23 (1.16)</td>
<td>-1.93</td>
</tr>
<tr>
<td>NRC</td>
<td>-0.93 (.74)</td>
<td>-1.26</td>
</tr>
<tr>
<td>DIRI-RS</td>
<td>-1.02 (.47)</td>
<td>-2.17</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>1.67 (.86)</td>
<td>-0.92</td>
</tr>
</tbody>
</table>

Note. Given that male-initiated rejection is the comparison group, negative regression coefficients indicate that the variable is associated with a higher probability of experiencing this outcome versus other outcomes (i.e., no rejection or female-initiated rejection). RDAS = Revised Dyadic Adjustment Scale; NRC = Negative Relationship Cognitions; DIRI-RS = DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale.
Figure 11. A visual depiction of the interaction between dysphoric group and female negative relationship cognitions in predicting the probability of experiencing both prospective male-initiated rejection (top panel) and no rejection (bottom panel). NRC = Negative Relationship Cognitions.

Prospective Romantic Relationship Rejection and Objectively-Rated ERS. My MNLR including BRST-RS in place of DIRI-RS proceeded in an identical fashion to the
model described above. The first model including the control variables was identical to the result described for the DIRI-RS. The inclusion of the main effects led to an improvement in the model, LR $\chi^2(12, n = 103) = 22.90, p = .029$, Pseudo $R^2 = .15$. For the male-initiated rejection versus no rejection pair, higher male relationship satisfaction predicted higher likelihood of no rejection $B = .12, SE = .06, z = 1.99, p = .047$, $OR = 1.13$, while belonging to the dysphoric group predicted a lower likelihood of experiencing no rejection, $B = -1.91, SE = 1.01, z = -1.89, p = .058$, $OR = 0.15$. For the male-initiated rejection versus female-initiated rejection pair, male anxious attachment was positively associated with female-initiated rejection, $B = 1.35, SE = .59, z = 2.28, p = .058$, $OR = 3.85$, while belonging to the dysphoric group was associated with a lower probability of experiencing female- versus male-initiated rejection $B = -2.65, SE = 1.24, z = -2.14, p = .032$, $OR = .07$. All other predictors had non-significant unique effects.

The addition of the 2-way interactions substantially improved the model, more than doubling the variance explained by the predictors, LR $\chi^2(18, n = 103) = 48.79, p < .001$, Pseudo $R^2 = .32$. However, the addition of the 3-way interaction did not improve the model, LR $\chi^2(20, n = 103) = 48.83, p < .001$, Pseudo $R^2 = .32$, and the term was non-significant for both pairs of outcomes (both $ps > .856$). Thus, for the sake of parsimony, the 3-way interaction was removed. The coefficients corresponding to the predictors of both pairs of outcomes are presented in Table 13.

I explored the significant Group X BRST-RS interaction for the no rejection versus male-initiated rejection pair by recoding the dysphoric group variable and re-running the MNLR model. A visual depiction of this 2-way interaction is presented in Figure 12. Among dysphoric couples, higher BRST-RS was associated with a higher probability of no rejection.
versus male-initiated rejection, $B = .64, SE = .33, z = 1.94, p = .052, OR = 1.89$, whereas, as Table 13 shows, higher BRST-RS was associated with the opposite, non-significant effect in the non-dysphoric group.
Table 13

Regression Coefficients for the Final Step of the Behaviorally-Assessed ERS Model Predicting Relationship Rejection

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$ ($SE$)</th>
<th>$z$</th>
<th>$p$</th>
<th>OR</th>
<th>$B$ ($SE$)</th>
<th>$z$</th>
<th>$p$</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male-Initiated vs. No Rejection</td>
<td>Male-Initiated vs. Female-Initiated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male RDAStotal</td>
<td>.22 (.09)</td>
<td>2.52</td>
<td>.012</td>
<td>1.24</td>
<td>.20 (.10)</td>
<td>1.99</td>
<td>.046</td>
<td>1.22</td>
</tr>
<tr>
<td>Female RDAStotal (residual)</td>
<td>.71 (.53)</td>
<td>1.34</td>
<td>.180</td>
<td>2.04</td>
<td>.14 (.64)</td>
<td>.22</td>
<td>.830</td>
<td>1.15</td>
</tr>
<tr>
<td>Male Attachment Anxiety</td>
<td>.79 (.57)</td>
<td>1.38</td>
<td>.167</td>
<td>2.21</td>
<td>1.43 (.69)</td>
<td>2.11</td>
<td>.035</td>
<td>4.19</td>
</tr>
<tr>
<td>Dysphoric Group</td>
<td>-3.60 (1.64)</td>
<td>-2.19</td>
<td>.029</td>
<td>0.03</td>
<td>-6.79 (2.86)</td>
<td>-2.38</td>
<td>.018</td>
<td>0.001</td>
</tr>
<tr>
<td>NRC</td>
<td>-.87 (.94)</td>
<td>-.92</td>
<td>.358</td>
<td>0.42</td>
<td>-.67 (.94)</td>
<td>-.71</td>
<td>.475</td>
<td>0.51</td>
</tr>
<tr>
<td>BRST-RS</td>
<td>-.52 (.35)</td>
<td>-1.47</td>
<td>.143</td>
<td>0.59</td>
<td>-.33 (.35)</td>
<td>-.94</td>
<td>.349</td>
<td>0.72</td>
</tr>
<tr>
<td>BRST-RS X NRC</td>
<td>-.21 (.12)</td>
<td>-1.78</td>
<td>.076</td>
<td>0.81</td>
<td>.08 (.18)</td>
<td>.45</td>
<td>.654</td>
<td>1.08</td>
</tr>
<tr>
<td>Group X NRC</td>
<td>1.44 (.96)</td>
<td>1.50</td>
<td>.133</td>
<td>4.22</td>
<td>1.39 (1.12)</td>
<td>1.24</td>
<td>.214</td>
<td>4.03</td>
</tr>
<tr>
<td>Group X BRST-RS</td>
<td>1.16 (.47)</td>
<td>2.46</td>
<td>.014</td>
<td>3.18</td>
<td>-.94 (.98)</td>
<td>-.96</td>
<td>.335</td>
<td>0.39</td>
</tr>
</tbody>
</table>

*Note.* Given that male-initiated rejection is the comparison group, negative regression coefficients indicate that the variable is associated with a higher probability of experiencing this outcome versus other outcomes (i.e., no rejection or female-initiated rejection). RDAS = Revised Dyadic Adjustment Scale; NRC = Negative Relationship Cognitions; BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.
Figure 12. A visual depiction of the interaction between dysphoric group and behaviorally-assessed ERS in predicting the probability of experiencing prospective male-initiated rejection (top panel) and no rejection (bottom panel). BRST-RS = Behavioral Reassurance-Seeking Task – Reassurance-Seeking Score.

Summary. The results of my two prospective analyses were again inconsistent with hypotheses. In the self-reported model, ERS was associated with an increased likelihood of
male-initiated relationship dissolution, supporting Coyne’s (1976b) contention that ERS behaviors ultimately lead to rejection from close others. Surprisingly, objectively-assessed ERS was actually associated with not experiencing rejection during the follow-up period, but only among dysphoric women. NRC did not moderate any of the relationships in the manner Evraire and Dozois (2011) delineated.
Chapter 4
Discussion

The current study provided the first test of the integrated interpersonal theory of depression proposed by Evraire and Dozois (2011). In doing so, the study addressed critiques of Coyne’s (1976b) original interpersonal theory of depression (e.g., Brennan & Carnelley, 1999; Greenberg, 1999; Starr & Davila, 2008) that have suggested that the association between ERS and rejection may be better explained by cognitive constructs (i.e., anxious attachment; RS) that are related to both depression and rejection. Thus, this study represents a crucial first step towards building our understanding of how an interpersonally toxic behavior characteristic of dysphoric individuals interacts with their underlying beliefs and expectations for close relationships to predict the dissatisfaction of, and rejection from, their romantic partners. Furthermore, this study has employed methodological features, namely a behavioral measure of ERS and objectively defined rejection outcomes, which allowed it to test the tenets of these interpersonal theories of depression in the manner in which they were originally described. My results refine our understanding of interpersonal factors in depression, and provide an impetus for further investigations integrating cognitive and interpersonal factors. Furthermore, they contribute to knowledge of the mechanisms that may contribute to the exacerbation and prolongation of depressive symptoms and episodes of MDD.

The Interpersonal Toxicity of Excessive Reassurance-Seeking

Across my results, ERS was consistently related to experiences of rejection, whether these were defined using concurrent partner relationship satisfaction, historical targeted rejection events, or prospective, objectively-defined rejection from one’s partner. In general, these effects were in the predicted direction – higher ERS was associated with more rejection experiences.
These results support Coyne’s (1976b) hypothesis that ERS not only irritates and frustrates close others, but ultimately contributes to individuals avoiding and rejecting the person who engages in these behaviors. The association between ERS and “real-world”, objective rejection is particularly important as studies to date have relied exclusively on proxies of rejection such as negative appraisals of the target by others (e.g., Benazon, 2000; Joiner et al., 1992; Joiner & Metalsky, 1995, 2001; Katz & Beach, 1997), lower willingness to interact with the target (e.g., Joiner et al., 1992; Joiner & Metalsky, 1995), relationship dissatisfaction (e.g., Benazon, 2000; Katz & Beach, 1997; Shaver et al., 2005) or the generation of interpersonal stressful events (e.g., Eberhart & Hammen, 2009; Potthoff et al., 1995; Shahar et al., 2004; Shih & Auerbach, 2010). My results extend previous research and support the validity of ERS as a useful construct for understanding how individuals actually create negative social environments for themselves. Furthermore, the results add much-needed methodological diversity to a research area that suffers from a striking parity of measures from study to study that may systematically bias results (Starr & Davila, 2008).

The prospective association between ERS and rejection is particularly important given that this is the first direct empirical support for the final stage of Coyne’s (1976b) model. That is, women who reported engaging in higher levels of ERS were ultimately more likely to be rejected by their partners. The fact that this effect held across levels of baseline depressive symptoms and NRC raises the possibility that, over a long enough prospective period, ERS is interpersonally toxic in and of itself, and that people who engage in this strategy more often are more likely to be rejected. These results extend previous research that has found a main effect of self-reported ERS on the occurrence of general interpersonal stressful life events (Potthoff et al., 1995; Shih & Auerbach, 2010), as well as conflict in romantic relationships, specifically (Eberhart & Hammen,
The prospective association between ERS and rejection is important because interpersonal losses, such as romantic relationship break-ups, have been particularly implicated in the development of MDD (e.g., Gilbert, Allan, Brough, Melley, & Miles, 2002; Kendler, Hettema, Butera, Gardner, & Prescott, 2003; Monroe et al., 1999). Thus, my results raise the possibility that ERS is an interpersonal mechanism through which MDD develops in late adolescence and young adulthood.

Importantly, the presence of predicted effects of ERS on rejection were found over and above the effects of core beliefs reflecting insecurity in relationships in my models. Some critiques of interpersonal theories of depression have focused on the possibility that the primary mechanisms through which these models operate are intrapersonal, rather than interpersonal. Starr and Davila (2008) proposed that individuals high in ERS might simply be more likely to perceive rejection, rather than to actually be rejected. Others have suggested that ERS may not be a necessary component of interpersonal models of depression, and instead may be best conceptualized as a proxy variable for psychological vulnerabilities (e.g., self-esteem, anxious attachment, rejection sensitivity) related to both depression and rejection (Brennan & Carnelley, 1999; Greenberg, 1999; Starr & Davila, 2008). Indeed, Shaver and colleagues (2005) found that ERS and partner relationship satisfaction were not significantly associated when the person’s anxious attachment was controlled for. By focusing on objective, behaviorally-anchored assessments of rejection, along with partner reports of relationship satisfaction, my results consistently suggest that the effects of ERS on rejection are not simply due to a tendency to perceive rejection more readily. Furthermore, although ERS was moderately correlated with a measure of “cognitive vulnerability”, it uniquely predicted rejection when the two constructs were simultaneous included my analyses.
In summary, in terms of the relation of ERS to rejection, the current study represents an important extension of previous research that has relied almost exclusively on self-reported assessments of ERS and proxies for actual, behavioral rejection when testing Coyne’s (1976b) model. This is the first study to provide evidence that high ERS is related to close others actually avoiding and/or rejecting target participants, and thus, supports the end stages of interpersonal models of depression (Coyne, 1976b; Evraire & Dozois, 2011). This effect was present even when controlling for core beliefs reflecting insecurity in relationships, suggesting that ERS is more than simply a proxy variable for underlying cognitive vulnerabilities related to depression and rejection.

**Moderation by Dysphoria and Negative Relationship Cognitions: Predicting Relationship Satisfaction**

The exact manner in which dysphoria and negative relationship cognitions moderated the relationship between ERS and rejection depended on the manner in which rejection was defined. When rejection was assessed concurrently using partner-reported relationship satisfaction, the results confirmed study hypotheses, and the expanded interpersonal model of depression, exactly. Specifically, I found a 3-way interaction between behaviorally-assessed reassurance-seeking, negative relationship cognitions and dysphoria. Among dysphoric women, behavioral ERS was associated with lower male relationship satisfaction only at high, but not low, levels of negative relationship cognitions. Conversely, among non-dysphoric women, behavioral ERS was associated with male relationship satisfaction in the appropriate direction at a statistical trend, but the effect was not moderated by cognitions. That is, partners of dysphoric women who reassurance-seek reported low satisfaction in their relationship, but only if the women also endorsed cognitions reflecting insecurity in relationships and sensitivity to rejection. These
results are consistent with previous cross-sectional findings in which ERS was associated with lower partner relationship satisfaction and partners’ negative evaluations of the target among dysphoric (Katz & Beach, 1997) and clinically depressed (Benazon, 2000) women.

The results above are the first to provide support for the integrated interpersonal model of depression proposed by Evraire and Dozois (2011). Specifically, they are consistent with the authors’ contention that there are “secure and insecure forms of ERS” (p. 1295) and that the behavior is only aversive to others when it is present in someone whose beliefs reflect concern about the security of relationships. As the authors proposed, dysphoric individuals possessing these types of cognitions likely discount positive and/or reassuring feedback about their relationship from their partners. Thus, the partners of dysphoric women with these negative relationship cognitions may feel irritated, burdened and helpless because they are unable to ease their partner’s insecurities, which may ultimately result in lower satisfaction with the relationship. The lack of a main effect of behavioral ERS in my analyses is also consistent with the hypothesis that core beliefs reflecting insecurity in relationships transform ERS from a behavior that can foster security and satisfaction in relationships (e.g., Murray, Holmes, MacDonald, & Ellsworth, 1998) to one that forecasts negative interpersonal consequences.

**Moderation by Dysphoria and Negative Relationship Cognitions: Predicting “Real-World” Rejection**

In contrast to the results reported above, when rejection was defined objectively in the retrospective and prospective analyses, ERS was only significantly associated with rejection events among non-dysphoric women. This effect was strongest for retrospectively reported rejection, particularly when women endorsed low levels of negative relationship cognitions, but it was also present at a statistical trend in the prospective analyses. That is, I found a complete
dissociation between the moderating effects of dysphoria on the relation of ERS to concurrent relationship dissatisfaction versus actual retrospectively or prospectively reported rejection. ERS was associated with lower concurrent romantic relationship quality among dysphoric women with core beliefs reflecting relationship insecurity, whereas ERS was associated with partner-initiated relationship dissolution in non-dysphoric women, especially those with core beliefs reflecting security in relationships. In my prospective analyses, I found, surprisingly, that behavioral ERS was actually associated with a lower probability of experiencing rejection among dysphoric women. My results require replication in future research, and need to be interpreted in the context of the study limitations, most notably the small number of rejection events considered in analyses, described later on. The exact reasons for these paradoxical findings are unclear at present and thus, for heuristic purposes, I propose two complementary potential explanations in order to generate a series of testable hypotheses for future study.

First, perhaps women high in depressive symptoms are less likely to be rejected as a result of their maladaptive ERS behaviors, than non-dysphoric women because dysphoric women’s partners fear the consequences of rejecting them. That is, dysphoric women’s partners may perceive them to be vulnerable and, thus, may feel obligated to stay in the relationship, despite low satisfaction, out of fear of hurting them, or out of fear that their depression will worsen. Johnson (1991) proposed that one important element of relationship commitment is “moral commitment”, the feeling that one is morally obligated to continue in a relationship. In a sample of university students involved in long-distance relationships, moral commitment, made up of items assessing feelings of duty and obligation, for example, was more strongly associated with staying in the relationship than other measured variables (Lydon, Pierce, & O’Regan, 1997). Relatedly, other models of relationship commitment (Arriaga & Agnew, 2001; Rusbult &
Buunk, 1993) propose that there is an affective component to relationship commitment that involves partners developing synchronized emotional experiences. Women in our sample who endorsed high depressive symptoms and/or negative relationship cognitions may have elicited greater relationship commitment from their partners through their distress and negative affect. These features may have activated aspects of moral commitment (e.g., partners feeling obligated to take care of them and not leave in a crisis) and produced strong, shared affective experiences with relationship partners that may have strengthened their partner’s commitment and thus, reduced their chances of being rejected as a result of their ERS behaviors. For “healthy” women (i.e., low depressive symptoms and/or negative relationship cognitions), these processes may have not been available to offset the negative effects of ERS, making them more likely to be rejected by their partners.

Further, studies have shown that women who are sensitive to rejection, which includes women with high levels of dysphoria and negative relationship cognitions, respond to rejection from romantic partners with hostility, anger and frustration (Downey & Feldman, 1996; Downey et al., 2000). Furthermore, they tend to engage in negative relationship behaviors like putting down their partner or showing non-verbal expressions of disgust, displeasure and disapproval during conflicts with their partners (Downey et al., 1998). As a result, it is possible that these partners may avoid conflict, and even avoid ending an unsatisfying romantic relationship, because of the negative reactions this would bring about in their partners. That is, ERS may be less likely to lead to partner rejection in dysphoric women with high negative relationship cognitions, despite low levels of relationship satisfaction, because these partners fear the consequences of rejection – either worsening of depression in these vulnerable individuals and/or partner-directed hostility.
In contrast, the above factors may not play a strong role for partners of non-dysphoric women who feel generally secure in relationships (i.e., have low levels of negative relationship cognitions). In these relationships, there is no reason for the partner to fear negative consequences of rejection, either for himself or for his partner. Therefore, dissolution of the relationship may be perceived as a logical consequence when maladaptive interpersonal behaviors, such as ERS, emerge.

Second, women with high depressive symptoms and/or negative relationship cognitions may tend to have romantic relationships with different types of partners than women who have low levels of both these constructs. For example, adults prefer others with the same attachment style and rate them as most romantically desirable (Frazier, Byer, Fischer, Wright, & Debord, 1996), and anxiously attached individuals tend to date and marry anxiously attached partners (e.g., Banse, 2004; Frazier et al., 1996; Pietromonaco & Carnelley, 1994). There was evidence for this assortative mating in my sample as well, particularly among the dysphoric women. Dysphoric women’s level of anxious attachment was significantly correlated with their partner’s levels of anxious attachment and avoidant attachment, $r = .42, p = .009$ and $r = .33, p = .044$, respectively. Furthermore, dysphoric women’s scores on rejection sensitivity were significantly associated with their partner’s scores on avoidant attachment, $r = .38, p = .019$. None of these bivariate correlations were significant among non-dysphoric women. Evidence from a large prospective study of heterosexual dating relationships conducted by Kirkpatrick and Davis (1994) found that relationships between anxiously attached women and avoidant men were surprisingly stable, despite low relationship satisfaction. Thus, in my sample it is possible that partners of dysphoric women may have themselves had substantial fears of the relationship ending (i.e., high anxious attachment) or may have tended to avoid conflict and expect less of the
relationship (i.e., high avoidant attachment), both of which might have made them less likely to initiate the end of the relationship in response to ERS behaviors. The irritation and frustration produced by dysphoric women’s ERS behaviors may not be enough to overcome the effects of their partners’ attachment styles that may be keeping them in the relationship. In contrast, these intrapsychic attachment-related processes may not have been present in the partners of non-dysphoric women and thus, they were more rejecting in response to ERS.

In my prospective analyses, it is important to note that there was a large effect of being in the dysphoric group, such that dysphoric women, on average, were far more likely to be rejected by the follow-up assessment than non-dysphoric women. Therefore, the processes described above may not necessarily reduce the likelihood of dysphoric women being rejected, overall, but rather, lessen or limit the impact of the effects of ERS on bringing about rejection. There are likely depressotypic behaviors, or other processes, that are completely separate from ERS that could be contributing to dysphoric females being rejected. For instance, behavioral-social avoidance (e.g., withdrawing from relationships; reducing social activities) is associated with both severity of depressive symptoms and diagnoses of MDD (Cribb, Moulds, & Carter, 2006; Moulds, Kandris, Starr, & Wong, 2007; Ottenbreit & Dobson, 2004). Behavioral-social avoidance seems like a behavior that is functionally opposite to ERS (i.e., pushing one’s partner away versus trying to bring them closer) but may be a factor that brings about rejection for these individuals. The unexpected association between behavioral ERS and rejection among dysphoric women could partly be a function of the large main effect of being dysphoric versus non-dysphoric, and the small number of rejection cases. It could be that once the strong effect of being in the depressed group was accounted for, behavioral ERS had a small, counter-intuitive
effect on predicting a small portion of the remaining variance that was not subsumed by the main effect of dysphoria.

**Summary.** Although my findings for partner-reported relationship satisfaction confirmed hypotheses derived from interpersonal theories of depression, the results for objectively-defined, behavioral rejection generally showed the opposite, paradoxical pattern. In the retrospective and prospective models, ERS was only significantly associated with rejection among non-dysphoric women, and particularly those women who endorsed low levels of negative relationship cognitions. Surprisingly, in one of my prospective models, behavioral ERS was actually associated with a lower likelihood of being rejected among dysphoric women. For the purposes of hypothesis generation, I advanced two complementary potential explanations for these findings: 1) the partners of women with high depressive symptoms and/or high negative relationship cognitions fear the negative repercussions of rejecting them, and so this group experiences less rejection and 2) dysphoric women choose partners who are less likely to reject them due to their own intrapsychic processes (i.e., attachment insecurity). Non-dysphoric women low in negative relationship cognitions and their partners lack the qualities that potentially reduce the likelihood of rejection occurring, and thus, when these women engage in ERS, their partners respond with initiating relationship dissolution rather than prolong their experience of irritation, frustration and exasperation at their non-dysphoric partner.

**Self-Reported Versus Behaviorally-Assessed Excessive Reassurance-Seeking**

Another broad theme that emerged within my analyses was that the strength of the association between ERS and rejection varied depending on whether ERS was measured by self-report or behavioral observation. Indeed, one of the objectives of this study was to develop a behavioral task to measure ERS based on Joiner and Metalsky’s (2001) original study of college
roommates. I found a small, non-significant correlation between self-reported and behavioral ERS in the entire sample of women, and the effect was stronger, but still small, among dysphoric women. In contrast, Joiner and Metalsky (2001) reported a significant, medium-sized correlation between the DIRI-RS and their behavioral measure of ERS. This discrepancy raises some important issues pertaining to the construct of ERS that provide context for the effects in my primary analyses.

First, the small correlations between the DIRI-RS and my behavioral measure, coupled with the surprising association between behavioral ERS and rejection among non-dysphoric women in my retrospective analyses, raise questions about the construct validity of the BRST-RS. It is possible that the measure did not successfully index ERS, per se, and may have captured a different pattern of communication that is also associated with rejection and partner dissatisfaction. One possible problem with the BRST-RS may be the fact that couples’ discussions were focused on a list of specific personality traits. This could have introduced random error into the measure because there may have been individual differences in the types of traits that “triggered” ERS in the study participants. Prior to making firm conclusions about the role of behavioral ERS in predicting rejection among dysphoric and non-dysphoric participants, the psychometric properties of the BRST-RS should be thoroughly explored, and alternative laboratory paradigms could be tested (e.g., telling the target participant that the results of a personality measure indicate that they will end up alone; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007).

The DIRI-RS does not specify the target of the respondent’s ERS behaviors beyond “close others”. When people fill out the DIRI-RS, they may think about one or two relationships and evaluate their behaviors in those relationships, discounting others whom they would consider
“close”. Research has consistently shown that women rely on their same-sex friendships for intimacy and support (e.g., Bank & Hansford, 2000) and use these friendships as “safe havens” (i.e., someone to go to when feeling upset or down, who one relies most on for advice, and/or who one can tell anything to) to a greater extent than they do romantic relationship partners (Markiewicz, Lawford, Doyle, & Haggart, 2006). Thus, it is possible that when women are responding to the items of the DIRI-RS and thinking about ‘close others’, they may be most likely to answer based on their experiences with their same-sex friends, such as university roommates. So, it is conceivable that the correlation between self-reported and behaviorally-assessed ERS would be stronger when the relationship assessed is consistent with the type of relationship young women would be most likely to think about when completing the DIRI-RS (i.e., a same-sex friendship). Conversely, the correlation would likely be weaker when the behaviorally-assessed relationship diverges from the type of relationship women would typically think about when completing the measure (e.g., a romantic relationship).

Interestingly, my data raise the possibility that young women may shift the “close relationship” they primarily report on when responding to the DIRI-RS, from primarily same-sex friendships to their romantic relationship, over time. For exploratory purposes, I arbitrarily grouped couples into quartiles based on the duration of their romantic relationships. The correlations between self-reported and behavioral ERS were $r = .04$, $r = .09$, $r = .13$ and $r = .21$, for the first, second, third and fourth relationship duration quartile, respectively. At the early stages of romantic relationships, women may report on other relationships, such as same-sex friendships, when completing the DIRI-RS because they do not yet consider their romantic partner a “close other”. However, later on in the relationship, as closeness and trust build,
women may increasingly report on the ERS behaviors that they engage in within their romantic relationship.

In general, my primary analyses showed that the effects of models predicting rejection from behavioral ERS explained more variance in outcomes than models using self-reported ERS. This further supports the notion that the mechanism that brings about rejection in interpersonal models of depression (e.g., Coyne 1976b; Evraire & Dozois, 2011) is truly interpersonal. ERS behaviors performed in a specific relationship were a stronger predictor of rejection in that particular type of relationship than a global report of ERS in all “close” relationships. This makes sense given that, hypothetically, an individual could score high on the DIRI-RS because they engage in ERS very frequently with their best friend and their mother, for instance. However, if they never seek reassurance from their romantic partner, their self-reported ERS should not be associated with dissatisfaction and rejection in that relationship. My results, coupled with previous research, suggest that the DIRI-RS may be a good index of reassurance-seeking that takes place in certain relationships (e.g., relationships with close, same-sex friends) but may not capture ERS as well in other relationships (e.g., relationships with romantic partners).

Alternatively, the DIRI-RS may only capture a general propensity to engage in reassurance-seeking, but may not be able to speak to a person’s tendency to reassurance-seek in any one particular, or type of, relationship.

Factor Structure of the Rejection Sensitivity Questionnaire

Finally, in the current study, I conducted only the second investigation to my knowledge of the RSQ’s factor structure. In contrast to the previous factor analysis (Downey & Feldman, 1996), I found evidence for a 2-factor structure in which items pertaining to close relationships (e.g., romantic relationships, family) loaded together, whereas items pertaining to other
relationships (e.g., classmates, friends and acquaintances) formed a distinct factor. Importantly, my sample was different from the sample in Downey and Feldman’s (1996) original study in that all women in my sample were involved in exclusive dating relationships. Individuals may evaluate the impact of interpersonal scenarios involving romantic interests more like other relationships when they are strictly hypothetical (i.e., the person is not in a romantic relationship), whereas, when they are in a relationship, their attributions about the probability of rejection and the anxiety surrounding rejection may be contingent on relationship quality and/or specific unique relationship experiences. It is also noteworthy that items involving romantic partners and parents, two important types of attachment figures (Bowlby, 1982; Hazan & Shaver, 1987) clustered together separately from relationships in which attachment styles are less active. My data suggest that women in romantic relationships may experience different levels of rejection sensitivity in relationships with core attachment figures versus other relationships.

**Implications**

My results provided excellent support for existing interpersonal models of depression (e.g., Coyne, 1976b; Evraire & Dozois, 2011) when rejection was operationalized as partner dissatisfaction and measured concurrent to ERS. This study is the first to test the integrated interpersonal model and I supported the hypothesized association between ERS and negative relationship cognitions. I found that women with high depressive symptoms alone were not necessarily the individuals for whom ERS behaviors were associated with lower partner relationship satisfaction – it was the combination of high depressive symptoms and core beliefs reflecting insecurity in relationships. The necessary function of negative relationship cognitions supports Evraire and Dozois’s (2011) notion that possessing these deep-seated concerns about relationships transforms the content and/or tone of the ERS behaviors from an adaptive strategy.
to one that is damaging to interpersonal relationships. My results also strengthen both Coyne’s (1976b) interpersonal model and Evraire and Dozois’s (2011) recent revision by 1) finding effects of ERS above and beyond intrapsychic constructs that some have suggested might better account for the association between depression and rejection (e.g., Brennan & Carnelley, 1999; Starr & Davila, 2008) and 2) generally finding stronger effects in models using behaviorally-assessed ERS compared to models using self-reported ERS. These results imply that the central mechanism of action of interpersonal models of depression is truly an interpersonal behavior performed in the context of close relationships – the effect of ERS is not better explained by related cognitive factors and the actual performance of the behavior in a particular relationship is most strongly linked to partner dissatisfaction in that same relationship.

Given that the effects of ERS on relationship dissatisfaction fit most closely with interpersonal theories of depression when ERS was operationalized behaviorally and within a specific relationship, these theories should be modified to reflect this finding. The literature to date has assumed that a general propensity to seek reassurance in “close relationships” (indexed by the DIRI-RS), under certain circumstances (e.g., dysphoria), is associated with rejection in any given close relationship. However, I propose that the actual performance of ERS within a specific relationship is necessary for ERS to lead to partner dissatisfaction in that particular relationship. If an individual is only engaging in ERS behaviors in one specific relationship (e.g., with their best friend) then ERS should only be associated with dissatisfaction in that particular relationship and not in other relationships. Interpersonal models of depression should be modified to reflect the importance of the target of an individual’s reassurance-seeking and stipulate that relationship dissatisfaction is an outcome specific to targeted close others.
When rejection was defined in objective, behaviorally-anchored terms, the hypotheses of interpersonal models of depression (Coyne, 1976b; Evraire & Dozois, 2011) were not supported and instead, I found almost the exact opposite of the hypothesized pattern. First and foremost, this implies that studies testing interpersonal models of depression should no longer use proxies of rejection such as devaluation of one’s partner (Benazon, 2000; Joiner et al., 1992; Joiner & Metalsky, 1995, 2001; Katz & Beach, 1997), unwillingness to interact with one’s partner (Joiner et al., 1992; Joiner & Metalsky, 1995) or relationship dissatisfaction (Benazon, 2000; Katz & Beach, 1997; Shaver et al., 2005) to make inferences about individuals actually being rejected (i.e., no longer having a relationship with a close other). My results imply that a relationship partner’s attitudes towards an individual engaging in ERS are dissociated from their actual rejecting behavior towards that person, at least in the context of romantic relationships. In their meta-analysis, Starr & Davila (2008) hypothesized that the association between ERS and rejection would be strongest for measures more closely associated with actual behavior (e.g., willingness to interact), but in fact found that the association was weakest for these types of measures. My results converge with this meta-analysis – existing interpersonal models should be exclusively applied to outcomes involving negative partner attitudes and/or relationship disturbances (i.e., arguments; conflict).

When it comes to capturing how ERS leads to individuals’ relationship partners initiating the termination of a relationship (i.e., “actual” rejection), my results point to the need for substantial revisions of existing interpersonal theories. In Coyne’s (1976b) interpersonal model, “actual” rejection from close others is what ultimately contributes to increases in depressive symptoms because the individual loses social support and becomes increasingly isolated. Based on the results of this study, the construct of rejection, at least as it pertains to dating relationships,
may need to be reframed within interpersonal models. When one’s dating partner is engaging in an interpersonally aversive, annoying behavior, the adaptive, “default” strategy should be to end the relationship, under circumstances in which there are no factors impeding them from doing so. This study and others have shown that relationship partners are dissatisfied in relationships with high reassurance-seekers, and, given that there are fewer constraints on dating relationships than in marriages, for example, it may be good for both parties (and certainly, for the partner of the high reassurance-seeker) to terminate the relationship in order to seek a more satisfying alternative. In the current study this is what may have happened to non-dysphoric women, especially those with low negative relationship cognitions – their reassurance-seeking behaviors contributed to them being rejected by their partners.

When rejection is reconceptualized as an understandable, adaptive response to a high reassurance-seeking partner, the central question becomes what factors prevent partners of these high reassurance-seekers from rejecting them? Above, I delineated several constructs that are associated with depression and that could have impeded or reduced the likelihood of actual partner rejection in response to ERS behaviors among dysphoric women. These were: 1) the partner’s beliefs about the risks and/or consequences of rejecting an individual, 2) the partner’s attachment style. I believe that interpersonal models of depression that focus on actual rejection (i.e., the dissolution of a relationship by one’s partner) need to explicitly include partner-level attitudinal and cognitive variables that may moderate the association between ERS and partner-initiated relationship dissolution.

In order to capture partner beliefs about the risks and/or consequences of rejecting an individual, established measures of distress following a break-up could be adapted for use in a revised interpersonal model. For instance, one commonly employed measure asks participants to
rate the degree to which they experienced a group of negative emotions (e.g., anger, hatred, resentment) and positive emotions (e.g., satisfaction, relief) following a break-up (Sprecher, Felmlee, Metts, Fehr, & Vanni, 1998). This scale could be re-worded to ask partners to rate the emotional distress they would expect their partner to experience were they to initiate a break-up with them. If partners expect their partner to be in a very high level of emotional distress following a potential break-up, they may be less likely to reject an individual in response to high ERS behaviors.

As far as relationship commitment, which concerns the factors that lead an individual to continue in a relationship, goes, there is a substantial body of theory and empirical research regarding how this construct may be best conceptualized (see Arriaga & Agnew, 2001 for a review). For the purposes of examining interpersonal factors in depression, Rusbult and Buunk’s (1993) model of the state of commitment may be particularly relevant. In this model, commitment is comprised of 3 components: 1) psychological relationship attachment, which involves the affective connection between partners, 2) long-term orientation regarding the relationship, which is the strong belief that the relationship will still exist in the distant future, regardless of what happens in between and 3) the intention to persist in the relationship, which involves the internal motivation to continue in the relationship into the future. Arriaga and Agnew (2001) found that all three of the above components were longitudinally associated with romantic relationship status, and long-term orientation emerged as the strongest predictor. It is possible that when partners have a high level of commitment, and particularly, a firm long-term orientation, the effects of an individual’s ERS on predicting rejection may be dampened. Finally, partner levels of anxious and avoidant attachment could be measured using self-report questionnaires such as the ECR-R (Fraley et al., 2000), as I have done in the current study. One
possibility is that the combination of high female anxious attachment, which is a strong correlate of high ERS, and high male avoidant attachment may lead to a lower likelihood of rejection, regardless of both partners’ dissatisfaction (e.g., Kirkpatrick & Davis, 1994).

The attitudinal and partner-level variables described above would allow for a better description of how ERS, depression and negative relationship cognitions elicit “real world” rejection from close others. Hypothetically, the greatest risk to experience actual rejection would exist for an individual who frequently engaged in ERS with their partner, who possessed core beliefs reflecting insecurity in relationships, who had elevated depressive symptoms and whose partner did not possess cognitive and attitudinal features that would lower the likelihood that they would reject the individual. However, as I have argued above, individuals with elevated depressive symptoms and negative relationship cognitions probably select the very partners that would be less likely to reject them for their ERS behaviors more often than non-dysphoric individuals. This is not to suggest that dysphoric individuals are less likely to be rejected overall – on the contrary, my data showed a strong prospective association between dysphoric status and rejection. The mechanisms driving this effect are likely separate from ERS and may even involve opposite interpersonal strategies (e.g., behavioral-social avoidance; Ottenbreit & Dobson, 2004).

In contrast to previous interpersonal models, I contend that, in the absence of presumed partner-level features that reduce the likelihood of rejection, ERS on its own, in the absence of dysphoria and negative relationship cognitions, is still enough to bring about rejection. My results support this contention and it is also consistent with studies that have shown that ERS is prospectively associated with romantic relationship stressors in the absence of moderators (e.g., Eberhart & Hammen, 2009; Shahar et al., 2004).
Another important revision to existing interpersonal models of depression may be the inclusion of an assessment of the contexts in which ERS behaviors occur. No study to date has investigated whether or not certain environmental circumstances affect the likelihood of ERS leading to rejection from one’s partner. Starr and Davila (2008) raised the possibility that ERS could have worse effects when partners are co-habiting because this would “allow for more constant ERS that is more difficult to escape, making it more bothersome” (p. 764). This could explain the relatively strong effects found in studies examining the association between ERS and rejection in same-sex roommates (e.g., Joiner et al., 1992; Joiner & Metalsky, 1995). In contrast, many university undergraduate students become involved in long-distance romantic relationships (approximately 20% of couples in my sample were in this situation), which, following Starr and Davila’s logic, could have partially inoculated these couples against the negative interpersonal consequences of women’s ERS behaviors. There was no effect of being in a long-distance relationship in our sample, although there may have been too small a group of these individuals to adequately test this potential hypothesis.

Conversely, there may even be certain contexts in which ERS may be more likely to foster closeness and satisfaction in relationships, as opposed to relationship dissatisfaction. Amanda Rose has conducted an intriguing programme of research on “co-rumination”, which is characterized by “frequently discussing problems, discussing the same problem repeatedly, mutual encouragement of discussing problems, speculating about problems, and focusing on negative feelings” (Rose, 2002, p. 1830) in the context of a dyadic interpersonal relationship. Rose and her colleagues have found that co-rumination is associated with both increases in depressive symptoms and higher friendship quality, over time (Calmes & Roberts, 2008; Rose, 2002; Waller & Rose, 2010). Co-rumination is proposed to enhance friendship quality because it
involves self-disclosure, a behavior that is related to feelings of companionship (e.g., Parker & Asher, 1993) and emotional closeness (Camarena, Sarigiani, & Peterson, 1990). Although, to my knowledge, there have been no empirical investigations of the association between co-rumination and ERS, they are conceptually similar constructs. It is possible that, under certain circumstances, individuals “co-ERS” - each partner repetitively asks the other about their worth and lovability. It may be that individuals high in ERS are more understanding of others who also frequently engage in this behavior. Understanding and mutual support may foster and enhance, rather than damage, relationships among individuals who both frequently engage in ERS.

**Limitations and Future Directions**

The current study has several important strengths, including its novelty, rooting in a strong theoretical foundation, its prospective design, and its rigorous statistical approach (i.e., accounting for covariates related to outcome variables; use of a comprehensive EFA procedure for reducing RSQ data). Furthermore, the current study applied multiple methods for defining its central constructs, including ERS (self-report questionnaire and behavioral observations) and rejection (concurrent male relationship satisfaction, retrospective targeted rejection, and prospective male-initiated relationship dissolution). Nevertheless, my results need to be considered with the limitations below in mind.

First, the study recruited couples from the general undergraduate student population using flyers and the first year psychology subject pool. Although I oversampled for women who were experiencing depressive symptoms, the sample consisted of primarily well-adjusted couples in stable, lengthy relationships. Only 9 women (7.6%) and 21 men (17.8%) in the sample had total DAS scores below the cut-off for relationship distress (Spanier, 1976) and the average relationship duration was approximately 1 year and 4 months. Similarly, as Table 3 shows, mean
scores for attachment anxiety and avoidance (in particular) were relatively low, for both men and women, even among the dysphoric couples. A similar restriction of range occurred with the DIRI-RS for female respondents. These features of the sample may have reduced my power to find some of the hypothesized effects. Future studies could address these issues by examining distressed couples specifically, perhaps by recruiting married participants in couples therapy, focusing on couples who have only been dating a short time, and/or oversampling participants for those endorsing high levels of attachment anxiety and/or avoidance.

Second, the hypotheses derived from interpersonal models of depression were only tested in women. Although this is a sensible starting point for empirical investigations into the integrated interpersonal theory of depression (Evraire & Dozois, 2011) given the greater vulnerability to depression among women compared to men (e.g., Hankin & Abramson, 2001; Nolen-Hoeksema & Girgus, 1994), it is nonetheless unclear whether I would have found the same effects for men. Extending this research to men may be especially important in this area of research, given that early investigations into Coyne’s (1976b) interpersonal theory of depression confirmed hypotheses in samples of male roommates, but not female roommates (Joiner et al., 1992; Joiner & Metalsky, 1995). Future studies are required to determine whether the findings of the present study generalize to men in romantic relationships.

Third, the current study relied on a self-report measure of depressive symptoms in order to categorize women based on the presence or absence of significant symptoms. My use of this measure makes the interpretation of the effects of dysphoric status on prospective rejection, and particularly, rejection history, somewhat tenuous. Although there is evidence for the temporal stability of depressive symptoms assessed using the BDI-II (e.g., Beck et al., 1996), the use of structured clinical interviews to confirm diagnoses of MDD would facilitate interpretations based
on underlying vulnerabilities. I did, however, recruit women who were explicitly feeling depressed, which resulted in mean BDI-II scores in the moderate range of severity ($M = 23.69$, $SD = 3.69$) among dysphoric women. This level of symptom severity is equivalent to mean BDI-II scores reported by individuals with MDD in many studies (e.g., Harkness & Stewart, 2009) and actually more severe than some studies investigating ERS in clinical samples (e.g., Joiner et al., 2001). Nonetheless, as Starr and Davila (2008) have pointed out, there is a marked paucity of research on interpersonal models of depression using clinical samples and it is unclear how constructs central to these models are related to rejection in individuals suffering from MDD. Future studies should attempt to replicate my findings with clinical samples.

Fourth, in collecting data on retrospective rejection, I used the LEDS interview in a novel manner by 1) extending the retrospective timeframe examined well beyond the limits of the amount of time considered in other studies (e.g., Harkness & Monroe, 2006; Harkness & Stewart, 2009; Wildes, Harkness, & Simons, 2002) and 2) focusing exclusively on events in the “Marital/Partner Relationships” domain. Currently, there have been no systematic investigations on the validity or utility of adjusting the use of the LEDS interview in the manner that I did. An important strength of contextual assessments of stressful life events in depression research is that they eliminate the effects of mood state on reporting greater subjective severity of events by focusing only on the objective characteristics of the stressor. I have no reason to believe that this would no longer apply in an retrospective extended timeframe, but it is still unclear how mood state might have biased memory, for instance, and impacted participant reporting. This is further complicated by the fact that individuals high in negative relationship cognitions (i.e., individuals who are particularly anxious and sensitive surrounding themes of interpersonal rejection) may have been motivated to alter their reporting of relationship events under study. Future studies are
required to confirm the validity and feasibility of using the LEDS over a lengthy retrospective time period. Because I only assessed events in the “Marital/Partner Relationships” domain, the current study was unable to determine whether the effects I found were specific to targeted rejection in romantic relationships, or whether they might apply more broadly to interpersonal events or even life stress in general. Future research could extend my findings by using all domains of the LEDS when examining models predicting retrospectively-reported rejection.

Fifth, for the assessment of prospective rejection at the 4-month follow-up, the current study relied exclusively on the female participants’ reporting. Although careful steps were taken to objectively define the break-up initiation variable (i.e., describing it in detailed, behavioral terms), participants may have been inclined to report that they ended the relationship, or that it was mutual, rather than confessing to the least socially-desirable outcome. Indeed, female-initiated break-ups were more than 2.5 times more common in my sample than male-initiated break-ups. Future research could employ a more thorough assessment of rejection outcomes by confirming the details relationship status at follow-up with both members of the couple.

Finally, the small number of break-ups that occurred in the sample likely limited my power to find significant effects in my prospective analyses. The low number of break-ups was likely a product of both the stability of the romantic relationships the couples were involved in at Time 1 and the relatively short follow-up period. Predicting a small number of rejection cases from a relatively large overall sample resulted in lower power to detect effects. Furthermore, the small number of male-initiated relationship dissolution cases necessitated the broadening of my definition of rejection to include break-ups that women labeled as mutual, as well as male-perpetrated infidelity. Thus, the prospective results need to be considered in light of the fact “male-initiated rejection” included a heterogeneous group of negative outcomes, not all of which
would meet the strict definition of targeted rejection (Slavich et al., 2009) applied to my retrospective analyses. To circumvent this problem, future research could recruit larger samples and/or use longer follow-up periods to ensure more break-ups occur so that a narrower definition of rejection can be investigated.

Along with addressing the limitations of the current study, there are a number of further possible directions for future research. This study has tested one important piece of Evraire & Dozois’s (2011) model: the association among negative relationship cognitions, ERS, depression and rejection (operationalized as lower partner relationship satisfaction). However, the model suggests that rejection is related to increased depression, which in turn feeds back upon ERS and insecure relationship core beliefs to enhance these as well. In order to fully test the complex relationships proposed by this model, future research could include several prospective assessment points at which the constructs from Evraire and Dozois’s (2011) model are evaluated. The inter-relationships among these constructs may be best captured using a cross-lagged panel design or within a more general structural equation model. This research could use a system for measuring stressful life events, such as the LEDS, and focus analyses on the severity of dependent, interpersonal life events, in general, or focus on a specific relationship and use partner relationship satisfaction and/or attitudes as the outcome variable.

Future research could also test the other half of Evraire and Dozois’s (2011) model by including measures to capture negative feedback seeking (NFS), defined as the tendency of depressed individuals to seek out information from their social environment that is consistent with their self-views, and thus, is negative (Swann et al., 1992). Empirical studies have demonstrated that individuals with MDD engage in both ERS (e.g., Joiner & Metalsky, 2001) and NFS (e.g., Rehman, Boucher, Duong, & George, 2008), and the combination of high levels
of both may be particularly related to rejection (Joiner & Metalsky, 1995; Katz & Beach, 1997). In their model, Evraire and Dozois (2011) propose that NFS is particularly toxic to interpersonal relationships when depressed individuals possess strong negative core beliefs about themselves, as these views are proposed to be externalized and close others eventually adopt them in turn, and then reject the individual. An exciting direction for future study would be to recruit a large sample and prospectively assess ERS, NFS, depression and rejection, along with administering a general measure to capture negative self and other core beliefs related to depression, such as the Young Schema Questionnaire (YSQ; Young, 1998). Importantly, such a study would allow researchers to answer questions about the specificity of negative relationship-related core beliefs to toxic ERS and negative self-related core beliefs to toxic NFS. Importantly, a behavioral measure of NFS has been validated (Rehman et al., 2008) and so future studies can address these questions using both self-report and behavioral versions of the two depression-related interpersonal constructs.

Given that hypotheses derived from existing interpersonal models of depression were not supported in models examining “actual” rejection events, I proposed some alterations to these models that need to be examined in future research. These studies would involve gathering data on the factors proposed to be central to existing interpersonal models (i.e., ERS, depressive symptoms, negative relationship cognitions) and adding indices of partner expectations of the consequences of rejection (e.g., Sprecher et al., 1998), partner (and target) level of relationship commitment (e.g., Arriaga & Agnew, 2001), and measures of partner attachment (e.g., ECR-R; Fraley et al., 2000). Given the complexity of the relationships I have proposed (i.e., multiple moderators of the effect of ERS) and the relatively low base-rate of the predicted outcome variable (i.e., partner-initiated rejection), this type of study would require a large sample that
could be easily retained over a long follow-up period to ensure sufficient statistical power to detect the hypothesized effects. If future studies were being conducted on dating relationships, it would be beneficial to study individuals at a homogenous stage in their relationship (e.g., dating for less than 3 months) to separate the effects of partner-level variables, such as commitment, from the duration of the romantic relationship.

It is also important for future research to determine whether my findings concerning “real-world” rejection would generalize to other types of relationships (e.g., close same-sex friendships). Factors like partner commitment and attachment style strongly influence outcomes in romantic relationships, but these may not be as relevant to friendships, or other relationships. One important issue that needs to be addressed when testing interpersonal models of depression in the context of relationships other than romantic ones is how to objectively define rejection. Friendships, for instance, may not often have a clear termination, and furthermore, it may not often be possible to identify who “initiated” the termination. Instead, these types of relationships may be more prone to “go their separate ways”. Rejection may simply have to be evaluated by using contextually-assessed interpersonal stressful life events within the relationship using systems like the LEDS.

The interpersonal context in which ERS occurs may also play an important role in the relationship between ERS and “actual” rejection. As Coyne’s (1976b) and Evraire and Dozois’s (2011) models predict, ERS is prospectively associated with reductions in social support (Haeffel & Mathew, 2010), and the combination of high self-reported ERS and a decrease in social support over time is related to prospective increases in depressive symptoms (Haeffel et al., 2007). It is possible that, as an individual’s social support network narrows, ERS may be directed at fewer and fewer close others, and thus these close others may get a more frequent or intense
“dose” of these behaviors than they previously experienced. Future research should examine the intriguing possibility that ERS is more damaging when directed at few versus many close others. If so, this could mean that there are additive interpersonal costs to ERS over the long-term that have yet to be explicitly quantified in existing models. Certain life circumstances like co-habiting may magnify the interpersonal toxicity of ERS because the individual at whom this behavior is directed cannot distance himself or herself as readily from the reassurance-seeking individual. Future research could explore this possibility in romantic relationships relatively simply by examining the differential impact of ERS, depression, and negative relationship cognitions on rejection outcomes in couples who are cohabiting versus in a long distance relationship.

The results of the current study have also underscored the importance of deepening our understanding of ERS as a construct. I found that an individual’s self-report of global ERS behaviors did not strongly correlate with their laboratory-assessed ERS behavior in a specific relationship. It is unlikely that individuals engage in the same amount of ERS across all close relationships. Future research could re-word the existing DIRI-RS to apply to a specific relationship (e.g., “my partner”) or to categories of relationships (e.g., “my close friends”; “my family”). Such studies could then examine whether self-reported ERS within a certain relationship or category of relationships is specifically associated with rejection, devaluation or dissatisfaction within the corresponding relationship or group of relationships. Furthermore, future studies could use a laboratory paradigm such as the one I created and assess the associations between self-reported ERS within a certain relationship and behaviorally-assessed ERS for that same relationship.

Research on interpersonal theories of depression to date has ignored testing the tenets of these models at the level of moment-by-moment patterns in interpersonal interactions. Coyne’s
(1976b) theory proposes that the process of seeking reassurance and then doubting the sincerity of a close other’s assurances first produces irritation, frustration and negative affect in close others with whom the individual interacts prior to outright rejection and avoidance. Indeed, the combination of ERS and depression is prospectively related to roommates’ (Joiner et al., 1992; Joiner, 1994) and romantic relationship partners’ (Katz et al., 1999) depressive symptoms. Future studies could explore the more micro-level processes involved in depressed individuals’ interactions with close others by behaviorally coding their ERS and examining its impact on others’ affect and/or behaviors. Using laboratory paradigms would allow relevant affect (e.g., frustration, aggression, scorn) to be closely captured using systems such as the Specific Affect Coding System (SPAFF; Gottmann & Kroff, 1989) or the Behavioral Affective Rating Scale (BARS; Johnson, 2002). This type of research could also potentially uncover elements of the quality of ERS statements that may be particularly related to negative reactions from close others (e.g., volume, timbre, changes in pitch, rate).

Finally, future research should attempt to use existing interpersonal models of depression to capture a pathway through which individuals ultimately develop MDD. Coyne (1976b) initially advanced his model as a way in understanding how certain individuals shape their environments in a manner that increases their chances of suffering from MDD. In more than 35 years, the exact hypotheses of this model have yet to be tested. Research from the life stress literature has consistently shown that individuals with MDD report experiencing stressful life events in periods immediately preceding the onset of their symptoms (see Monroe, Slavich, & Georgiades, 2009, for a review). This relationship may be strongest for stressors with themes of interpersonal loss and/or social demotion and defeat, such as romantic relationship break-ups (e.g., Gilbert et al., 2002; Kendler et al., 2003; Monroe et al., 1999). My results show that
women who are high in ERS are at greater risk of experiencing these types of events that are most strongly associated with MDD. Future studies could extend my findings by following individuals over a longer time period and determining whether targeted rejection events, such as a partner-initiated romantic relationship breakup, mediate the prospective association between ERS and the eventual development of MDD. This type of research would be best conducted with a large sample of individuals at high risk for MDD (given the likely low base rates of both targeted rejection events and MDD diagnoses), followed over a long-term follow-up period.

Conclusions

The current study sought to provide the first test of elements of Evraire and Dozois’s (2011) integrated interpersonal theory of depression, and to extend the literature on interpersonal processes within depression by employing objective, behavioral measures of both rejection and ERS. Across all measures of rejection, I found effects of ERS in the predicted direction, which lend crucial converging support for the role ERS is hypothesize to play in the context of depression and interpersonal rejection. My results supported Evraire and Dozois’s model at the level of partner-reported romantic relationship quality – behavioral ERS was associated with partner dissatisfaction among dysphoric women with high levels of negative relationship cognitions. ERS, regardless how it was measured, was associated with historical romantic rejection, but only among non-dysphoric women with low levels of negative relationship cognitions. Finally, self-reported ERS was directly associated with prospective rejection regardless of baseline depressive symptoms, while behavioral ERS seemed to partially inoculate dysphoric women against the risk of future rejection from their partners.

My findings underscore the importance of distinguishing between actual rejection and proxies of rejection, such as devaluation or lowered satisfaction, when testing interpersonal
models of depression. Although ERS may operate in conjunction with other variables to progressively disintegrate the quality of relationships, this may or may not portend outright rejection from close others. Given these findings, revisions to existing interpersonal models of depression that incorporate cognitive and interpersonal features of partners and the contexts in which ERS is performed are needed. Furthermore, the differential pattern of results for self-reported and behavioral ERS in some analyses points to a clear need to separate a depressed person’s attributions of how they generally behave in close relationships from a detailed assessment of what they actually do in interactions with a given close other. Finally, the results of the current study have laid the groundwork for exciting future work devoted to tracing a developmental trajectory from the joint effects of different types of negative core beliefs (i.e., self- or relationship-directed) and various toxic interpersonal strategies (e.g., ERS, NFS) on turmoil and rejection in close relationships to the eventual exacerbation of depressive symptoms and development of MDD.
References


Interpersonal reactions to depression and physical disability in dyadic interactions. 


Hankin, B. L., Kassel, J. D., & Abela, J. R. (2005). Adult attachment dimensions and


Johnson, M. D. (2002). The observation of specific affect in marital interactions:


Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., …


Appendix A

Example Recruitment Flyer

IN A RELATIONSHIP?

Researchers in the Department of Psychology at Queen’s University are seeking couples (aged 18 or older) in committed, heterosexual dating relationships to participate in a research study.

You will be compensated for your time.
Participation is totally confidential.

Interested?
Contact 613-533-6003 or mpdrstudy@gmail.com
Appendix B

Example Recruitment Email Script

To Psych 100 Students:

Are you in a relationship? If so, you may be eligible to participate in a study conducted by Jeremy Stewart, MSc and Dr. Kate Harkness in the Mood Research Laboratory. This study is examining the relationship between mood and personality in the context of your dating relationship. To qualify to participate in this study, you need to be:

1) In a current, committed, heterosexual dating relationship that has lasted at least one month

2) Have a dating partner who is willing to come in for one session with you in the Mood Research Lab (partner can be from out of town, as long as they are able to attend one session – they do not need to be Queens students)

You will be compensated with 1.5 credits towards your Psych100 research hours. Participants not in Psych100 will receive monetary compensation ($10 each).

Your participation in our study will be kept confidential.

If you and your partner are interested in participating please contact mpdrstudy2@gmail.com or reply to this email

Thanks for your attention.
Appendix C

Example PowerPoint Slide for Class Presentations

Mood, Personality and Dating Relationships (MPDR) Study

- Currently recruiting women meeting the following criteria:
  - Currently (at least for the last 2 weeks) feeling sad, down, and/or depressed
  - Currently in a heterosexual dating relationship that has lasted at least 1 month
  - Have a partner who is willing to come in to be part of this research study

BOTH PARTICIPANTS RECEIVE MONETARY COMPENSATION

IF INTERESTED, PLEASE CONTACT JEREMY:

2js4@queensu.ca OR mpdrstudy@gmail.com
613-533-6003
Appendix D

Demographics Interview

DATE: __ __ / __ __ / __ __

AGE: ___ ___

SEX: _______________

DOB: __ __/ __ __/ __ __

ETHNICITY:
1 = White (European descent)
2 = Black (e.g. African-Canadian, Caribbean)
3 = Asian
4 = First Nations
5 = Hispanic / Latino / Latina
6 = Other _______________

LIVING SITUATION:
1 = In University residence
2 = With parents / guardians
3 = Away from parents, with roommates
4 = Away from parents / guardians, alone
5 = Away from parents, with partner
6 = Other _______________

EDUCATION AND WORK

YEAR IN UNIVERSITY: _______________

PROGRAM IN SCHOOL: _______________

Overall, what grade do you expect to get in your first term? ___ ___

Overall, what grade do you expect to get in PYSC 100? ___ ___

Are you working now? Y / N

What kind of work do you do? _______________

How many hours per week do you work? ___ ___

How long have you had that job? ___ ___ ___ weeks

What do your parents do? MOM: _______________

DAD: _______________
Appendix E

Relationships Interview (Time 1)

CURRENT RELATIONSHIP

Beginning of the relationship __ __ / __ __ / __ __
m d y

How did you meet? __________________________________________

Relationship duration __ __ __ months

PARTNER CONFIDANT? 1 = No 2 = Mostly No 3 = Mostly Yes 4 = Yes

Have you broken up for any length of time? Y / N

IF YES: __ __ / __ __ / __ __ TO __ __ / __ __ / __ __
m d y

Who initiated the break?
1 = partner initiated
2 = participant initiated
3 = mutual

Have you been faithful for the entire relationship? Y / N

Has your partner been faithful for the entire relationship? Y / N

PAST RELATIONSHIP HISTORY

I’m going to ask you about every exclusive romantic relationship in your life, beginning with the first one. By ‘exclusive’ I mean that you agreed to only date one another. (USE BACK OF SHEET IF NECESSARY)

<table>
<thead>
<tr>
<th>#</th>
<th>Start Date</th>
<th>End Date</th>
<th>Break Up (code)</th>
<th>Duration (months)</th>
<th>Infidelity (Y/N)?</th>
<th>Infidelity (code)</th>
</tr>
</thead>
</table>

BREAK-UP CODE: 1 = participant initiated break up, 2 = partner initiated break up, 3 = mutual
INFIDELITY CODE: 1 = participant infidelity, 2 = partner infidelity

How many non-exclusive relationships have you been involved in over your lifetime? (that is, relationships where there was no expectation of commitment)? __ __

With how many separate individuals have you had a “one-night stand” (that is, sexual activity on one occasion with someone you weren’t romantically involved with)? __ __
Appendix F

Relationships Interview (Time 2)

Are you still in the relationship you were in Y / N at your first visit to our lab?

IF NO:

When did the relationship end? ___ / ___ / ___
m   d   y

Who initiated the break? 1 = partner initiated 2 = participant initiated

3 = mutual

Was there infidelity involved? 1 = partner infidelity 2 = participant infidelity

3 = no infidelity

Total Relationship Duration ___ ___ ___ months

Since breaking up, how often have you …

… seen your former partner face-to-face? _____________ [information on Xs/day or /week or /month]

… had contact with your former partner non-visually? _____________ [information on Xs/day or /week or /month]

… had sexual activity with your former partner? _____________ [information on Xs/day or /week or /month]

IF YES:

Have you broken up for any length of time since your Y / N first visit to our lab?

IF YES: ___ / ___ / ___ TO ___ / ___ / ___
m   d   y   m   d   y

Who initiated the break? 1 = partner initiated 2 = participant initiated

3 = mutual

Have you been faithful for the entire relationship? Y / N

Has your partner been faithful for the entire relationship? Y / N

FOUR-MONTH RELATIONSHIP HISTORY

I’m going to ask you about every exclusive romantic relationship you’ve had in the last 4 months, beginning with the first one. By ‘exclusive’ I mean that you agreed to only date one another.

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<tr>
<th>#</th>
<th>Start Date</th>
<th>End Date</th>
<th>Break Up (code)</th>
<th>Duration (months)</th>
<th>Infidelity (Y/N)?</th>
<th>Infidelity (code)</th>
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<tr>
<td>Break-Up Code: 1 = participant initiated break up, 2 = partner initiated break up, 3 = mutual break up</td>
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<tr>
<td>Infidelity Code: 1 = participant infidelity, 2 = partner infidelity</td>
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</table>

How many non-exclusive relationships have you been involved in the last 4 months? (that is, relationships where there was no expectation of commitment)?

With how many separate individuals in the last 4 months have you had a “one-night stand” (that is, sexual activity on one occasion with someone you weren’t romantically involved with)?

What was your overall grade in Psychology 100 after the first term (i.e., at winter break)?

What was your overall grade over all your courses after the first term (i.e., at winter break)?
Appendix G

LEDS Marital/Partner Relationships Interview Questions

Let’s start with your first romantic relationship – when did you start dating?

How well do/did you and your boyfriend/girlfriend get along in general?
   What sorts of things do/did you do together?
   Was it an exclusive relationship (i.e., you agreed to only date one another)?

When you first got together, were there any issues or did you have any concerns about the relationship?
   e.g., parents didn’t want you to date? Didn’t approve of the relationship?
   Big difference in age?
   Didn’t approve of how he spent his spare time (drugs? Drinking)
   Friends didn’t approve / didn’t get along with him.

Are/were there any problems in your relationship?
   How often do you argue (determine frequency – was this for the whole relationship, just certain parts?)
   What kinds of things do you argue about?
   Did they ever get heated?
   Did the arguments involve yelling, name calling and/or violence?

How well did/does your family get along with him/her? How well do you get along with his/her family?
   If NOT GETTING ALONG for either: Have these problems impacted your relationship (e.g., amount you can see one another, increased arguments etc.
   Have you / did you split up for any length of time during the time period (i.e., gone on a break, even if a short one)?
      Why? Who initiated it? Did you still talk during the time you were broken up?
      What made you decide to get back together?
      Who initiated that? Were the problems that lead you to break up resolved? How did you know?

Was there any cheating in the relationship (ask only if not already established - if already established, make sure to get the details for the tape)
   IF YES: who cheated and when? For what duration of time?
   IF PARTICIPANT CHEATED: Did you tell your boyfriend? If so, were there arguments, problems, changes to relationship? If not, any problems hiding it etc?
   IF PARTNER CHEATED: were there arguments, problems, changes to relationship?
      How did you find out?

Is this a sexual relationship between you and your boyfriend? Does this mean sexual intercourse, sexual activities other than intercourse, or both?
Did you have sex for the first time (note to interview – lost your virginity) during the time period?
   IF SO: Did you use contraception? If so, which type(s)? Were your parents aware that you had become sexually active?
   If so, were there problems as a result between you and them?
   If not: Is there a specific reason not to tell them that you are having sex?

   Were there any sexual difficulties or problems in the relationship? If so, what was the nature of the problems?

**Have you felt under pressure to have sexual intercourse and/or engage in sexual activity during the time period?**
   What did your partner do or say to make you feel this way?
   (establish whether S was ever physically forced to engage in sexual activity)

**When you finally broke up on [insert date]:**
   Why did you break up?
   Who initiated it?
   Did you still talk during the time you were broken up?
   Were there any problems or difficulties as a result of being broken up?
   *If needed:* ask about other confidants (i.e., did you have friends you could go to?)

**Did you have any other romantic relationships?**
   *If YES:* return to the top and begin with second bolded statement.

If NO: ask the two bolded questions below.

**Have you ever had sex with someone you weren’t romantically involved with (one-night stand)?** Was it your decision?

**Have you ever been interested in someone of the same sex as a boyfriend/girlfriend?**
   Did you tell them?
   What was their reaction? Did you tell anyone else?
Appendix H

Example LEDS Event Form

### Event Record

<table>
<thead>
<tr>
<th>Interview Date:</th>
<th>Event Date:</th>
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<tbody>
<tr>
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</table>

**Summary Description:**

<table>
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<tr>
<th>Event Number</th>
<th>ENUM</th>
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<td>_____</td>
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</tbody>
</table>

**Classification**

0. Education 6. Health  
1. Work 7. Marital/Partner Relationship  
2. Reproduction 8. Other Relationships (including children)  
3. Housing 9. Miscellaneous  
5. Crime/Legal 11. Psychiatric Illness

**Focus**

1. Subject 4. Spouse  
2. Joint 5. Child  
3. Property 6. Other

**Short-term Threat**


**Long-term Threat**


**A/B Rating: A=1, B=2**

**Dependent Variable-Related**

0 Not dependent variable-related (most events)  
1 Possibly dependent variable-related currently (no actual evidence)  
2 Definitely dependent variable-related, to previous occurrence

**Independence**

1. Totally independent 7. Probable negligence by S  
2. Nearly totally independent 8. Arguments/Tension/End contact  
3. Possible influence from S 9. End contact, no argument  
4. S’s physical illness 10. S’s Love/Sex difficulties (not any of the above)  
5. Compliance of S with external situation 11. Partner’s love/sex difficulties (not above)  
6. Intentional act by S

**Interpersonal**

0 Not interpersonal 1 Interpersonal

**Targeted Rejection**

0 Non-targeted rejection/no rejection 1 Targeted rejection

**Severity Reliability**

<table>
<thead>
<tr>
<th>Rater 1 ERL1</th>
<th>Rater 2 ERL2</th>
<th>Rater 3 ERL3</th>
<th>Consensus ERLCON</th>
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Appendix I

Rejection Sensitivity Questionnaire (RSQ)

Each of the items below describes things college students sometimes ask of other people. Please imagine that you are in each situation. You will be asked to answer the following questions:

1) How concerned or anxious would you be about how the other person would respond?

2) How do you think the other person would be likely to respond?

1. You ask someone in class if you can borrow his/her notes.

   How concerned or anxious would you be over whether or not the person would want to lend you his/her notes?  
   very unconcerned  very concerned  
   1  2  3  4  5  6

   I would expect that the person would willingly give me his/her notes.  
   very unlikely  very likely  
   1  2  3  4  5  6

2. You ask your boyfriend/girlfriend to move in with you.

   How concerned or anxious would you be over whether or not the person would want to move in with you?  
   very unconcerned  very concerned  
   1  2  3  4  5  6

   I would expect that he/she would want to move in with me.  
   very unlikely  very likely  
   1  2  3  4  5  6

3. You ask your parents for help in deciding what programs to apply to.

   How concerned or anxious would you be over whether or not your parents would want to help you?  
   very unconcerned  very concerned  
   1  2  3  4  5  6

   I would expect that they would want to help me.  
   very unlikely  very likely  
   1  2  3  4  5  6

4. You ask someone you don’t know well out on a date.

   How concerned or anxious would you be over whether or not the person would want to go out with you?  
   very unconcerned  very concerned  
   1  2  3  4  5  6

   I would expect that the person would want to go out with me.  
   very unlikely  very likely  
   1  2  3  4  5  6

5. Your boyfriend/girlfriend has plans to go out with friends tonight, but you really want to spend the evening with him/her, and you tell him/her so.

   How concerned or anxious would you be over whether or not your boyfriend/girlfriend would decide to stay in?  
   very unconcerned  very concerned  
   1  2  3  4  5  6

   I would expect that the person would willingly choose to stay in.  
   very unlikely  very likely  
   1  2  3  4  5  6

6. You ask your parents for extra money to cover living expenses.
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7. After class, you tell your professor that you have been having some trouble with a section of the course and ask if he/she can give you some extra help.

How concerned or anxious would you be over whether or not your professor would want to help you out?

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<th>3</th>
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<tbody>
<tr>
<td>I would expect that my professor would want to help me out.</td>
<td>very unlikely</td>
<td>very likely</td>
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</table>

8. You approach a close friend to talk after doing or saying something that seriously upset him/her.

How concerned or anxious would you be over whether or not your friend would want to talk with you?

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<tbody>
<tr>
<td>I would expect that he/she would want to talk with me to try to work things out.</td>
<td>very unlikely</td>
<td>very likely</td>
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9. You ask someone in one of your classes to coffee.

How concerned or anxious would you be over whether or not the person would want to go?

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<tbody>
<tr>
<td>I would expect that the person would want to go with me.</td>
<td>very unlikely</td>
<td>very likely</td>
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</table>

10. After graduation, you can’t find a job and ask your parents if you can live at home for a while.

How concerned or anxious would you be over whether or not your parents would want you to come home?

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</tr>
</thead>
<tbody>
<tr>
<td>I would expect I would be welcome at home.</td>
<td>very unlikely</td>
<td>very likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. You ask your friend to go on a vacation with you over Spring Break.

How concerned or anxious would you be over whether or not your friend would want to go with you?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would expect that he/she would want to go with me.</td>
<td>very unlikely</td>
<td>very likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. You call your boyfriend/girlfriend after a bitter argument and tell him/her you want to see him/her.

How concerned or anxious would you be over whether or not your boyfriend/girlfriend would want to see you?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>
I would expect that he/she would want to see me.  

13. You ask a friend if you can borrow something of his/hers.

How concerned or anxious would you be over whether or not your friend would want to loan it to you?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that he/she would willingly loan me it.  

very unlikely  very likely

1 2 3 4 5 6

14. You ask your parents to come to an occasion important to you.

How concerned or anxious would you be over whether or not your parents would want to come?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that my parents would want to come.  

very unlikely  very likely

1 2 3 4 5 6

15. You ask a friend to do you a big favor.

How concerned or anxious would you be over whether or not your friend would do this favor?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that he/she would willingly do this favor for me.  

very unlikely  very likely

1 2 3 4 5 6

16. You ask your boyfriend/girlfriend if he/she really loves you.

How concerned or anxious would you be over whether or not your boyfriend/girlfriend would say yes?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that he/she would answer yes sincerely.  

very unlikely  very likely

1 2 3 4 5 6

17. You go to a party and notice someone on the other side of the room and then you ask them to dance.

How concerned or anxious would you be over whether or not the person would want to dance with you?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that he/she would want to dance with me.  

very unlikely  very likely

1 2 3 4 5 6

18. You ask your boyfriend/girlfriend to come home to meet your parents.

How concerned or anxious would you be over whether or not your boyfriend/girlfriend would want to meet your parents?  

very unconcerned  very concerned

1 2 3 4 5 6

I would expect that he/she would want to meet my parents.  

very unlikely  very likely

1 2 3 4 5 6
Appendix J

Depressive Interpersonal Relationships Inventory – Reassurance-Seeking Subscale (DIRI-RS)

**Directions:** Rate each statement on a scale from 1 (Not At All) to 7 (Very Much).

<table>
<thead>
<tr>
<th>Not At All</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Very Much</th>
</tr>
</thead>
</table>

1. Do you find yourself often asking the people you feel close to how they *truly* feel about you? 1 2 3 4 5 6 7

2. Do you frequently seek reassurance from the people you feel close to as to whether they *really* care about you? 1 2 3 4 5 6 7

3. Do the people you feel close to sometimes become irritated with you for seeking reassurance from them about whether they *really* care about you? 1 2 3 4 5 6 7

4. Do the people you feel close to sometimes get “fed up” with you for seeking reassurance from them about whether they *really* care about you? 1 2 3 4 5 6 7
Appendix K

Experiences of Close Relationships – Revised (ECR-R)

**Directions:** The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by clicking a circle to indicate how much you agree or disagree with the statement.

<table>
<thead>
<tr>
<th>Strongly Disagree (1)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Strongly Agree (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I'm afraid that I will lose my partner's love.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2 I often worry that my partner will not want to stay with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3 I often worry that my partner doesn't really love me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4 I worry that romantic partners won’t care about me as much as I care about them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5 I often wish that my partner's feelings for me were as strong as my feelings for him or her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6 I worry a lot about my relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7 When my partner is out of sight, I worry that he or she might become interested in someone else.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8 When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9 I rarely worry about my partner leaving me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10 My romantic partner makes me doubt myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11 I do not often worry about being abandoned.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12 I find that my partner(s) don't want to get as close as I would like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13 Sometimes romantic partners change their feelings about me for no apparent reason.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14 My desire to be very close sometimes scares people away.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15 I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16 It makes me mad that I don't get the affection and support I need from my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17 I worry that I won't measure up to other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18 My partner only seems to notice me when I’m angry.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19 I prefer not to show a partner how I feel deep down.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

157
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>I feel comfortable sharing my private thoughts and feelings with my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>21</td>
<td>I find it difficult to allow myself to depend on romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>22</td>
<td>I am very comfortable being close to romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>23</td>
<td>I don't feel comfortable opening up to romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>24</td>
<td>I prefer not to be too close to romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>25</td>
<td>I get uncomfortable when a romantic partner wants to be very close.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>26</td>
<td>I find it relatively easy to get close to my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>27</td>
<td>It's not difficult for me to get close to my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>28</td>
<td>I usually discuss my problems and concerns with my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>29</td>
<td>It helps to turn to my romantic partner in times of need.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>30</td>
<td>I tell my partner just about everything.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>31</td>
<td>I talk things over with my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>32</td>
<td>I am nervous when partners get too close to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>33</td>
<td>I feel comfortable depending on romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>34</td>
<td>I find it easy to depend on romantic partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>35</td>
<td>It's easy for me to be affectionate with my partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>36</td>
<td>My partner really understands me and my needs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Appendix L
Revised Dyadic Adjustment Scale

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

<table>
<thead>
<tr>
<th>Always Agree</th>
<th>Almost Always Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Almost Always Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Matters of recreation
2. Religious matters
3. Demonstrations of affection
4. Sex relations
5. Conventionality (correct or proper behavior)
6. Making major decisions
7. Leisure time, interests and activities
8. Educational and/or career decisions

Rate the frequency that the behaviors listed below occur.

<table>
<thead>
<tr>
<th>All of the Time</th>
<th>Most of the Time</th>
<th>More Often than Not</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

9. How often do you discuss or have you considered separation or termination of your relationship?  
10. Do you ever regret that you got into a relationship with your partner?  
11. How often do you and your partner quarrel?  
12. How often do you and your partner get on each other’s nerves?
Respond to the question below.

<table>
<thead>
<tr>
<th>All of Them</th>
<th>Most of Them</th>
<th>Some of Them</th>
<th>Very Few of Them</th>
<th>None of Them</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

13 How often do you discuss or have you considered separation or termination of your relationship?

How often do the following occur between you and your partner?

<table>
<thead>
<tr>
<th>Never</th>
<th>Less Than Once a Month</th>
<th>Once or Twice a Month</th>
<th>Once or Twice a Week</th>
<th>Once a Day</th>
<th>More Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

14 Have a stimulating exchange of ideas

15 Calmly discuss something

16 Work together on a project
Appendix M
ERS Behavioral Protocol and Debrief

Experiment (E): For this part of the study, you will be assisting us in validating a new personality measure for use with undergraduate students. This doesn’t directly relate to the broader study, but it will help us with our future research in the area, as we think these personality factors are particularly important for young people in romantic relationships.

Your task will now be to complete a questionnaire that we have designed to assess elements of your personality. You will complete this questionnaire in separate rooms. Once you are both finished, a graduate student in psychology will quickly score the questionnaires and a profile for each of you will be created using a computer algorithm. After you receive the personality profile, the two of you will have a chance to discuss each of your results, one at a time. During the discussion, try to share each of your opinions on how well the results fit the person’s actual personality. Your discussion is important to our lab, as the discussion, along with your actual responses, will assist us in perfecting the measure for official use. Do you have any questions?

E answers any questions that P and her partner have.

P and her partner are led to separate rooms and given the questionnaire and a pen. The following instructions are given to each participant.

E: Read the instructions at the top of each form carefully. Do not write your name on the form. Let me know when you are finished.

E collects the questionnaires from P and her partner when they are finished. When both questionnaires are complete, E shows P and her partner to the camera room.

E: Scoring the questionnaires and generating the personality profiles will take approximately 5 minutes. You can relax here and you may discuss the questionnaire if you’d like. However, please do not discuss details of exactly what you answered, as these individual answers are to remain anonymous. I’m going to turn the camera on now just to get you used to it being on, and so I don’t forget later.

E turns the camera on, ensuring that the camera is focused in such a way that the face and torso of P and her partner are optimally captured. E then leaves the room and closes the door. E allows 5 minutes to elapse before re-entering the room with two copies of the personality profile.

E: Your personality questionnaires have now both been scored, and personality profiles for each of you have been generated. You will now have a chance to discuss each of your profiles, one at a time. We will start with _________ (insert P’s name). You will have 5 minutes to discuss these results. Remember, to try to share your opinions about how well the results fit _________ personality and that your discussion will be very helpful for the validation of this questionnaire. Do you have any questions?
E returns after the five minutes has elapsed. E turns off the camera.

E: How did that go? Do you have any questions?

E listens and answers questions.

E: We will not be continuing on with a discussion of ________’s (insert partner’s name here) personality profile. For our experiment, the questionnaire that you JUST COMPLETED and were asked to discuss was not a real personality inventory, although it contained questions that are very similar to some published personality measures. The personality questionnaires were not scored, and the profile you received was decided on before the experiment and is given to every participant in this study. Any relationship you might have seen between the inventory and your answers to the questions is a coincidence. Please note that all other questionnaires and interviews that you have completed, as well as the ones you will complete, are ALL true measures that are designed to assess specific constructs. It is only the mock personality measure you just completed that is a fake.

The reason for giving out this questionnaire with fake feedback was to examine the way in which the two of interact with one another and how you ask each other questions. Do you have any questions about what happened so far?

E answers any questions participants had.

E: At any point did you have the feeling that the questionnaire wasn’t real and that there was a different purpose to the exercise?

E records answers here, noting particularly whether P or partner saw right through the study.

E: Given that your conversations were recorded, you have the right to withdraw your tape from our study at this point or at any other point. You should note though that no names will be associated with these tapes, and that they will only be viewed by members of the Mood Research Lab for coding purposes. If we were ever to use your video for any other purposes, both of your written consents would be obtained before hand.

Once any issues of withdrawing data are handled, E continues with the remainder of the study protocol.
**Appendix N**

**Sham Personality Questionnaire**

**Multi-dimensional, 8-Factor Personality Inventory (Short Form)**

**Directions:** The following statements assess normal personality traits on eight dimensions. Please indicate the strength of your agreement with each statement as it applies to you in general using the scale below. For each item, circle the number that *best represents your agreement* with that item. Choose only one answer.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I am flexible and can adapt easily to situations.  
2. I am original and often come up with new ideas.  
3. I get tense and up tight.  
4. I am emotionally stable and don’t get upset easily.  
5. I enjoy having a lot of people around me.  
6. I deliver bad news to people “straight”, even if it’s hard for me.  
7. I feel very satisfied after I complete a task on my own.  
8. I can have a laugh at silly things.  
9. I am conscious of the thoughts and feelings of others.  
10. I enjoy the outdoors and being in nature.  
11. Even small annoyances can frustrate me.  
12. I sometimes tell white lies to get my way.  
13. I have a forgiving nature.  
14. It feels very nice to me when someone recognizes that I’ve done a good job.  
15. I almost never feel nervous or anxious.  
16. I am usually the one to insist a group gets back on track rather than engaging in “small talk”.  
17. I always plan ahead carefully when I go on vacation.  
18. I have few artistic interests.  
19. For me, being embarrassed is one of the worst feelings.  
20. I often switch quickly between one emotion and its opposite.  
21. I would never steal, even if there was no chance of getting caught.  
22. I am jumpy at loud noises or sudden movements.  
23. I tend to hold my group in discussions and seldom concede to another person’s viewpoint.  
24. With work or school tasks, I focus on what I’m doing and seldom take breaks until the work is done.
## Appendix O

### Sham Personality Profile

<table>
<thead>
<tr>
<th>Trait</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edgy</td>
<td>67%</td>
</tr>
<tr>
<td>Active</td>
<td>75%</td>
</tr>
<tr>
<td>Moody</td>
<td>64%</td>
</tr>
<tr>
<td>Proud</td>
<td>70%</td>
</tr>
<tr>
<td>Thoughtful</td>
<td>72%</td>
</tr>
<tr>
<td>Serious</td>
<td>58%</td>
</tr>
<tr>
<td>Honest</td>
<td>81%</td>
</tr>
<tr>
<td>Stubborn</td>
<td>69%</td>
</tr>
</tbody>
</table>
Appendix P

Behavior Reassurance-Seeking Task ERS Coding Manual

Excessive Reassurance Seeking (ERS) is defined as “the relatively stable tendency to excessively and persistently seek assurances from others that one is lovable and worthy, regardless of whether such assurance has already been provided” (Joiner, Metalsky, Katz, & Beach, 1999, p. 270).

Write down each question that the target participant asks, regardless of whether or not you think it qualifies as a reassurance-seeking question. Also write down any statement that implies a question or requires a response from the partner (e.g., “But you don’t think I’m really like that…”).

Once you have written each of the questions down, apply the following criteria to each question, keeping in mind the context in which it was asked (you may have to review the spot in the tape in which the question was asked).

Each criterion is NECESSARY. If an earlier criterion is not met, stop evaluating the question and move on to the next question.

1. QUESTION SEeks FEEDBACK ABOUT INFORMATION RELATED TO THE SELF

Does the question relate to a personal quality of the target participant (e.g., their performance, their personality, their mood, their appearance, etc)? Note: it can also be information about a group or system in which the individual is involved (e.g., a couple or a relationship).

As a general rule, these questions often will have “me” or “we” somewhere in them.

e.g., “Do you really love me?”

e.g., “Do you think we are like that?” (‘we’ referring to target and partner)

2. QUESTION IS PHRASED IN SUCH A WAY THAT THE FEEDBACK LIKELY TO BE OBTAINED IS POSITIVE

In coding these behaviors, we need to distinguish between reassurance seeking and “negative feedback seeking” (i.e., the tendency to seek out information that confirms a negative view of the self).

Reassurance seeking will be aimed to garner feedback that is positive and or reassuring.

e.g., I’m pretty, right? You think I’m pretty, right? Do you think I’m pretty?

Negative feedback seeking is a different construct. Participants who engage in this type of behavior will push their partners to confirm their perceived flaws / short-comings. This is not what we are looking for.

e.g., I’m such an idiot, don’t you think?

c.e.g., All I do is fail. I’m totally useless, don’t you agree?

3. QUESTION IS PHRASED IN SUCH A WAY THAT POTENTIAL RESPONSE POSSIBILITIES WOULD BE LOGICALLY EXPECTED TO BE LIMITED.
When it comes to our task, a question that invites discussion would not qualify as a reassurance-seeking question. Participants are instructed to discuss a personality profile for the target participant, so they are FORCED into getting feedback that is personal in some ways. However, there is a way to go about this that would not qualify as reassurance-seeking.
e.g., What do you think about my score for pride? (NOT reassurance seeking)
e.g., What’s your opinion on my rating for honesty? (NOT reassurance seeking)
VERSUS
e.g., Do you really think that I’m that prideful? (reassurance seeking)
e.g., I’m more honest than that, don’t you think? (reassurance-seeking)
The first two example questions above are open-ended questions with a multitude of ways of responding. Each of the questions also has an element of personal distance, even though they obviously still pertain to the target.
Reassurance-seeking limits the response set possibilities for the responder, sometimes down to a “yes/no” answer (as in question 3 and 4 above). Often, the question is asked in such a way so that the individual will get the reassurance that they desire, or the exact opposite.

**If all 3 bolded criteria are met, code the question as “1”, indicating that it is a reassurance-seeking question. If any of the above 3 criteria are not met, code the question as a “0”.**

For each question that is coded a “1”, code whether the partner provides the reassurance sought in a reasonable manner.
This involves any statement from the partner that provides the positive outcome that the participant was searching for.
e.g., yes, I think you are pretty
e.g., of course, you know our relationship is going well.
e.g., You know I think you are a really honest person.
e.g., I don’t know what that test was about, you are much less moody than that

**Code these responses a “1” if there is evidence for verbal reassurance from the partner in response to a reassurance-seeking question. Code the partner response a “0” if there is no evidence for verbal reassurance from the partner.**

For each question that is coded a “1” for reassurance-seeking and “1” for reassurance provided by partner, examine the verbal responses made by they participant in response to the reassurance that they received. Evaluate the responses for indications of “doubting the sincerity” of the reassurance provided by the partner.
These include any statements that discount the reassurance, or assert the opposite. They also include statements that minimize the reassurance given, or pass it off as not being important.
e.g., Oh, you’re just saying that because you have to.
e.g., You aren’t a good judge of how pretty I am.
e.g., You are biased because we’re dating.
Code these response a “1” if there is evidence that the participant doubted the sincerity or discounted their partner’s efforts to provide the reassurance sought. Code the response a “0” if there is no evidence for this verbal behavior.
Appendix Q

Female Letter of Information

“MOOD, PERSONALITY, AND DATING RELATIONSHIPS PROJECT”

This research is being conducted by Jeremy Stewart, MSc under the supervision of Dr. Kate Harkness, in the Department of Psychology at Queen’s University in Kingston, Ontario.

This study was granted clearance by the General Research Ethics Board for compliance with the TCPS: Ethical Conduct of Research Involving Humans, and Queen's policies.

**What is this study about?** The purpose of this research is to gain an understanding the interplay between mood and personality factors and how these contribute to dating relationships.

The study will require one visit to the Mood Research Lab in the Department of Psychology and the completion of a package of follow-up questionnaires online approximately 4 months later. Finally, you will be also contacted briefly by email or telephone to answer 3 questions one year after your initial visit. Your laboratory visit will take 1.5 - 2 hours. During this visit you will be asked to bring your current dating partner. The two of you will first complete a series of 6 questionnaires about your mood, your personal qualities, and your experiences in your relationship on computers in separate rooms. Following the completion of these questionnaires, you and your partner will both complete a short demographic interview, one at a time.

Afterwards, we will ask both of you to complete a brief personality questionnaire. You will be given feedback in the form of a personality profile and you will be asked to discuss this feedback with your partner. Your discussion will be video and voice recorded.

After the discussion task, your partner’s part in the study will be completed, and you will participate in one final interview that will ask you details about your current dating relationship, as well as your previous relationships. This interview focuses on stressful experiences individuals may have in their current and past relationships. Amongst the questions asked are questions regarding sexual experiences, sexual problems or difficulties in relationships, and a question about sexuality. This interview about relationships will be audiotaped.

You will be re-contacted 4 months after your first visit to once again complete a series of questionnaires about your personality, mood and your experiences in relationships. These questionnaires can be will be filled out online and take approximately 45 minutes. Your partner will not be re-contacted after the first visit.

Finally, we may contact you approximately 1 year following your first laboratory session. If we do contact you, we will ask you a few brief questions about your dating relationship(s) over the past year. This should take no more than 5 minutes.

**What are my rights as a participant in this study?** Your participation is voluntary. Although it be would be greatly appreciated if you would answer all material as frankly as possible, you
should not feel obliged to answer any material that you find objectionable or that makes you feel uncomfortable. Your decision whether or not to participate will not affect your relationship with Queen’s University or with the Mood Research Lab, or your standing in school. If you decide to participate you will be free to withdraw your consent and discontinue participation at any time. If you withdraw from the study, your questionnaire and interview material, audiotaped interview, and videotaped discussion, will be destroyed to ensure your confidentiality.

What will happen to my responses? We will keep your responses confidential. Only experimenters will have access to this information. To accomplish this, all questionnaires and interviews you complete will be identified with a code number and your name will not be on any of this material. All information you provide at the interview and on the questionnaires is confidential and will not be shared with anyone. This includes your partner – none of the responses you make on any of the questionnaires or in the interviews will be shared with your partner at any point. To help us ensure confidentiality, please do not put your name on any of the research study answer sheets you are given.

In your first laboratory visit, the discussion between you and your partner will be videotaped. Additionally, the interview about your current and past relationships will be audiotaped. This is to enable the interviewer and research assistants to code your responses at a later time. Your name will not be on the tapes, and all tapes will be kept in a secured room to ensure your confidentiality. These tapes will be kept indefinitely in a secured location so that we can use it in future research endeavors.

The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will never breach individual confidentiality. Should you be interested, you are entitled to a copy of the findings. We do not anticipate using your video- or audiotaped data in presentations at conferences or to colleagues. However, as part of the academic requirements of the lead investigator, video- or audiotaped interactions may be chosen for illustrative purposes. Should your data be chosen, you will be contacted and further consent will be obtained.

What are the risks? There is a possibility that you may feel uncomfortable with the kind of information we ask for. If there are certain specific questions you feel uncomfortable answering, you may refuse to answer with no penalty and the experimenter will respect your boundaries. Furthermore, you are free to stop participating at any time. If you experience any psychological discomfort or distress from participating in this study you may let the interviewer know.

What are the benefits? There are no known direct benefits of participating in this research. However, your participation will be helpful in learning more about the relationship between mood, personality and relationship outcomes. You may also receive indirect benefit of having the opportunity to learn first hand about how research studies in Psychology are conducted.

Will I be compensated for my participation? There will be two types of compensation for this study. If you are a Psychology 100 student, you may receive credit towards this course for participating in a research study in the Psychology Department. If you are not a Psychology 100 student, you will receive $10 for your participation. After you fill out the online questionnaires at
the 4-month follow-up, you will be entered into a draw to potentially win 1 of 3 valuable prizes (one IPOD Touch and two IPOD Shuffles).

**What if I have concerns?** Any questions about study participation may be directed to Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Again, thank you. Your interest in participating in this research study is greatly appreciated.
Appendix R
Female Consent Form

“MOOD, PERSONALITY, AND DATING RELATIONSHIPS PROJECT”

Name (please print clearly): _______________________________________

1. I have read the Letter of Information and have had any questions answered to my satisfaction.

2. I understand that I will be participating in the study called the “Mood, Personality, and Dating Relationships Project”. I understand that this means that I will be asked to attend a laboratory session with my partner and will be also contacted 4 months later to complete online questionnaires. During the laboratory session, I understand that I will complete several questionnaires, I will undergo a demographic interview, I will engage in a videotaped discussion with my partner about the results of a personality test, and I will complete an audiotaped interview about my current and past dating relationships. I understand that I will once again complete a package of questionnaires online 4 months after my laboratory session. Finally, I understand that a representative from the Mood Research Lab may contact me approximately 1 year after my first visit to ask me brief questions about my dating relationship status.

3. I understand that my participation in this study is voluntary and I may withdraw at any time. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. Only experimenters in the Mood Research Laboratory will have access to this area. The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will never breach individual confidentiality. I understand that, should I be interested, I am entitled to a copy of the findings.

4. I am aware that if I have any questions about study participation they may be directed to Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. I understand that any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

I am voluntarily signing this form. By signing this form I agree to participate in this study. I will be given a copy of this form to keep.

Signature: ___________________________ Date: ________________

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Appendix S

Male Letter of Information

“MOOD, PERSONALITY, AND DATING RELATIONSHIPS PROJECT”

This research is being conducted by Jeremy Stewart, MSc under the supervision of Dr. Kate Harkness, in the Department of Psychology at Queen’s University in Kingston, Ontario.

This study was granted clearance by the General Research Ethics Board for compliance with the TCPS: Ethical Conduct of Research Involving Humans, and Queen's policies.

What is this study about? The purpose of this research is to gain an understanding the interplay between mood and personality factors and how these contribute to dating relationships.

The study will require one visit to the Mood Research Lab in the Department of Psychology and the completion of a package of follow-up questionnaires online approximately 4 months later. Finally, you will be also contacted briefly by email or telephone to answer 3 questions one year after your initial visit. Your laboratory visit will take 1.5 - 2 hours. During this visit you will be asked to bring your current dating partner. The two of you will first complete a series of 6 questionnaires about your mood, your personal qualities, and your experiences in your relationship on computers in separate rooms. Following the completion of these questionnaires, you and your partner will both complete a short demographic interview, one at a time.

Afterwards, we will ask both of you to complete a brief personality questionnaire. You will be given feedback in the form of a personality profile and you will be asked to discuss this feedback with your partner. Your discussion will be video and voice recorded.

After the discussion task, your part in the study will be completed. We will need to continue to speak with your partner for approximately 30 – 45 minutes. You are welcome to stay in the waiting room during this time, or are free to leave.

What are my rights as a participant in this study? Your participation is voluntary. Although it be would be greatly appreciated if you would answer all material as frankly as possible, you should not feel obliged to answer any material that you find objectionable or that makes you feel uncomfortable. Your decision whether or not to participate will not affect your relationship with Queen’s University or with the Mood Research Lab, or your standing in school. If you decide to participate you will be free to withdraw your consent and discontinue participation at any time. If you withdraw from the study, your questionnaire and interview material, audiotaped interview, and videotaped discussion, will be destroyed to ensure your confidentiality.

What will happen to my responses? We will keep your responses confidential. Only experimenters will have access to this information. To accomplish this, all questionnaires and interviews you complete will be identified with a code number and your name will not be on any of this material. All information you provide at the interview and on the questionnaires is confidential and will not be shared with anyone. This includes your partner – none of the
responses you make on any of the questionnaires or in the interviews will be shared with your partner at any point. To help us ensure confidentiality, please do not put your name on any of the research study answer sheets you are given.

In your visit to the laboratory, the discussion between you and your partner will be videotaped and audiotaped. This is to enable the interviewer and research assistants to code your responses at a later time. Your name will not be on the tapes, and all tapes will be kept in a secured room to ensure your confidentiality. These tapes will be kept indefinitely in a secured location so that we can use it in future research endeavors.

The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will never breach individual confidentiality. Should you be interested, you are entitled to a copy of the findings. We do not anticipate using your video- or audiotaped data in presentations at conferences or to colleagues. However, as part of the academic requirements of the lead investigator, video- or audiotaped interactions may be chosen for illustrative purposes. Should your data be chosen, you will be contacted and further consent will be obtained.

What are the risks? There is a possibility that you may feel uncomfortable with the kind of information we ask for. If there are certain specific questions you feel uncomfortable answering, you may refuse to answer with no penalty and the experimenter will respect your boundaries. Furthermore, you are free to stop participating at any time. If you experience any psychological discomfort or distress from participating in this study you may let the interviewer know.

What are the benefits? There are no known direct benefits of participating in this research. However, your participation will be helpful in learning more about the relationship between mood, personality and relationship outcomes. You may also receive indirect benefit of having the opportunity to learn first hand about how research studies in Psychology are conducted.

Will I be compensated for my participation? There will be two types of compensation for this study. If you are a Psychology 100 student, you may receive credit towards this course for participating in a research study in the Psychology Department. If you are not a Psychology 100 student, you will receive $10 for your participation. After you fill out the online questionnaires at the 4-month follow-up, you will be entered into a draw to potentially win 1 of 3 valuable prizes (one IPOD Touch and two IPOD Shuffles).

What if I have concerns? Any questions about study participation may be directed to Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Again, thank you. Your interest in participating in this research study is greatly appreciated.
Appendix T

Male Consent Form

“MOOD, PERSONALITY, AND DATING RELATIONSHIPS PROJECT”

Name (please print clearly): ________________________________________

1. I have read the Letter of Information and have had any questions answered to my satisfaction.

2. I understand that I will be participating in the study called the “Mood, Personality, and Dating Relationships Project”. I understand that this means that I will be asked to attend a laboratory session with my partner. During this session, I understand that I will engage in a videotaped discussion with my partner about the results of a personality test, I will complete several questionnaires, and I will complete a brief interview with the experimenter.

3. I understand that my participation in this study is voluntary and I may withdraw at any time. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. Only experimenters in the Mood Research Laboratory will have access to this area. The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will never breach individual confidentiality. I understand that, should I be interested, I am entitled to a copy of the findings.

4. I am aware that if I have any questions about study participation they may be directed to Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. I understand that any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

I am voluntarily signing this form. By signing this form I agree to participate in this study. I will be given a copy of this form to keep.

Signature: ___________________________ Date: ___________________
Appendix U

Time 1 Debriefing Form

Thank you very much for participating in the first session of this study. In order to capture the ways in which you ask one another questions and seek feedback from one another, we had to make you believe that you were discussing your personality profile in order to obtain your partner’s impressions on the ratings, and, ultimately, to help out a graduate student in Clinical Psychology. As was mentioned during the session, the personality measure that you filled out was not, in fact, a real personality inventory. Also, the profile you received was not created from your responses at all, but was simply an arbitrary profile that is being given to all the research participants in this study. This session was video recorded, and both 5-minute periods (i.e., the time before you received the profile and the time you spent discussing the profile) will be examined and coded for specific feedback-seeking behaviors.

Now that you know the true purpose of the study, you are free to withdraw your video data if you so choose. You should be assured, though, that no names will be associated with these tapes, and that they will only be viewed by research assistants in the Mood Research Lab for coding purposes.

The questions I asked you today and the items that you answered in the questionnaires may have been sensitive to you and could have allowed some negative feelings or memories to surface. This is a perfectly natural reaction to answering these types of questions. If you experience a sustained feeling of low mood, it may be helpful for you to talk about these feelings with someone. If you choose to go this route, please consult your family doctor and he or she can set you up with the appropriate resource. If you do not have a family doctor, there are several resources available to students in the Kingston community:

- Health, Counseling & Disability Services: 533-6000 ext 78264
- Office of the Chaplain: 613-533-2186
- Queen’s Psychology Clinic: 613-533-2625
- Kingston Community Counseling Center: 613-549-7850
- 24-hour Crisis Line: 613-544-4229

If you have further questions about our research, please feel free to contact Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. Thank you again for your participation.
Appendix V

Time 2 Debriefing Form

Thank you very much for participating in the second part of this study. The purpose of the research that you have participated in to date is to examine the impact of symptoms of depression, sensitivity to interpersonal rejection, and reassurance-seeking behaviors on outcomes in dating relationships. We know that rejection sensitivity and excessive reassurance-seeking behaviors are associated with actual experiences of rejection within close interpersonal relationships over time. Furthermore, symptoms of depression may strengthen the relationship between these factors and experiencing rejection. Therefore, we wanted to find out whether people who have high levels of depression and rejection sensitivity, and who engage in reassurance-seeking behaviors, would actually experience more rejection in their romantic relationships.

In this study, we asked you many questions designed to assess the symptoms of depression, rejection sensitivity and reassurance seeking. We also wanted to capture the latter behavior in the lab, so we created a situation with you and your partner where we expected to see some reassurance-seeking behaviors. Research assistants in the Mood Research Lab are going to code the videotaped interaction between you and your partner for reassurance-seeking questions and non-verbal behaviors associated with those questions. Now that you know the full purposes of the videotaped interaction, you are free to withdraw your video.

We also asked you questions about your current relationship and relationship history in your lab visit. By taking a detailed history of your experiences, we are attempting to determine which types of experiences lead individuals to be especially sensitive to rejection. Additionally, we know that rejection sensitivity and reassurance seeking tend to reduce relationship quality, even in the absence of rejection per se, and so we collected a variety of different information that could help us answer our questions.

The questions we asked you over the course of the study and the items that you answered in the questionnaires may have been sensitive to you and could have allowed some negative feelings or memories to surface. This is a perfectly natural reaction to answering these types of questions. If you experience a sustained feeling of low mood, it may be helpful for you to talk about these feelings with someone. If you choose to go this route, please consult your family doctor and he or she can set you up with the appropriate resource. If you do not have a family doctor, there are several resources available to students in the Kingston community:

Health, Counseling & Disability Services 533-6000 ext 78264
Queen’s Psychology Clinic 613-533-2625
Office of the Chaplain 613-533-2186
Kingston Community Counseling Center 613-549-7850
24-hour Crisis Line 613-544-4229

If you would like to read up on depression, excessive reassurance seeking and/or rejection sensitivity as they pertain to close personal relationships, here are some references to get you started:

The Feeling Good Handbook by David D. Burns


If you have questions and/or comments about our research project that you would like to share right now, please fill out the box below to submit this information to us online. Once you have navigated away from this page, your participation in our study is complete and you will be entered into a draw for one of three valuable IPOD prizes. You will be contacted via email by a member of the MPDR research team in the next few days to answer any further questions or note any further comments that you may have about the study.

If, at any point in the future, you have further questions about our research, please feel free to contact Jeremy Stewart, MSc at 613-533-6003 or 2js4@queensu.ca. Any ethical questions or concerns should be addressed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Thank you again for your participation.
Appendix W

Detailed Description of Exploratory Factor Analysis of the RSQ

An EFA was conducted on women’s responses to the 18-item RSQ. A scree plot of the Eigenvalues derived from the reduced correlation matrix is given in Figure 13. Based on a visual inspection of the slope of the curve, the last substantial bend in the curve seems to occur either after 2nd or 3rd factor, suggesting that a 2 or 3-factor solution may be most appropriate. However, the curve does not entirely flatten out until after about the 7th factor, indicating that 6 or 7 factors might be an appropriate upper limit on which to base further examination.

![Scree plot using Eigenvalues derived from the reduced correlation matrix for the exploratory factor analysis of the female RSQ data.](image)

Figure 13. Scree plot using Eigenvalues derived from the reduced correlation matrix for the exploratory factor analysis of the female RSQ data.

Next a parallel analysis was conducted to compare the Eigenvalues from the reduced correlation matrix (depicted above) to the Eigenvalues that would be obtained from a completely random dataset of the same size and with the same number of variables. I set the number of
random datasets to be computed at 100. The results of the parallel analysis are given in Table 14. The Eigenvalues generated from the actual are nearly equivalent to the upper bound (95th percentile) of the completely random data beginning around the 7 or 8 factor solutions, which again indicates that approximately 7 factors is appropriate upper limit for the EFA.

Table 14

*Eigenvalues Obtained Using the Reduced Correlation Matrix Derived from Female RSQ Scores and Eigenvalues Estimated from 100 Samples of Random Data*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Actual</th>
<th>Predicted</th>
<th>Upper Bound (95th %ile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.36</td>
<td>.90</td>
<td>1.05</td>
</tr>
<tr>
<td>2</td>
<td>1.41</td>
<td>.74</td>
<td>.87</td>
</tr>
<tr>
<td>3</td>
<td>1.19</td>
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<td>.30</td>
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<td>.18</td>
</tr>
<tr>
<td>10</td>
<td>.24</td>
<td>.05</td>
<td>.10</td>
</tr>
</tbody>
</table>

*Note.* 95th %ile = value represents the upper limit of the confidence interval.
I next conducted a series of EFA runs using Maximum Likelihood Estimation with a Direct Oblimin rotation and specifying 1, 2, 3, 4, and 5 factor solutions (the 6-factor solution failed to converge). RMSEA values with 90% confidence intervals were calculated from obtained chi-square values using FITMOD (Browne, 1992). RMSEA values and their associated confidence intervals are presented in Table 15. Increasing the number of factors from 1 to 6 in 1-factor increments produced relatively substantial improvements in model fit each time. However, the 2-factor solution was ultimately chosen because it represented the best combination of parsimony, relative fit, and the ease with which the factor structure can be interpreted. Although solutions with 3 or more factors specified offered a marked improvement in fit over the 2-factor solution, these solutions suffered from at least one under-identified factor and several items that loaded complexly. The 1-factor solution was a mediocre fit to the data (RMSEA = .086, 90% CI = .069 - .103), even after eliminating two items that loaded below .35.

Table 15

<table>
<thead>
<tr>
<th>Factor</th>
<th>RMSEA</th>
<th>90% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.098</td>
<td>.082 - .113</td>
</tr>
<tr>
<td>2</td>
<td>.087</td>
<td>.070 - .104</td>
</tr>
<tr>
<td>3</td>
<td>.070</td>
<td>.049 - .090</td>
</tr>
<tr>
<td>4</td>
<td>.055</td>
<td>.025 - .078</td>
</tr>
<tr>
<td>5</td>
<td>.026</td>
<td>.000 - .060</td>
</tr>
</tbody>
</table>

Note. RMSEA = Root Mean Squared Error of Approximation; 90% CI = 90% Confidence Interval.