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Introversion and the Use of Parasocial Interaction to Satisfy Belongingness Needs

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INTROVERSION AND THE USE OF PARASOCIAL INTERACTION

TO SATISFY BELONGINGNESS NEEDS

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To my extraverted Payton Fay,
and my introverted Andrew Laurent

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ABSTRACT

Individuals usually satisfy the universal need to belong through close personal

relationships (Baumeister & Leary, 1995). However, introverts engage less in the social

behaviors that provide the opportunity to establish and maintain these relationships

(Mehl, Gosling, & Pennebaker, 2006; Rusting & Larsen, 1995). Some evidence suggests

that the close relationships of introverts are less fulfilling than those of extraverts (Berry,

Willingham, & Thayer, 2000; Watson, Hubbard, & Wiese, 2000). Thus, supplementary

ways of filling belongingness needs might benefit introverts. According to the Social

Surrogacy Hypothesis, one such way is through parasocial interaction (Derrick, Gabriel,

& Hugenberg, 2009), i.e., the one-sided relationships people form with personalities from

television or other media (Horton & Wohl, 1956). Research has shown that parasocial

relationships may be potent supplements to real relationships in sating the need to belong

(Derrick, Gabriel, & Tippin, 2008). Furthermore, the Compensatory Paradigm of

Parasocial Interaction posits that individuals with various social challenges compensate

for insufficiencies in their real relationships with parasocial ones (Horton & Wohl, 1956).

This dissertation sought support for both the Social Surrogacy Hypothesis and the

Compensatory Paradigm of Parasocial Interaction with respect to the personality trait of

introversion. Specifically, I investigated whether introverts derive the benefits that

extraverts get from real relationships through parasocial relationships instead. I also

investigated whether parasocial relationships exert their power specifically by filling

belongingness needs, as opposed to exerting their power by improving mood.

CHAPTER 1

INTRODUCTION

As Baumeister and Leary described it in their seminal 1995 paper, the need to belong is a fundamental human motive which affects thought, feeling, and behavior in a multitude of significant ways. Just as health declines when biological necessities like food, water, and shelter are not sufficient, so it does when belongingness needs are not satisfied. The need to belong is universal-- essentially all individuals have this motive regardless of culture and other significant variables (Baumeister & Leary, 1995). The primary way in which people fill their need to belong is by forming and maintaining generally positive, ongoing interpersonal attachments. Familial relationships, platonic friendships, and group membership all provide the experience of belonging. Romantic partnerships in particular are an important means of satisfying the need to belong (Murray, Derrick, Leder, & Holmes, 2008).

While practically all individuals have the need to belong, not all people are equally able to satisfy this important need. The process of forming relationships begins with initiating interpersonal contact, the occurrence of which largely depends on the individual's propensities to do so (Leary, Kelly, Cottrell, & Schreindorfer, 2011). Thus, introverts likely have fewer opportunities to form relationships than extraverts do because introverts are less socially skilled (Funder, Furr, & Colvin, 2000). Moreover, introverts' opportunities to form relationships are also decreased because they enjoy social activities

less than extraverts do, and participate less in social activities (Argyle & Lu 1990; Lucas & Diener, 2001; Mehl et al., 2006, Paunonen, 2003; Smernou & Lautenschlager, 1991).

Not only that, but there is also reason to believe that once introverts have formed relationships, they may be less suited for maintaining them. It is established that the successful maintenance of a stable relationship is related to a host of variables, including introversion-extraversion (Barelds, 2005; Watson, Hubbard, & Weise, 2000). Although there is not a great deal of research in this area, some studies suggest that introverts have less fulfilling relationships than do extraverts (Barelds, Cutrona, Hessling, & Suhr, 1997; Donnellan, Conger, & Bryant, 2004; Nemechek & Olson, 1999; Watson et al., 2000; White, Hendrick, & Hendrick, 2004). While it is likely that both introversion and extraversion can be adaptive or detrimental in specific circumstances, the fact that introverts appear to have fewer opportunities to form significant relationships, coupled with the likely possibility that their relationships are also less satisfying, indicate that introverts are not as easily able to satisfy their belongingness needs through social means as extraverts are.

Since unmet needs cause decreased health and well-being (Baumeister & Leary, 1995), introverts are likely susceptible to these ill effects. In point of fact, a recent study showed an interaction between need to belong and introversion in this respect. For introverts, stress and physical symptoms significantly increased as need to belong increased. That is, high introversion coupled with a high need to belong was related to stress and health symptoms. However, extraversion coupled with high need to belong was not found to be related to amplified stress or physical symptoms (Jarzyna & DeHart,

2011a). Fortunately for introverts, recent studies suggest that individuals, especially those with social insecurities, can experience belongingness not only from social interaction, but through parasocial interaction (Derrick et al., 2009; Derrick et al., 2008).

Strictly defined, parasocial interaction refers to the one-sided relationships that people form with TV characters (Horton & Wohl, 1956). Defined more broadly, however, a parasocial relationship could refer to some types of internet relationships, or one's relationship with God or a departed loved one. A parasocial relationship might even be with a group of people, like a favorite sports team. Though these do not constitute genuine social interaction, the feelings that people derive from them may nevertheless be real. This perspective is expressed in the Social Surrogacy Hypothesis, which holds that parasocial relationships in favored television programs can provide the experience of belonging (Derrick et al., 2009). Recent testing of this hypothesis has shown that parasocial relationships can, in fact, yield feelings of belongingness as well as other benefits, much like real relationships do (Derrick et al., 2008; Derrick et al., 2009).

What is more, parasocial relationships carry less risk and require less effort than real relationships. For instance, the risk of rejection one must face in a real relationship does not exist in a true parasocial relationship, because there is no reciprocity (Derrick et al., 2008). Unlike real social interaction, parasocial interaction involves no pressure to perform socially. The "viewer" has almost complete control over the interaction, as there is no obligation to accommodate the demands of others (Horton & Wohl, 1956). It is likely that these characteristics make parasocial relationships both attractive and valuable to those with social challenges.

Social challenges are, of course, attributable to a host of causes. An obvious example is social anxiety disorders, which cause individuals to experience extreme nervousness when interacting with others. Those with Asperger's Syndrome, by contrast, have problems with socialization that are not primarily created by anxiety, but by a decreased ability to understand facial expressions and feel empathy (Attwood, 2007). Even personality characteristics in the normal range, such as introversion or low self-esteem, can pose barriers to socialization. Regardless of the genesis of their condition, however, those with social challenges may profit from parasocial interaction. Indeed, recent research has demonstrated the superiority of parasocial relationships over real relationships in aiding individuals with the social challenge of low self-esteem. Parasocial relationships helped these individuals feel closer to their ideal selves (Derrick et al., 2008). The concept that people with social challenges, such as introverts, rely on parasocial relationships to augment their real relationships is called the Compensatory Paradigm (Horton & Wohl, 1956).

The present studies further explored both the Social Surrogacy Hypothesis and the Compensatory Paradigm of Parasocial Interaction. Specifically, I investigated whether introverts who engage in higher levels of parasocial interaction experience greater trait levels of beneficial outcomes. Additionally, I examined whether the benefits that extraverts get from real relationships are received by introverts through parasocial relationships, when under conditions of activated belongingness needs. The theory underlying this analysis is that while both introverts and extraverts receive benefits from real relationships, it is plausible that introverts receive more of these benefits from

parasocial relationships, due to the decreased emotional risk and pressure involved. At the same time, it is posited that extraverts, who satisfy their need to belong quite well with real relationships, experience significant psychological benefits from parasocial interaction. Finally, I ascertained whether parasocial relationships exert their power by filling belongingness needs rather than by improving mood.

CHAPTER 2

INTROVERSION-EXTRAVERSION: A CORE DIMENSION OF PERSONALITY

Psychologists have recognized introversion-extraversion as an important area of study for most of the last century. The construct has consistently emerged as a fundamental component of personality (Costa & McCrae, 1992a; Eysenck & Himmelweit, 1947; Goldberg, 1990; Norman, 1963). In the early 1920's Carl Jung was the first psychologist to describe this personality dimension using the term of introversion (Jung, 1923). Since then many other prominent scientists, like Hans Eysenck and later trait theorists, have further explored the construct.

For Jung, introversion and extraversion were personality "types." His description of each type was complex, but can be summarized by stating that introverts are people who are inwardly oriented while extraverts are oriented toward the world outside themselves (Jung & Storr, 1983). Jung characterized introverts as quiet, inhibited individuals who prefer solitary activities to those with people, and have decreased enjoyment of social interaction and crowds. Introverts feel warm and secure only if their defensive distrust is not activated (Jung & Storr). In contrast, extraverts are open to external stimuli, particularly social stimuli. Extraverts are optimistic, enjoy noise and activity, and are not prone to self-reflection (Jung & Storr). While these early descriptions of introversion and extraversion are not beyond criticism, they have been largely reflected in conceptualizations of the terms since they were put forth.

One such conceptualization is that of Hans Eysenck. He too, considered introverts to be unsociable and quiet, and extraverts to be sociable and talkative. However, building upon work of scientists before him, Eysenck was one of the first to assess introversion-extraversion with personality scales (Wilt & Revelle, 2009), and his explanation of the construct was more biological (Eysenck, 1967). Another difference between Eysenck's and the earlier models was that he placed the dimension of introversion on a continuum (Eysenck, 1964), a conceptualization which is still espoused today. Eventually Eysenck posited that extraversion was one of three defining traits of personality (Eysenck, 1992), essentially making him a "trait theorist."

The idea that personality can be summarized by a group of traits is widely agreed upon by scientists in the field today (Goldberg, 1993). Though Eysenck promoted three traits as sufficient for this summary, the widest consensus presently is that five traits best describe personality (Goldberg, 1993; Wilt & Revelle, 2009). That is, whenever personality is described, the individual differences that consistently emerge can be consolidated into five main factors. This theory is known as the Big Five Factor structure of personality. Though personality psychologists do not accept this framework universally, it has been extensively researched, used, and supported (Gosling, Renfrow, & Swann, 2003; John & Srivastava, 1999). Inventories based on this framework are the ones utilized most today. They measure degrees of extraversion in individuals, as well as the four other factors (neuroticism, openness, agreeableness, and conscientiousness) believed to describe personality (Costa & McCrae 1992a, 1992b).

Though the Big Five trait description of introversion-extraversion differs somewhat from initial definitions of the construct, it shares an important feature with the early frameworks just discussed. This feature is the core belief that introversion-extraversion is primarily a measure of sociability. Thus, the conceptions of the construct put forth by Jung, Eysenck, and the later trait theorists all center upon sociability, gregariousness, and affiliative tendency (Hills & Argyle, 2001).

The Relation of Introversion-Extraversion to Affect and Preferences

As a fundamental dimension of personality, introversion-extraversion can help predict and explain human thought and emotion. Indeed, it predicts well-being across many domains, and has a robust correlation with affect, such that introverts experience less positive affect than extraverts (Costa & McCrae, 1980; Jarzyna & De Hart, 2011a; Jarzyna & DeHart, 2011b; Watson & Clark, 1992; Wilt & Revelle, 2009). Introversion-extraversion is also useful in predicting what individuals like and want. That is, the construct can predict socially-related preferences and desires, such as individuals' wishes to be among others (Olson & Weber, 2004; King, 1995), and enjoyment of social interaction (Argyle & Lu, 1990; Lucas & Diener, 2001).

Concerning the predictive value of introversion-extraversion for social preferences and desires, it has been shown that extraversion is associated with increased desire for affiliation (Furnham, 1981), intimacy, and interdependence (King & Broyles, 1997). In general, findings support initial theories that extraverts enjoy social interaction more than introverts. In this regard, Argyle and Lu (1990) found that extraverts enjoy social interactions more than introverts do, and Lucas and Diener (2001) similarly found

that extraverts enjoy pleasant (versus nonpleasant) social interactions significantly more than introverts do. In addition, extraverts have been shown to feel more positive in social, as opposed to solitary, recreational activities (Emmons, Diener, & Larson, 1986), and extraversion has been associated with more motivation for interpersonal contact (Olson & Weber, 2004; King, 1995). Finally, extraverts have been shown to find people more rewarding in general, and to value the presence of others more than do introverts (Smernou & Lautenschlager, 1991).

The Relation of Introversion-Extraversion to Behavior

For most of the 20th century, research concerning the behavior of introverts and extraverts in social environments was extremely sparse (Funder, 2001). Perhaps in response to this deficit, later scientists have increased their focus on introversion-extraversion as a predictor of behavior, particularly in social domains. These more recent investigations have shown the utility of introversion-extraversion for predicting such behavior (Furnham, 1981; Rusting & Larsen, 1995; Emmons et al., 1986). The research has generally confirmed the defining characteristics of introversion initially posited by Jung and the trait theorists, which were reviewed earlier. Generally speaking, extraversion has been found to predict behaviors categorized as secure, dominant, energetic, and socially skilled, and to correlate negatively with timidity (Funder, Furr, & Colvin, 2000). Moreover, extraverts have been shown to choose stimulating, active, and unusual social activities significantly more than introverts (Furnham, 1981).

There has been a small amount of research into how introverts and extraverts operate in, and thus affect, their social interactions (Wilt & Revelle, 2009). In this

respect, introverts have been shown to avoid both general (Rusting & Larsen, 1995) and difficult social interactions (Furnham 1981) more so than extraverts. Another study showed that extraverts demonstrated more social participation in their interactions than did introverts. Perhaps related to their social adeptness, extraverts more often affected the feelings, behaviors, and interpersonal judgments of interaction partners in a way which engendered a more positive social environment (Eaton & Funder, 2003).

Specific behavioral outcomes in relation to introversion-extraversion have also been investigated. Introverts have been shown to spend more time engaging in solitary, as opposed to social activities (Emmons et al., 1986). In a similar vein, introverts have been shown to spend less time participating in social (Argyle & Lu, 1990; Furnham, 1981) and physical (Furnham, 1981) leisure activities than extraverts. Another study demonstrated that introverts spend more time alone than extraverts, talk less, and are involved in fewer conversations than extraverts (Mehl et al., 2006). Introversion has been negatively correlated with popularity, party attendance, and even exercise (Paunonen, 2003). Whether the negative correlation with physical activity was mediated by degree of socialization required was not investigated in either of the studies that found an inverse correlation between introversion and physical activity. While the effects just cited occurred in adult populations, introversion-extraversion has been shown to have similar effects when adolescent social interaction was examined (Smernou & Lautenschlager, 1991; Cheng & Furnham, 2002).

In the realm of interaction with the opposite sex and dating, results are consistent with initial theorizing as well. Female introverts have been shown to be particularly

unlikely to participate in mixed-sex conversations (Mehl et al., 2006), and in a study investigating dating in both sexes, introverted women were found to date less (Leck, 2006). Additionally, introversion has been shown to correlate negatively with dating variety (Paunonen, 2003) and number of romantic or sexual encounters (Gute & Eshbaugh, 2008).

The research just reviewed demonstrates the discrepancies between introverts and extraverts regarding their preferences and behaviors in the social realm. These studies were similar in that essentially all used cross-sectional self-report methodologies to provide correlational data. Participation in multiple sessions was required by only one of the studies, and only two of the studies supplemented self-reports with other measures. The supplementary measures included general observer reports of the participants, as well as reports of their covertly videotaped interactions in the laboratory.

A distinction should be made regarding the types of personality measures that these studies employed. That is, about half of the studies assessed introversion-extraversion with reference to the Five Factor trait structure, while the other half assessed the construct with other means, such as the Eysenck Personality Questionnaire. The older models of introversion-extraversion are not based on the Five Factor structure and are thought to contain less accurate definitions of the construct. This did not appear to result in any systematic differences in the studies just reviewed. However, use of earlier definitions of introversion-extraversion appears to have caused some inconsistency in related studies concerning the construct in close relationships. This is discussed in more detail in the following subsection.

Inconsistencies in the Findings on Social Preference and Behavior

Not all of the research is consistent with the findings on the differential

preferences and behaviors of introverts and extraverts just reviewed. Interestingly, one of

the few studies that did not demonstrate a difference in the social preferences and

behaviors of introverts and extraverts used a methodology that went beyond self-reports.

In this study, participants initially completed a battery of self-report measures, including

a measure of introversion-extraversion based on the Five Factor trait structure. However,

these measures were augmented with many nontraditional measures. In this regard,

participants completed a memory task used to assess mood and subjective well-being.

Additionally, they completed a structured written interview that was later evaluated by an

expert rater. Family and friends of the participants were surveyed to provide a minimum

of seven peer reports for each. Last, participants reported their mood and activity when an

alarm sounded at various times during the following two-week period. This study found

no significant difference between how much introverts and extraverts enjoyed social

situations in general. It also found no significant difference in how much time members

of each group spent in social situations (Pavot, Diener & Fujita, 1990). Though more

costly and time-consuming, it is possible that the unique, more complex methodology of

this study allowed it to uncover effects that the many other studies on preference and

behavior missed. Thus, augmenting self-reports with this type of more complex

methodology might provide more consistent results.

However, the over-reliance on solely self-report data is only one possible reason

for the inconsistency in findings. This reliance does not definitively explain the

inconsistencies. In fact, two studies that produced findings which opposed much of the accrued research (the studies found no significant differences in the preferences and behaviors of introverts and extraverts) were self-report studies. Thus, there may be alternative explanations for the conflicting results. In light of the two studies just mentioned, one such explanation may be that of an uncontrolled variable that is affecting the findings on preference and behavior.

For instance, one of these studies controlled for the variable of affect, and found no significant differences between the relevant preferences and behaviors of introverts and extraverts (Hills & Argyle, 2001). The other study controlled for the type of social interaction, and found no significant difference between introverts' and extraverts' experience of nonpleasant social interactions (Lucas & Diener, 2001). The results of these investigations suggest the possibility that an uncontrolled variable, such as affect or the valence of social interaction, is influencing social preference and behavior. That such variables have seldom been controlled for in past research might help explain why studies in this area are not completely consistent.

Another possible explanation for the inconsistency in findings is that seemingly subtle elements of a variable can have greatly differing effects. For instance, in the developmental literature, inconsistencies in findings resulted when socially isolated and socially rejected children were lumped together based on superficial similarity. In reality, the etiologies and prognoses for isolated children, who are merely ignored by peers, differ greatly from those of rejected children, who are actively disliked by peers. Distinguishing between being ignored and being actively disliked explained the

inconsistent findings (Tiffen & Spence, 1986). Perhaps a similar phenomenon explains the conflicting findings regarding introversion's role in social preferences and behaviors. Any number of subtle, yet important aspects of introversion, for instance, shyness or anxiety, could be moderating effects here.

Despite the exceptions that have been discussed, it is of note that the majority of the research supports the conclusion that introverts are substantially less involved than extraverts in some of the ways of life that help fulfill the need to belong. Moreover, the bulk of the research suggests that introverts' decreased preference for and participation in the social activities just reviewed greatly limits their opportunities to form the deep interpersonal relationships that are most potent in sating the need to belong. Yet, while introverts appear to have fewer friends and dating partners, this does not necessarily mean that they are unable to satisfy their belongingness needs through their relationships. It is possible that introverts are able to fill their need to belong with few, but stable and healthy relationships. Thus it is necessary to examine not only introverts' general social preferences and behaviors, but also their close personal relationships, such as friendship, parent-child relationships, and marriage. Findings regarding the quality and stability of introverts' close relationships are sparse and have not been completely consistent.

Introversion-Extraversion in Various Types of Close Relationships

The limited body of research on introversion-extraversion in close platonic friendships has often addressed issues unrelated to relationship outcomes, such as trait compatibility (e.g. Thorne, Korobov, & Morgan, 2007; Thorne, Shapiro, Cardilla, Korobov, & Nelson, 2009). However, one study using the Maudsley Personality

Inventory (Eysenck 1959) found a negative association between introversion and having a satisfying relationship with important (but not specifically romantic) others (Smernou & Lautenschlager, 1991). Another study, which examined the effects of the Big Five traits on relationship quality showed a negative effect of introversion on measures of relationship closeness (Berry, Willingham, and Thayer, 2000).

A more substantial amount of research exists regarding how introversion-extraversion operates in parent-child relationships. Specifically, studies have found a negative correlation between introversion and warmth in parent-child relationships (Denissen, van Aken, & Dubas, 2009; deHaan, Prinzie, Dekovic, 2009). Moreover, in a meta-analysis of 30 studies that involved almost 6,000 parent-child dyads, parental extraversion was positively correlated with warmth in the relationship (Prinzie, Stams, Dekovic, Reijnties, & Belsky, 2009).

The research is limited and inconclusive regarding introversion and the strongest means of sating the need to belong, romantic relationships. A relatively small amount of research has examined the correlations between romantic partnership quality and personality traits, and this number is even smaller when narrowed to those which use the robust Big Five model to describe introversion-extraversion (Barelds, 2005; Watson et al., 2000).

Using the Big Five model, introversion has been found to correlate negatively with marital quality (Barelds, 2005), relationship satisfaction, and intimacy in committed romantic relationships (White et al., 2004). Similarly, Watson et al. (2000) presented data that consistently showed extraverts to be more satisfied in both dating and marital

relationships. Specifically, extraversion was shown to be a moderately strong predictor of marital satisfaction. Moreover, extraversion in one or both marriage partners has been associated with higher amounts of marital quality (Donnellan et al., 2004; Nemechek & Olson, 1996). One study showed that extraversion was correlated with giving one's spouse various types of support, including emotional and esteem support. In addition, extraverts in this study were also more likely to evoke supportive behaviors in their spouses (Cutrona et al., 1997). Another study showed that extraversion elevates happiness levels in marriage through its positive effect on marital quality (Russell & Wells, 1994).

Not all studies, however, have found results consistent with those just reviewed. Some studies have found introversion-extraversion to be unrelated to marital satisfaction (Botwin, Buss, & Shackelford, 1997; Neyer & Voight, 2004) and divorce (Kurdek, 1993). Furthermore, other studies have shown introversion to be positively correlated with marital satisfaction (Bouchard, Lussier, & Sabourin, 1999; Lester, Haig, & Monello, 1989) and negatively correlated with divorce (Jocklin, McGue, & Lykken, 1996). Another study found extraversion to be positively correlated with divorce only for men (Eysenck, 1980).

Some theorists attribute the inconsistency among studies on introversion-extraversion in relationships to the use of varying definitions of the personality characteristic. Many studies, the earlier research in particular, did not use the robust Big Five definition of introversion-extraversion (Barelds, 2005). Instead, these studies relied on definitions of the construct that are now considered less accurate. In this regard, earlier

models characterized extraversion with terms like "wildness" or "impulsivity". It is not surprising that extraversion characterized by wildness and impulsivity would not have a positive effect on a marriage. Examining the studies just reviewed with respect to their differing measures of personality suggests that inaccurate characterizations of extraversion may have been responsible for the contradictory results.

It is also important to note that all but one of the studies reviewed were cross-sectional in design. This is likely due to the relative ease of using this design as opposed to one that is longitudinal. However, longitudinal studies are valuable here because relationship quality often varies over time. It is noteworthy that the longitudinal study reported on here showed no effect of introversion-extraversion on dissolution of marriage. This difference in design may somewhat explain the inconsistency in the research in this area. Some theorists also point out that most studies in this domain share the weakness of using small samples that are demographically homogeneous (Barelds, 2005), which is problematic given that there may be demographic correlates to the Big Five traits (Gonzalez-Gutierrez, Moreno-Jimenez, Garrosa-Hernandez, Penacoba-Puente, 2005). As more outcome-focused research on introversion-extraversion is conducted it will be useful to address the methodological issues of design and sample as much as possible.

A general challenge to any research on introversion-extraversion lies in the fact that the construct is an individual difference. As such, it is not a variable that can be randomly assigned to participants. Consequently, the study of introversion-extraversion is correlational and subject to the limitations of that design. Specifically, correlational

research cannot determine causality. Therefore, because all of the studies reviewed here are correlational, the relationships they demonstrate are not necessarily causal.

Moreover, while individual differences lend themselves to study with self-reports, such reports are prone to subjective bias. All of the studies presented here used self-report, and only a few addressed the problem of bias by including either partner-reports or observer ratings. As the relatively small body of research in this area grows, methodologies which address this bias may provide more accurate, and thus more consistent, results.

Introversion-Extraversion as a Correlate of Low Self-esteem: Relationship Effects

While the research into how introversion-extraversion operates within close relationships is limited, there is a significant body of literature addressing the effects of self-esteem in both platonic and romantic relationships. This literature is relevant to the present research because research has shown that self-esteem correlates significantly with introversion-extraversion. That is, introversion is associated with low self-esteem and extraversion is associated with high self-esteem. Many studies have documented this (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001; Watson, Suhls, & Haig, 2002; Neustadt, Chamorro-Premuzic, & Furnham, 2006).

The correlations between self-esteem and introversion found in these studies vary somewhat, but are generally strong. For instance, based on a study of over 300,000 individuals aged 9-90, the correlation between self-esteem and extraversion was .38 for females and .42 for males (Robins et al., 2001), which is quite significant when sample size is considered. In a report of three studies, Watson et al. (2002) found correlations

ranging from .40 to .48, and more recently, Neustadt et al. (2006) found a correlation of .32.

Research on the effects of self-esteem in close platonic relationships such as same-sex friendships and parent-child relationships found that low self-esteem was inversely correlated with the strength and satisfaction in these relationships. For example, a study of over 200 couples found that the quality the couple's friendship was significantly correlated with self-esteem (Voss, Markiewicz, & Doyle, 1999). Pertaining to parent-child dyads, another study found that mothers and children with low self-esteem did not feel as loved by each other as did mothers and children with high self-esteem. This diminished feeling of being loved partially accounted for relationship dissatisfaction in the low self-esteem pairs. These findings occurred despite the fact that the low self-esteem children's insecurities about maternal love were not a reflection of actual maternal love (DeHart, Murray, Pelham, & Rose, 2003).

An evaluation of the literature addressing the role of self-esteem in romantic relationships suggests that self-esteem is related to a variety of positive outcomes in these partnerships, including perceptions of one's mate and the general functioning of the relationship. For instance, people high in self-esteem view their romantic partners more positively than do people low in self-esteem (Murray, Holmes, & Griffin, 2000; Murray, Holmes, Griffin, Bellavia, & Rose, 2001). High self-esteem individuals also value their partners more, and have more optimism regarding the future of their partnerships. Individuals with high self-esteem view themselves as lovable and valuable and assume that their partners have the same views of them (Murray et al., 2000).

Those with low self-esteem are less likely to view themselves as lovable and valuable, and to perceive that their partners share this view (Murray et al., 2000). Speaking more generally, those with lower self-esteem are in less satisfying marriages than those with high self-esteem (Fincham & Bradbury, 1993; Murray, Holmes, & Griffin, 1996a). They also have less satisfying dating relationships than high self-esteem individuals (Murray et al., 1996a) and less stable dating relationships (Hendrick, Hendrick, & Adler, 1988). This is true even though the partners of low and high self-esteem individuals are not significantly different on self-esteem (Murray et al., 1996a; Murray, Holmes, & Griffin, 1996b).

Finally, in contrast to individuals with high self-esteem, those with low self-esteem perceive increased interpersonal rejection (Leary, Tambor, Terdal, & Downs, 1995). Related to this, those with low self-esteem are extremely sensitive to indications of their partners' possible rejection (Murray, Bellavia, Rose, & Griffin, 2003; Murray, Griffin, Rose & Bellavia, 2003). However, risk of rejection is inherent in developing close romantic relationships.

In response to this interpersonal risk, people may try to protect themselves from rejection while maximizing the chance for closeness with people likely to fulfill their need for connectedness, such as their romantic partners. This is the idea posited by the Risk Regulation Model (Murray, Derrick, Leder, & Holmes, 2008; Murray, Holmes & Collins, 2006). While this process occurs in almost everyone, individuals who do not feel secure in their partner's love are more likely to prioritize self-protection goals at the cost of inhibiting connectedness goals (Murray et al., 2008, Murray et al., 2006). Since

individuals with low self-esteem are less likely to feel that their partners love and value them, they are quite susceptible to prioritizing self-protection, at the expense of forfeiting feelings of connection with their partners. Because introversion is negatively correlated with self-esteem, and because introverts have decreased interpersonal skills and propensities, it is plausible that they might react to interpersonal rejection in their romantic relationships in the same manner as do low self-esteem individuals. That is, introverts may be particularly likely to forfeit opportunities for experiencing closeness and connectedness with their romantic partners in order to reduce the risk of interpersonal rejection.

CHAPTER 3

BELONGINGNESS AND AFFILIATION NEEDS

Psychologists have long asserted that people have a fundamental drive for social affiliation. One of the earliest and most noted scientists in this area was the motivation theorist Abraham Maslow, who stressed the importance of love and belongingness in his Theory of Human Motivation (1943). The idea that people have an inborn tendency to form social bonds is essential to John Bowlby's widely accepted Attachment Theory (1969/1982) as well. This theory holds that humans have evolved a social attachment system in response to survival demands such that social connectedness helps them to endure stress and challenge. Further, people's earliest close relationships mold their attachment systems in ways that affect their later interpersonal relationships. Cross-cultural research too, overwhelmingly supports that profound negative outcomes are associated with a lack of parental love and acceptance in childhood. In addition, perceived rejection at any age is linked to psychological maladjustment (Rohner, Khaleque, & Cournoyer, 2005). Most recently, Baumeister and Leary (1995) have reviewed the empirical literature pertaining to the need to belong and concluded that the construct "is a powerful, fundamental, and extremely pervasive motivation." They suggest that examining interpersonal behavior from the perspective of the need to belong provides an understanding and integration of the information that has accrued on the topic.

According to Baumeister and Leary (1995), the need to belong is the need to form and maintain at least a minimal number of strong, stable, interpersonal relationships. This requires frequent, relatively positive interactions in one's ongoing relationships. That is, the need to belong would not be satisfied if a person had frequent but aversive interactions within their ongoing close relationships. Nor would a person experience the feeling of belongingness or connectedness if they rarely interacted with partners in their close relationships, even in the absence of aversive relational events. Finally, experiencing positive interaction with those whom one did not have an ongoing bond would do little to satisfy one's need to belong. However, when all components are present—that is, when people experience positive interactions frequently within their social bonds, they feel a sense of connectedness that is important and powerful.

The Need to Belong as a Fundamental Human Motive

In order to establish that a construct is a fundamental human motive, there are several criteria which it must meet. For the purposes of discussing the need to belong here, three of these criteria are of importance. The first is that the need to belong should be present in essentially all people. The second is that failure to satisfy it should result in ill effects that are not merely transient or insignificant. The third is that belonging motivation should respond to satiation. The need to belong appears to meet these as well as other important criteria for establishing it as a fundamental human motive (Baumeister & Leary, 1995).

Essentially all individuals have a need to belong (Baumeister & Leary, 1995). This has been supported empirically even though early research suggested that a

significant percentage of the human population functioned well despite having a need to belong. Dismissive avoidants, which are thought to constitute about 18% of individuals, initially appeared to function well without close relationships (Bartholomew & Horowitz, 1991). While most securely attached individuals gain a sense of Self-esteem through acceptance from others, dismissive avoidants are thought to eschew close personal relationships, and instead obtain self-esteem from their achievements (Bartholomew, 1990). Dismissive avoidants claim not to desire or benefit from close personal relationships, yet exhibit normal levels of self-esteem (Bartholomew). However, closer empirical inspection has shown that despite their claims, even dismissive avoidants have the need to belong. Recent studies that took into account dismissive avoidants' fear of rejection and accompanying defense mechanisms have shown that even this subset of individuals experience increased affect and other benefits from social belongingness (Carvallo & Gabriel, 2006).

Only a very few mental disorders, such as those characterized by social anhedonia, have been associated with a lack of belongingness needs in humans (Kwapil et al., 2009). Often related to schizophrenia and distinct from mere social anxiety, social anhedonia refers to a lack of pleasure or reward from social interaction. This lack of social pleasure engenders not a sense of contented solitude, but of maladjustment. Constituting only a minute percentage of the population, social anhedonia has been called the "exception to the need to belong that proves the rule" (Kwapil et al.). Leary & Kelly (2009) concur that having absolutely no desire for interpersonal relationships is associated with mental dysfunction. The maladjustment and discontent of these afflicted

individuals suggest that though their belongingness needs may be small, suppressed, or obscured, they do exist. Thus it appears that in keeping with the criterion of universality, essentially all humans possess a need to belong.

The second criterion for universality reviewed here was that failure to satisfy the need to belong should produce significant ill effects. Many studies have shown that failure to satisfy the need to belong is related to many negative physical and mental outcomes. For example, a lack of close interpersonal bonds is strongly related to emotional ills such as unhappiness and depression (Argyle, 1987; Freedman, 1978, and Myers, 1992). Loss of intimate relationships is associated with poor consequences for health, such as decreases in one's immune system, proneness to frequent illnesses, alcohol abuse, and mortality (Burman & Margolin, 1992). Social exclusion has been shown to be a significant cause of anxiety (Baumeister & Tice, 1990).

In contrast, there are a multitude of positive effects of close relationships on mental and physical health (see Argyle, 1992 and Burnman & Margolin, 1992, for reviews). Having a network of friends has been shown to substantially increase mental health despite various levels of stress (Williams, Ware, and Donald, 1981; Lin, Simeone, Ensel, & Kuo, 1979). Higher levels of intimacy motivation are correlated with higher levels of subjective well-being and happiness (McAdams & Bryant, 1987). Marriages, particularly good ones, have been correlated with happiness (Veroff, Douva, and Kulka, 1981), mental health (Cohcrane, 1988), and a vast array of beneficial physical health outcomes, sometimes even when health behavior was held constant (Argyle, 1992).

A third criterion that must be met to qualify the need to belong as a fundamental human motive is that it must respond to satiation and substitution (Baumeister & Leary, 1995). Satiation refers to the fact that a motive should decrease in response to recent satisfaction and increase in response to deficiency. Just as one's level of thirst decreases after taking in sufficient amounts of fluids and increases when one has been deprived of fluids, one's need to belong should decrease after an individual has experienced connectedness from a social relationship and increase following social rejection or exclusion. As far as belonging motivation is concerned, substitution means that one social relationship can be supplanted by another. This is not to say that a longtime friend or romantic partner could simply be replaced with another. However, over time even intimate bonds sometimes break and form anew. Generally speaking, these news bonds suffice just as well as the old (Baumeister & Leary).

Research has shown that belonging motivation does in fact fluctuate in response to satisfaction. For instance, the need to belong increases in response to rejection, and decreases in response to social acceptance (Baumeister & Leary, 1995). Research has also borne out that substitution principles apply to the need to belong. For instance, new intimate relationships at times replace other relationships and the feelings of belongingness that they provided (Milardo, Johnson, & Huston, 1983). Even interaction deemed "parasocial" can sometimes replace the sense of belonging typically acquired from real human interaction (Horton & Wohl, 1956), as will be discussed in detail in Chapter Four.

The Need to Belong as an Individual Difference

While it has been shown that one's need to belong increases or decreases in response to recent social inclusion or exclusion, the need to belong has also been shown to be a relatively stable aspect of individuals that varies from person to person. That is, the need to belong can be thought of as an individual difference, just like mood or personality traits are individual differences. That being the case, some people have, in general, a low need to belong, while others have, in general, a high need to belong (Leary et al., 2011). This difference in the need to belong is unrelated to perceptions of acceptance, or actual levels of social interaction or belongingess (Leary et al.). Stated another way, individual differences in the need to belong are not necessarily caused by deficiencies in social relationships or feeling that one is not accepted. A person might feel unaccepted, but still have a low need to belong relative to others, simply due to temperament. Or, a person may feel like they generally have enough social support and acceptance by friends and family, but still have a temperament-related high need to belong, relative to other people.

Because both the need to belong and introversion-extraversion relate fundamentally to social interaction and acceptance, it might appear that the two constructs are essentially the same thing. For instance, stating that a person "has a high need to belong" does not largely differ from stating that a person desires interaction with others, as extraverts have been shown to do. However research has shown that there is a distinction between need to belong and introversion-extraversion. Studies conducted to test the correlation between need to belong and introversion-extraversion have not

consistently found a strong correlation between the two. In three different studies, only a weak positive correlation was found between extraversion and need to belong. This led the authors to conclude that extraversion and the need to belong, while related, are two distinct constructs (Leary et al., 2011). In other research, a comparably weak correlation between extraversion and need to belong was found in the negative direction (Jarzyna & DeHart, 2011a). In another study, extraversion and need to belong were found to be uncorrelated (Jarzyna & DeHart, 2011b), further supporting that extraversion and the need to belong are not the same thing.

Taken together, the studies just discussed suggest that the need to belong and introversion-extraversion are separate but related constructs. Thus, while it might intuitively seem that all extraverts have a high need to belong, this is not the case. There are extraverts who have a low need to belong as well extraverts who have a high need to belong. Likewise, there are some introverts who have a low need to belong and some introverts who have a high need to belong.

As discussed previously, the latter group has been shown to experience increased stress and health symptoms (Jarzyna & De Hart, 2011a). Ostensibly, these ills result from having a strong need to belong while lacking the social abilities and resources necessary to satisfy it. Introverts' decreased participation in social activities, which help fill the need to belong, poses a challenge to the satisfaction of belongingness needs. More importantly though, decreased socializing leads to fewer opportunities to find and develop the significant bonds that most strongly fill the need to belong. Thus for introverts in particular, supplementary means of satisfying the motive might be useful.

This is possible because the ways in which belongingness needs can be satisfied are flexible. Substitutes for the actual relationships that typically provide feelings of belongingness appear to satisfy the motive somewhat. The very fact that some introverts have a low need to belong even though this need usually increases without real social interaction suggests that members of this subgroup may be using such substitutes to help satisfy their need to belong.

Substitutions deemed "social snacks" can be used to temporarily satisfy belongingness needs in the absence of real social interaction. Social snacking involves behaviors like reminiscing about times when one was accepted, daydreaming about significant others, rereading old letters or emails, and viewing old photographs of friends and family (Gardner, Pickett, & Knowles, 2005). In keeping with the food analogy, perhaps the "freshest" social snack is "Facebooking," since the social network did not originate until 2004. While these substitutions cannot completely supplant real social bonds, they can augment them. Research has demonstrated that they provide actual feelings of satisfaction of the need to belong (Derrick et al., 2009; Gardner et al., 2005). It is of note that people with elevated belongingness needs have been shown to use such substitutes more than people low in belonging motivation (Knowles, Lucas, Molden, Gardner, & Dean; 2010).

CHAPTER 4

PARASOCIAL RELATIONSHIPS

According to the Social Surrogacy Hypothesis, another supplement to actual

social bonds is relying on parasocial interaction to provide real feelings of belongingness

(Derrick et al., 2008; Derrick et al., 2009). Horton and Wohl (1956) first defined

parasocial interaction as a one-sided connection that a viewer has with media personae

such as sitcom characters, talk show hosts, or news reporters. While their paper placed

emphasis on television viewing, the first parasocial relationships were likely formed by

listening to stories, reading books or watching plays. In modern times, a parasocial

friendship might develop with a movie character or a politician, through media such as

magazines, the radio, and overwhelmingly now, the internet. Broadening the scope, some

theorists would likely consider a relationship with a higher power or a departed loved one

to be parasocial. Indeed, participating in a parasocial relationship could be as simple as

looking out your window.

In a recent New York Times article entitled "Window Watchers in a City of

Strangers," the author discusses how New Yorkers, many of whom value urban life for

the anonymity it affords, often feel a sense of social connectedness to strangers they view

in neighboring high-rises (Scelfo, 2009). These relationships have the hallmarks of

parasociality. They are one-sided, as the viewees often cannot see the viewer or know for

certain that they are being viewed, especially by a specific person. The viewers control the relationship to a large degree, as they can end the interaction with the turn of a head or a pull of the blinds. Most importantly, urban dwellers feel as if they know the strangers they view and are comforted by their presence (Scelfo). While parasocial interaction may occur through this or any of the means just described, the most common mode in contemporary society is that of television, because of its ubiquity and popularity (Derrick et al., 2008).

Parasocial relationships have been examined in media and communication research for over 50 years. However the concept has only recently become theoretically developed enough for use in the field of psychology (Giles, 2002). The investigation into parasocial interaction by psychologists has focused on empirical study into the implications for such interaction on emotions and motivations. The majority of this research has been conducted on Western, individualistic cultures. However, some research on parasocial relationships has been conducted on collectivist cultures, such as Japan (Miyazaki, 1981), giving it at least some degree of cross-cultural generalizability.

Generalizability across the sexes has also not been confirmed. Very little research examines gender differences in parasocial interaction. Some research supports the idea that women develop stronger parasocial relationships (Cohen, 2003, Lather, 2011). But others have found no significant main effect of gender on parasocial interaction (Cole and Leets, 1999; Greenwood & Long, 2011). Research has documented clear gender differences only pertaining to specific realms, such as identification with aggressive characters (Eyal & Rubin, 2003).

Various components are necessary for a parasocial relationship to develop. Two of these components are social attraction and repeated exposure. When viewers are repeatedly exposed to media personae they like, they usually come to feel as if they know and are friends with the television personae (Rubin & McHugh, 1987). Though a parasocial interaction is one-sided, a sense of connectedness is experienced by the viewer much like a person experiences in a real friendship (Derrick et al., 2009).

Empathy is likely another important element in the formation and maintenance of parasocial relationships (Derrick et al., 2008). The term refers to affective reactions to another person's experience that are usually in agreement with the other person's feelings regarding their experience (Derrick et al., 2008). Empathic reactions constitute a preponderance of the emotional reactions experienced in parasocial relationships (Klimmt, Hartman, & Schramm, 2006). Empathy usually requires liking and identifying with the other person (Zillman, 2006), and is strongly related to many important elements of relationships (Derrick et al., 2008).

Taking the identification component one step further, viewers can apparently feel empathy in their parasocial relationships so strongly that they not only like and identify with a television personality, but they assume that the TV personality likes and identifies with them. When long-running TV show host Oprah Winfrey endorsed Barack Obama for president over Hillary Clinton, the media widely covered the fact that many women felt it a betrayal to their gender. Emily Friedman of ABC news reported one viewer's reaction to the endorsement: "I feel like I lost a friend who I thought identified with me."

That the viewer maintained this assumption despite the fact that Oprah had never met or communicated with her is a testament to the empathic element of parasocial relationships.

Ways in Which Real and Parasocial Relationships are Similar

Parasocial relationships and real relationships share some important similarities. One such similarity lies in their social facilitation effects. Social facilitation research indicates that because of arousal effects, the presence of an audience causes people do better on well-learned tasks and more poorly on new tasks (Bond & Titus, 1983). The parasocial presence of a favored televison character has been shown to have this effect as well (Gardner & Knowles, 2008). Even blood pressure changes have supported that the parasocial presence of a character to whom one is strongly attached affects performance on a difficult task in the same way that the presence of a real friend does (Knowles, 2007).

Another similarity between real and parasocial relationships is that they perform similar functions in response to social rejection or exclusion in the real world. For instance, many studies have documented that social rejection causes decreases in state self-esteem and feelings of acceptance (Derrick et al., 2009; Leary et al., 1995). However, research has also shown that friendship or social connections are protective against negative effects of rejection (Buckley, Winkel, & Leary, 2004; Gardner et al., 2005). Notably, it has also been demonstrated that parasocial relationships buffer against mood and self-esteem changes caused by rejection much like real relationships do (Derrick et al., 2009). Just as thinking about a friend has been shown to decrease aggression following social exclusion, thinking about a well-liked celebrity has been

shown to do the same (Twenge, Zhang, Catanese, Dolan-Pascoe, Lyche, & Baumeister, 2007). In another study, people who watched more television felt like they had more friends (Kanazawa, 2002), indicating that parasocial relationships feel like real friendships to the viewer.

For reasons which will be discussed shortly, people with social difficulties sometimes prefer parasocial relationships to real relationships. For instance, close relationships have the relatively rare ability to help individuals move closer to their ideal selves, and parasocial relationships have been demonstrated to do this as well (Derrick et al., 2008). Interestingly, for those with the social challenge that low self-esteem presents, parasocial relationships were even more beneficial than real relationships in aiding in movement toward the ideal self. In a similar vein, less trusting individuals have been shown to prefer parasocial activities to real social activities when experiencing negative affect or when the costs of real relationships are salient (Green & Brock, 1998). Collectively, the studies just reviewed show that while parasocial relationships themselves are not real, the psychological effects of them are real, important, and useful.

Ways in Which Real and Parasocial Relationships are Different

While the similarities between real and parasocial relationships just discussed are significant, there are also some important differences between the two. Because true parasocial relationships lack reciprocity, they also lack the risk of rejection (Derrick et al., 2008) and failure, as well as the need for effort (Horton & Wohl, 1956) involved in real relationships. Additionally, they allow the individual significantly more control over the relationship than do real interpersonal bonds (Horton & Wohl). Clearly, these

characteristics might make parasocial relationships quite appealing to those who are socially insecure.

Parasocial relationships lack the risk of rejection by one's "partners" because they involve no face-to-face interaction and are one-sided (Derrick et al., 2008). That is to say, the personae in a book, movie, magazine, or on television cannot reject the viewer because they are either fictional, or do not interact with the viewer. As for a celebrity, talkshow host, or news anchor, viewers rarely encounter these individuals (Giles, 2002), and are thus very unlikely to be rejected by them. Compared to the potential for the painful rejection involved in an intimate relationship, that which accompanies parasocial relationships is practically nil.

Nor do the compromises necessary to real relationships exist in the parasocial realm. Instead of participating in social interaction at a time that is dictated in part by the relationship partner, parasocial interactions take place only when the viewer wants them to (Horton & Wohl, 1956). If one is not in the mood for parasocial interaction, or changes one's mind about wanting parasocial interaction, one does not feel obligated to pursue it. However in a real relationship, plans are usually honored and efforts are made to accommodate the relationship partner's needs, sometimes requiring sacrifice.

In a parasocial relationship, there is less pressure to perform—that is, to be engaging, polite, interested, or capable. For those who have social challenges due to severe anxiety, Asperger's Syndrome, low self-esteem, or introversion, the absence of this pressure could explain why parasocial relationships are sometimes more appealing than real relationships. For one does not have to exert as much effort or expose oneself to

the risk of failing socially. Decreased pressure to perform may be particularly applicable to parasocial relationships which are sexual in nature. Indeed, such "virtual" sexual encounters constitute one area in which internet usage is growing exponentially. These types of parasocial interactions may be especially powerful, as recent research indicates that internet sex alters neuroplastic brain circuitry (Doidge, 2007).

<p style="text-align:center">Paradigms of Parasocial Interaction</p>

Because of the differences between real and parasocial relationships just described, it is reasonable to suspect that less socially-inclined individuals would be particularly prone to parasocial relationships (Horton & Wohl, 1956). A decreased social inclination could come in the form of low self-esteem, social anxiety, or simply the decreased social pleasure and skills often associated with introversion. The idea that parasocial interaction evolves from the desire to compensate for inadequate social relationships has been called "complementary" or sometimes, the "Compensatory Paradigm" of parasocial interaction (Horton & Wohl). Indeed, it is logical to expect that individuals who talk less, enjoy social interaction less, and have fewer social skills would find parasocial relationships a particularly attractive way to satisfy their belongingness needs because such relationships do not require talking, or social participation or skill. Indeed, it is likely not coincidental that early theory emphasized introverts' preference for reading versus socializing as crucial to describing the construct (Eysenck, 1964). Because books significantly predate movies and television, this preference may have been the first indication of the relative appeal of parasocial relationships for introverts.

Countering the Compensatory Paradigm of Parasocial Interaction is the "Global Use Paradigm." The Global Use Paradigm posits that parasocial interaction is universal. That is, all individuals engage equally in parasocial interaction, regardless of whether or not they have significant social difficulty (Tsao, 1996). This paradigm is based on three premises, as outlined by Tsao, 1996. The first premise is that parasocial interaction results more from the general desire to bond socially than from social compensation. The second is that the development of parasocial relationships parallels that of real social interaction in important ways. The third is that parasocial interaction and real social interaction are not mutually exclusive. Rather there is complementary interchange between these two types of interaction. Research investigating the Global Use Paradigm and the Compensatory Paradigm is sparse. Some studies have supported the Global Use paradigm (Ashe & McCrutcheon, 2001; Miyazaki, 1981; Tsao, 1996), but studies investigating the use of parasocial interaction by people with social challenges more widely support the Compensatory Paradigm.

The Compensatory Paradigm has been supported in studies investigating various types of social challenges. For instance, having a high need to belong as part of one's disposition has been correlated with the intensity of one's parasocial relationships (Knowles, 2007). Higher levels of introversion have also been correlated with watching television for companionship (Weaver, 2003). People who are not in a romantic relationship have been shown to use parasocial relationships more than those who are (Greenwood and Long, 2011). Further, evidence suggests that parasocial relationships buffer people against feelings of loneliness, and that people high in the need to belong

might be more likely to have parasocial relationships in order to combat loneliness (Greenwood & Long, 2009).

In this cross-sectional study, Greenwood and Long (2009) analyzed correlational data provided from self-report data. Scores on the Need to Belong Scale (Leary, 2011) significantly predicted parasocial interaction as measured by a widely used scale (Rubin, Perse, & Powell, 1985). This scale assesses, among other things, the extent to which viewers feel that favored television personae understand them and keep them company. Individual differences in the need to belong also predicted transportation, which was defined as becoming mentally and emotionally absorbed in a show, and identifying with its characters. Additional analyses showed that the positive relationship between need to belong and parasocial interaction was mediated by "Other Orientation". Other orientation was comprised of feelings of intimacy with an absent significant other, as well as feelings of loneliness. The results of this study lend direct support to the idea that people use parasocial interaction to fill their need to belong in a compensatory way.

Despite the empirical support reviewed, some studies of parasocial interaction have supported not the Compensatory Paradigm, but the Global Use Paradigm. One study found that shyness and loneliness did not reliably predict parasocial involvement (Ashe & McCrutcheon, 2001). In a Japanese population, women with greater potential for real social interaction engaged in more parasocial interaction (Miyazaki, 1981). In another study, introverts and neurotics did not appear to compensate for fewer social relationships with parasocial interaction (Tsao, 1996). This study is particularly important to the

proposed research because it explores research questions closely related to those of interest here.

Using a cross-sectional, self-report, correlational methodology, Tsao showed that while introverts watch television more, they engage less in parasocial interaction and indentification than extraverts. In this study, parasocial interaction was operationalized using the standard 10-item Parasocial Interaction Scale (Rubin & Perse, 1987), as well as with a measure of identification. The Parasocial Interaction Scale emphasizes feelings of friendship and being comfortable with the television persona. The identification scale measured the extent to which participants shared the emotional states of a character from a favored television show.

There are several reasons that may explain why the Compensatory Paradigm of Parasocial Interaction was not upheld in the studies just reviewed. One explanation lies in the precise personality constructs examined in these studies. While Ashe and McCrutcheon (2001) investigated parasocial compensation, they focused on loneliness and shyness as social insecurities. Loneliness and shyness are related to introversion, but constitute separate constructs. Miyazaki (1981) looked not at introversion, but at another type of social challenge. And while Tsao (1996) did examine introversion, she did not define the construct based on the Five Factor trait structure. This is important because, as discussed earlier, personality theorists largely view other conceptualizations of introversion as less accurate and implicate their role in producing inconsistent findings.

Pertaining specifically to research on parasocial interaction, researchers have posited that some studies don't support the Compensatory Paradigm of Parasocial

Interaction because they look not at the consequences of these relationships, but at one's proclivity to form, maintain, or care about them (Derrick et al., 2008). Examining the consequences of parasocial relationships may be more revealing because the ubiquity of television and its use in our society enables many types of people, not just the socially insecure, to easily form these relationships (Derrick et al., 2008).

Studies focusing on the consequences of parasocial interaction have more consistently supported the Compensatory Paradigm. For instance, in a series of three studies looking at the consequences of parasocial relationships, it was shown that those with low self-esteem received self-enhancing feelings and benefits from parasocial relationships that they did not receive from real relationships (Derrick et al., 2008). Additionally, one study showed that while people who like interpersonal communication use the internet to obtain information, people who are socially anxious use the internet to participate in chat rooms (Papachrissi & Rubin, 2000). This suggests that the internet is providing different benefits for each of the two groups. Since studies such as these, which pertain to the consequences of parasocial interaction have yielded more consistent findings, maintaining this focus should be helpful in achieving consistency in future research.

In fact, four additional studies focusing on the consequences of parasocial interaction are of particular importance to the proposed research. These studies consistently demonstrated that parasocial relationships from television shows can provide people with feelings of belonging and other beneficial outcomes (Derrick et al., 2009). Of note, two of these studies focused on demonstrating an effect of belongingness needs

activation. The effect they showed for belongingness needs activation support not only the Social Surrogacy Hypothesis, but the Compensatory Paradigm as well. For it is conditions of social threat or need that can explain why individuals with various social insecurities (low self-esteem, low trust, social anxiety, high need to belong) rely on parasocial interaction more than people who do not have social insecurities (Babb, 1995; Cohen, 2004; Cole & Leets, 1999; Derrick et al., 2008; Green & Brock, 1998; Knowles, 2007). As discussed previously, people with social insecurities are particularly sensitive to the risk of rejection, and according to the Risk Regulation Model, try to maximize closeness with others while minimizing the risk of rejection. When activation of belongingness needs presents a social threat, parasocial interaction provides the socially insecure with a unique way to maximize feelings of belongingness while minimizing the risk of rejection.

In the first of the two studies assessing the effect of belongingness needs activation, participants who had their belongingness needs activated relied on parasocial interaction (as opposed to watching a non-favored program) significantly more than participants who had not had their Activated Belongingness Needs (Derrick et al., 2009). The fact that participants relied more on parasocial interaction when their belongingness needs were activated likely indicates that they were attempting to fill this need with parasocial interaction. In the second of these two studies, parasocial interaction was demonstrated to increase self-esteem and decrease feelings of rejection in participants who had their belonging needs activated experimentally, but not in participants whose belongingness needs were unactivated (Derrick et al., 2009). These findings suggest that

engaging in parasocial interaction can provide increased self-esteem and feelings of

belonging when someone feels rejected or otherwise socially threatened.

CHAPTER 5

THE PRESENT RESEARCH

The present studies drew upon the Social Surrogacy Hypothesis as well as the

Compensatory Paradigm of parasocial relationships. Research pertaining to introversion-

extraversion and parasocial relationships is sparse and has yielded inconsistent findings.

Further, past research has demonstrated negative consequences of introversion coupled

with a high need to belong (Jarzyna & DeHart, 2011a), but studies have not determined if

parasocial relationships have the ability to decrease high belongingness needs in those

who are introverted. With these things in mind, the present research tested whether

parasocial interaction provides beneficial feelings for introverts. Further, this research

investigated whether introverts derive feelings of belongingness more through parasocial

relationships while extraverts derive the same feelings of belongingness more through

real social relationships, when belongingness needs are activated. Finally, the present

research explored whether the power of parasocial relationships lies in fulfilling

belongingness needs rather than in mood alteration. In these ways, the present research

contributes to the literatures on introversion-extraversion, the need to belong, and

parasocial interaction by providing insight into matters that are not fully understood.

The research presented here is original, in that it is an outcome-focused study of

the role of introversion in parasocial interaction. Previous studies have investigated

related issues, such as the role of loneliness and the need to belong in parasocial

interaction (Greenwood & Long, 2009; Knowles, 2007), and whether introverts engage more in parasocial interaction than do extraverts (Tsao, 1996). However, since the results of outcome-based studies of parasocial interaction have been more consistent (Derrick et al., 2008; Derrick et al., 2009; Weaver, 2003) this research investigated not only the extent to which introverts and extraverts engage in parasocial interaction, but the differential outcomes of parasocial interaction for introverts and extraverts under conditions of belongingness needs arousal. These outcomes, i.e., feelings of belongingness, self-esteem, and stress reduction, have not been investigated before with respect to introversion-extraversion and parasocial interaction.

Finally, many studies of introversion-extraversion have been weakened by inaccurate definitions of the construct, or by using only self-reported, correlational data. Thus, the studies I conducted augmented self-report data with experimental methodologies and used measures of introversion-extraversion that are based on the well-established Big Five Model of the trait (Costa & McCrae, 1992a).

<div style="text-align:center">Hypotheses</div>

Hypotheses 1a and 1b

Because research concerning the relation between introversion-extraversion and parasocial interaction has been inconsistent, two competing hypotheses regarding the relationship between introversion-extraversion and parasocial interaction were examined. Hypotheses 1a is in line with the with Compensatory Paradigm of Parasocial Interaction, and holds that introversion level is positively related to parasocial interaction level.

Hypothesis 1b is in line with the Global Use Paradigm of Parasocial Interaction, and holds that introversion level is unrelated to parasocial interaction level.

Hypothesis 2

Previous research has shown that elevated belongingness needs can be associated with increased anxiety (Baumeister & Tice, 1990) and stress (Jarzyna & DeHart, 2011a, 2011b). While extraverts likely fill their belongingness needs through social relationships, introverts may not. Preliminary research has also demonstrated that parasocial interaction can provide feelings of belongingness and other beneficial outcomes (Derrick et al., 2009), particularly for people with social insecurities (Greenwood & Long, 2009; Knowles, 2007; Weaver, 2003). Hypothesis 2 predicts that introverts will experience trait levels of beneficial outcomes (increased self-esteem, feelings of belongingness, and stress reduction) that are similar to those of extraverts, when levels of parasocialinteractionare high. In contrast, introverts will experience trait levels of beneficial outcomes that are significantly lower than extraverts', when levels of parasocial interaction are low.Hypotheses 1a, 1b, and 2 were tested using the background measures collected at the beginning of Studies 1 and 2.

Hypothesis 3

Hypothesis 3 pertains to how state levels of beneficial feelings vary after manipulation of belongingness needs. In previous research, parasocial interaction has had beneficial effects on state self-esteem and feelings of belongingness when belongingness needs were activated, but not when belongingness needs were unactivated (Derrick et al., 2009). In addition, research has shown that people with various types of social

insecurities use parasocial interaction for social surrogacy more than those without social insecurities (Derrick et al., 2008). Further, those with the social insecurity of low self-esteem have been shown to derive benefits from parasocial interaction that they do not get from real relationships (Derrick et al., 2008), perhaps because of the risk of rejection inherent in real relationships.

In light of these findings, Hypothesis 3 predicts a three-way interaction between Introversion, Belongingness Needs (activated or unactivated), and Relationship Essay Type (parasocial or real social), on the feelings that result from writing about that relationship. Specifically, when belongingness needs are activated, introverts will experience increased beneficial outcomes (increased self-esteem and feelings of belongingness, and lower stress) after writing about a parasocial relationship, as compared to extraverts. In contrast, when belongingness needs are activated, extraverts will experience increased beneficial outcomes by writing about a real relationship, as compared to introverts who write about a real relationship. In light of previous research showing that the power of parasocial relationships stems from their ability to fulfill belongingness needs (Derrick et al., 2009), this interaction effect was not expected when belongingess needs were unactivated. Hypothesis 3 was tested in Study 1.

Hypothesis 4

Research suggests that parasocial relationships wield their power by fulfilling belongingness needs rather than by altering mood (Derrick et al., 2009). Research also suggests that affect and feelings of belongingness are reflected by priming effects for word stems that are congruent with them (Derrick et al.; Ruiz-Caballero & Gonzalez,

1997). Therefore, Hypothesis 4 predicts that after belongingness needs are activated in all participants, there will be an interaction between Introversion and Relationship Essay Type (parasocial or real social) on the accessibility of exclusion-related words, but not on mood-related words. Specifically, introverts who write about a parasocial relationship will show less accessibility for exclusion-related words, as compared to extraverts. In contrast, extraverts who write about a real social relationship will show decreased accessibility for exclusion–related words, as compared to introverts. Since the power of parasocial relationships is in filling belongingness needs rather than in altering mood, no significant interaction of Introversion and Relationship Essay Type on the accessibility of positive or negative mood-congruent words was expected. Hypothesis 4 was tested in Study 2.

Study 1: Method

Participants

One hundred ninety-three undergraduates from the participant pool of an introductory psychology course at Loyola University Chicago took part in this study. Three of these students were dropped prior to data analysis because they did not do the experimental manipulation, resulting in a total of 190 participants (111 females). The mean age of the sample was 18.9 years old (SD = 2.0). The ethnic composition of the sample was as follows: Caucasian or European American (73.7%), Asian American or Asian (11.1%), Hispanic American or Latino (10.5%), African American or African (3.7%), and Multiracial (1.1%). Students received partial course credit for their time and effort.

Overview of Procedure

Participants completed a Computerized Self-Administered Questionnaire (CSAQ) in a university laboratory using Media Lab. This CSAQ included background measures such as demographic information, ratings of introversion-extraversion, degree of parasocial interaction, information about the participant's favorite TV character, and information about the participant's best friend. It also assessed trait levels of feelings of belongingness, self-esteem, and stress.

Next, participants were randomly assigned to either the activated belongingness needs condition or the unactivated belongingness needs (i.e., control) condition. Participants were then randomly assigned to either the parasocial relationship essay condition or the real social relationship essay condition. Finally, participants completed state measures of self-esteem, feelings of belonging, and stress. The entire procedure took approximately 30 minutes. After finishing the study, students read a debriefing form telling them about the study and thanking them for their time and effort.

Measures

Baseline measures were collected at the beginning of Study 1, prior to any experimental manipulations. These background measures are contained in Appendix A. The experimental manipulations are contained in Appendix B. The measures taken after the experimental manipulations are contained in Appendix C.

Introversion. Two personality inventories based on the Five Factor structure of personality were used -- the Ten-Item Personality Inventory (TIPI) developed by Gosling et al. (2003), and the Mini-Marker, created by Saucier (1994).The two items of the TIPI

that pertain to introversion were used as a measure for each participant. Theyused a 7-point scale (1 = *disagree strongly*, 7 = *agree strongly*) to describe themselves as "extraverted, enthusiastic" or as "reserved, quiet." The item of "extraverted, enthusiastic" was reverse-scored before statistical analysis, so that higher scores on it indicated higher levels of introversion. The TIPI items were averaged together to comprise a TIPI score for introversion-extraversion. These two TIPI items had acceptable reliability ($\alpha = .62$). Saucier's (1994) Mini-Marker is a shortened version of Goldberg's (1992) Unipolar Big-Five Markers. Saucier selected 40 of Goldberg's 100 original items for the shortened inventory. Eight of these (bashful, bold, energetic, extraverted, quiet, shy, talkative, and withdrawn) pertain to introversion and were thus used as an introversion measure for this study. Participants used a 7-point scale (1 = *extremely inaccurate*, 7 = *extremely accurate*) to describe themselves with these adjectives. Items were reverse-scored, so that higher scores indicated more introversion. The scales had good internal consistency ($\alpha = .82$), so were averaged together to create one score.

The TIPI and the Mini-Marker were strongly correlated, r (188) = .85, *p* < .01, so were averaged together to provide one introversion score.

Parasocial interaction. The widely used Parasocial Interaction Scale (Rubin, Perse, & Powell, 1985) was adapted so that statements applied to a favorite television character. This 15-item adaptation assessed parasocial involvement using constructs like imagined friendship and liking of the character. Items included statements such as "I think my favorite TV character is like an old friend," and "When my favorite TV character shows me how he or she feels about some issue, it helps me make up my own

mind about the issue." Ratings were made on a 7-point scale (1 = *disagree strongly*, 7 = *agree strongly*). Higher scores indicate increased parasocial interaction. The scale had high reliability ($\alpha = .88$).

Relationship questions. Participants answeredsix questions pertaining to a real relationship—the one they have with their best friend. Questions included "How long have you known your best friend?" and "How many hours a week do you spend interacting with your best friend?" These same six questions were asked to assess the participants' parasocial relationships, and thus pertained to the participant's favorite television character.

*Global Self-Esteem.*The Rosenberg Self-esteem Scale (Rosenberg, 1965) was used to assess trait Self-esteem. This 10-item scale includes statements such as "I take a positive attitude toward myself" and "At times, I think I am no good at all." Respondents used a 7-point scale to indicate agreement with each statement (1 = *strongly disagree*, 7 = *strongly agree*). Negative items were reverse scored so that higher scores on the measure indicate higher Self-esteem. Items were then averaged together ($\alpha = .82$).

Perceived acceptance. Trait levels of perceived acceptance weremeasured with the six semantic differential items on the Perceived Acceptance Scale (Leary, Cottrell, & Phillips, 2001). This scale asks participants to describe how others make them feel on a 7-point bipolar scale. Pairs include "*accepted-rejected*," and "*included-excluded*." Higher scores on the scale indicate higher feelings of acceptance. This scale had high internal validity ($\alpha = .92$).

General stress. Trait levels of stress were assessed by asking participants to rate how they generally feel on three stress-related emotions. Participants rated how stressed they generally feel, how pressured they generally feel, and how irritable they generally feel, on a 7-point scale (1 = *not at all* 7 = *extremely*). This measure had good internal validity (α = .75).

Belongingness needs manipulation. Participants in the Activated Belongingness Needs condition wrote about a time when they fought with their best friend. This type of task typically causes reduction in state Self-esteem and increased feelings of social rejection (Derrick et al., 2009). In past research, a similar task has been demonstrated to induce belongingness needs and motivate behavior for social acceptance (Murray, Derrick, Leder, & Holmes, 2008). Participants assigned to the Unactivated Belongingness Needs condition wrote about all the contents of their residence that they were able to recall. Participants in both the activated and unactivated conditions were told to be as descriptive as possible and had 6 minutes to complete their essays.

Perceived rejection. A 3-item manipulation check measure asked how unaccepted, rejected, and negative participants felt on a 7-point scale (1 = *not at all*, 7 = *extremely*). These three items had good internal consistency (α = .79) and were thus pooled to create the manipulation check.

The relationship essay manipulation. The parasocial relationship essay task asked participants to write about a pleasant time when they watched their favorite character in a television program. Participants were told to describe this time in as much detail as possible. The real social relationship essay task asked participants to write about

a pleasant time they spent with their best friend. Participants in both conditions were told to be as descriptive as possible and had 6 minutes to complete their essays.

State self-esteem. The State Self-esteem Scale (SSES; Heatherton & Polivy, 1991)was used to measure self-esteem at the present time. This measure asks respondents to rate agreement with 20 statements on a 7-point scale (1 = *disagree strongly*, 7 = *agree strongly*). Items include"I feel confident about my abilities," and "I am worried about whether I am regarded as a success or failure." Negative items were reverse-scored so that higher scores on the scale indicated higher levels of Self-esteem. The scale had an internal validity of α = .93.

Current feelings of acceptance. The Current Feelings of Acceptance measure (Murray et al., 2008) has participants rate how they feel at the current moment using twelve adjectives, such as "accepted," "rejected," and "included." Ratings were made using a 7-point scale (1 = *not at all*, 7 = *very*). Negative items were reverse-scored so that higher scores on the scale indicate higher feelings of acceptance. The scale had a high internal validity (α = .89).

Current stress. State levels of stress were assessed by asking participants to rate how they felt on three stress-related emotions at the moment (stressed, pressured, and irritable). Participants rated how they felt at the moment on a 7-point scale (1 = *not at all*, 7 = *extremely*). These items had high internal consistency (α = .86), and thus were combined to create one measure.

Study 1: Results

Multiple Regression Analyses on Background Measures

I used multiple regression analysis to examine my hypotheses. I followed the guidelines of Aiken and West (1991) for investigating interactions in multiple regression. That is, I first centered the continuous predictor variables by subtracting the mean score for the relevant variable from each individual's score for that variable. Next, I ran regression analyses predicting the dependent variables from the centered main effects of each predictor variable, and all resulting interaction terms. By conducting the analyses in this manner, I was able to test for main effects of my predictor variables while simultaneously testing for an interaction between the predictors on the dependent variables.

The Effect of Introversion on Parasocial Interaction Level in Study 1

To test Hypothesis 1a and 1b regarding the relation between introversion and parasocial interaction level, I ran a regression analysis predicting parasocial interaction level from the centered main effects of introversion, gender (1 = women, -1 = men), and their interaction. This regression showed no main or interaction effects of introversion on parasocial interaction level (B's < .10, β's <.10, p's > .05). Thus, this analysis did not support the Compensatory Paradigm, but did support the Global Use Paradigm. The analysis also revealed a main effect of gender on parasocial interaction level (B = .23, β =.23, p = .002) such that women engaged in more parasocial interaction than men did.

Introversion, Parasocial Interaction, and Beneficial Outcomes in Study 1

To test Hypotheses 2, I conducted a series of regression analyses predicting trait

levels of self-esteem, perceived acceptance, and stress level from the three-way

interaction between introversion, parasocial interaction, and gender, and all of the two-

way interaction terms and main effects of these predictors. All of these variables were

individual difference variables measured before the experimental manipulations. Table 1

shows the results of these regressions.

The left panel of Table 1 shows the effects of the Introversion x Parasocial

Interaction Level x Gender interaction model predicting Trait Self-Esteem. There was a

significant main effect of introversion on trait self-esteem, showing that introverts had

lower trait self-esteem than extraverts. There was also a significant two-way interaction

between introversion and gender on trait self-esteem. Thus, I analyzed the simple slope of

introversion predicting trait self-esteem for men and women separately. The regression

lines in Figure 1 demonstrate that for men, being introverted is associated with a

significant decline in trait self-esteem ($B = -.345$, $\beta = -.394$, $p = .000$). However, for

women, being introverted is not associated with a significant change in trait self-esteem

($B = -.069$, $\beta = -.076$, $p = .433$). There were no other significant main or interaction

effects.

The middle panel of Table 1 shows the effects of the Introversion x Parasocial x

Gender interaction on Trait Feelings of Acceptance. A significant main effect of

introversion on this variable indicated that introverts felt less accepted than extraverts.

Further, a significant main effect of gender on Trait Feelings of Acceptance indicated that

Table 1. Multiple Regression Results for Introversion, Parasocial Interaction, and Gender Predicting Trait Self-Esteem, Trait Feelings of Acceptance, and Trait Stress

	Trait self-esteem(DV)			Trait feelings of acceptance (DV)			Trait stress (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	5.566**		70.617	5.622**		75.713	4.163**		47.692
Introversion	-.207**	-.233	-3.227	-.285**	-.326	-4.703	.072	.074	1.006
Parasocial interaction	.074	.071	.862	.006	.006	.075	.100	.088	1.050
Gender	-.091	-.086	-1.151	-.188*	-.182	-2.532	.094	.081	1.077
Introversion × parasocial interaction	.005	.005	.072	-.040	-.046	-.626	-.074	-.076	-.989
Introversion × gender	.138*	.154	2.152	.030	.035	-.616	.124†	.127	.083
Parasocial interaction × gender	-.021	-.020	-.243	.121	.115	1.483	.077	.066	.805
Introversion × parasocial interaction × gender	-.033	-.037	-.492	-.016	-.018	-.251	.045	.047	.544

†$p < .10$ *$p < .05$ **$p < .01$
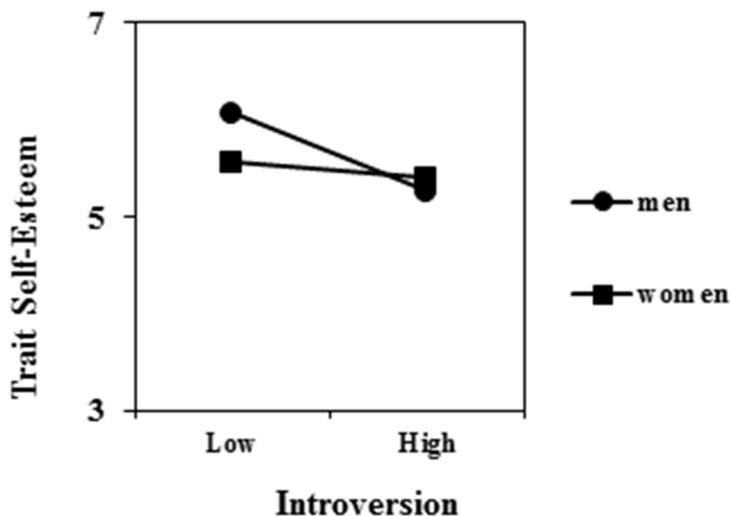
Figure 1. Predicting trait self-esteem from gender and introversion.

women felt less accepted than men felt. No other significant main or interaction effects were found.

The right panel of Table 1 shows the results of the Introversion x Parasocial x Gender interaction model predicting Trait Stress. While there were no significant main effects of introversion, parasocial interaction level, or gender on this variable, there was a significant two-way interaction of introversion and gender on Trait Stress. As depicted in Figure 2, the simple slope of introversion predicting trait stress level was not significant for men (B = -.052, β = -.052, p = .652), indicating that men's introversion level is not significantly associated with their experience of stress. However, the simple slope of introversion predicting women's trait stress level was significant (B = .196, β =.206, p = .029). This suggests that for women, being introverted is associated with a significant increase in Trait Stress. There were no other significant main or interaction effects.
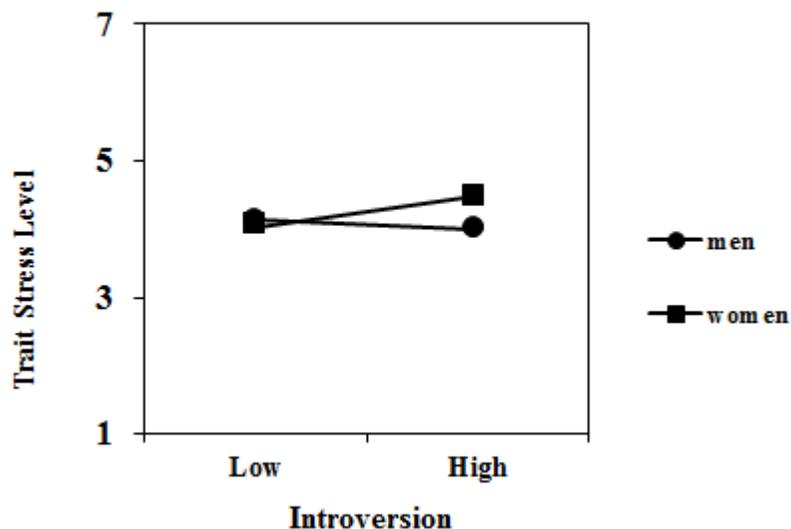
Figure 2. Predicting trait stress level from gender and introversion.

Taken together, the differing effects of introversion for men and women on Trait Self-Esteem and Trait Stress Level might suggest that while both genders experience detrimental effects associated with being introverted, these effects manifest themselves through decreased self-esteem for men, but manifest themselves through increased stress for women. However, because there was no significant interaction of introversion and parasocial interaction level on Trait Self-Esteem, Feelings of Acceptance, or General Stress, Hypothesis 2 was not supported.

Regression Analyses on Experimental Manipulation Measures, Study 1

Hypothesis 3 predicted that introverts would experience increased benefits from parasocial interaction relative to extraverts, only when under social threat. In order to test this hypothesis, it was first necessary to ascertain that the experimental manipulation was effective. That is, did the belongingness needs activation task actually make participants feel rejected? Thus, a manipulation check was performed predicting feelings of rejection

from belonging needs condition (1 = Activated Belongingness Needs, -1 = Unactivated Belongingness Needs), introversion, and the interaction term. Gender was used as a covariate. In this way I was able to ascertain that the experimental manipulation was effective and also examine whether introversion interacted with this manipulation. The analysis revealed a significant main effect of belongingness needs condition on feelings of rejection ($B = .19$, $\beta = .16$, $p = .027$), indicating the experimental manipulation was successful. That is, participants who wrote about a time they fought with their best friend felt significantly more rejected than participants who wrote a neutral essay. The analysis revealed no main effect of gender on feelings of rejection ($B = .10$, $\beta = .08$, $p = .272$). The regression also failed to show an interaction effect ($B = -.03$, $\beta = -.03$, $p = .661$), indicating that introverts and extraverts did not differ in how unaccepted they felt after the rejection manipulation.

Next, I examined the 3-way interaction between Introversion, Belongingness Needs Condition, and Relationship Essay Type (1 = parasocial, -1 = real social) on participant's state self-esteem, state feelings of acceptance, and state stress. While Introversion was an individual difference variable measured before any experimental manipulations, the latter two independent variables refered to the experimental manipulation of belongingness needs and relationship type recalled. Like some of the background measures, post-manipulation measures were found to be significantly correlated with gender. Thus I controlled for gender in the 3-way analyses on state self-

esteem, state feelings of acceptance, and state stress.[1] I also controlled for the length of the relationship that participants had with their best friend and favorite television character, because these factors were integral to the relationship essay task. The results of these regression analyses are presented in Table 2.

As shown in the left hand panel of Table 2, there were two significant main effects on State Self-Esteem. There was a significant main effect of Introversion, indicating that introverts reported lower State Self-Esteem than extraverts reported. There was also a significant main effect of Gender, indicating that women reported lower State Self-Esteem than men reported. There was a significant two-way interaction of Introversion and Belongingness Needs Condition predicting State Self-Esteem. However, this two-way interaction was qualified by the significant three-way interaction between Introversion, Belongingness Needs Condition, and Relationship Essay Type.

I probed this three-way interaction predicting State Self-Esteem by testing the significance of the Introversion x Relationship Essay Type interaction separately in each of the Belongingness Needs Conditions. As shown in Figure 3, in the Needs Activated Condition, there was a marginally significant 2-way Introversion x Relationship Essay Type interaction predicting State Self-Esteem ($B = .15$, $\beta = .18$, $p = .097$).However,the simple slope of introversion was not significant in the real relationship ($B = -.15$, $\beta = -.18$, $p = .260$), or parasocial relationship condition ($B = .19$, $\beta = .22$, $p = .154$). Although these slopes did not reach significance, they are in the direction predicted by Hypothesis 3. As

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[1] Gender did not moderate any of the results presented with one exception. However, this one 4-way interaction did not make theoretical sense so it is not presented.

Table 2. Multiple Regression Results for Introversion, Belongingness Needs, and Relationship Essay Condition predicting State Self-Esteem, State Feelings of Acceptance and State Stress

	State self-esteem (DV)			State feelings of acceptance (DV)			State stress (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	4.912**		20.620	5.805**		28.364	3.263**		9.163
Introversion	-.116†	-.130	-1.795	-.150**	-.195	-2.690	-.041	-.031	-.420
Belongingness needs									
Condition	-.037	-.035	-.492	-.045	-.050	-.704	.134	.087	1.202
Relationship essay type	-.053	-.050	-.705	-.129*	-.143	-2.007	-.163	-.106	-1.465
Gender	-.167*	-.158	-2.163	-.136*	-.149	-2.039	.153	.098	1.319
Known best friend	-.055	-.108	-1.500	-.026	-.060	-.838	.058	.077	1.052
Watched TV character	.014	.015	.199	.021	-.026	.351	-.054	-.039	-.526
Introversion x belongingness needs	.160*	.178	2.488	.089†	.116	1.615	-.203*	-.155	-2.123
Introversion x relationshp essay	-.002	-.003	-.037	.063	.082	1.141	-.057	-.043	-.589
Belongingness needs x relationship essay	.054	.051	.717	-.009	-.010	-.138	-.088	-.057	-.788
Introversion x belongingness needs x relationship essay	.156*	.174	2.391	.005	.006	.089	-.059	-.045	-.067

†$p < .10$ *$p < .05$ **$p < .01$
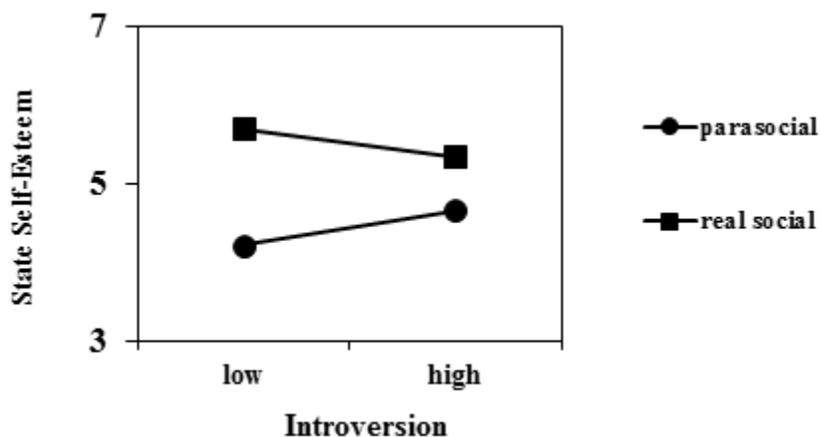
Figure 3. Predicting state self-esteem from relationship essay type and introversion level in the activated belongingness needs condition.
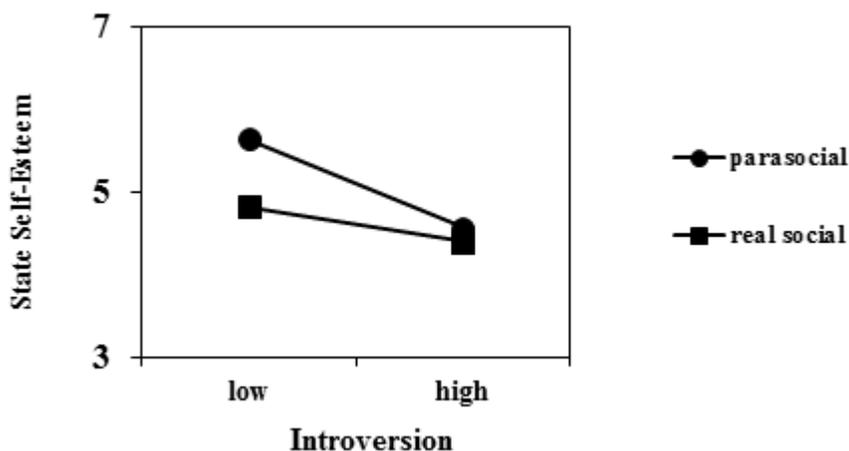
Figure 4. Predicting state self-esteem from relationship essay type and introversion level in the unactivated belongingness needs condition.

shown in Figure 4, the two-way interaction of Introversion x Relationship Essay Type was marginally significant in the Unactivated Belongingness Needs Condition ($B = -.16, \beta = -.17, p = .098$). Simple slopes tests revealed that for participants who wrote about a parasocial relationship in the Unactivated Belongingness Needs Condition, State Self-Esteem decreased as Introversion increased ($B = -.46, \beta = -.49, p = .001$), but for

participants who wrote about their best friend in the Unactivated Belongingness Needs Condition, State Self-Esteem was not significantly related to introversion level ($B = -.18$, $\beta = -.19$, $p = .198$). This may indicate that under neutral conditions when belongingness needs are not activated, parasocial interaction decreases self-esteem for introverts.

As presented in the middle panel of Table 2, three main effects on State Feelings of Acceptance were observed. There was a main effect of Introversion indicating that introverts reported feeling less accepted than extraverts reported feeling. Additionally, there was a main effect of Relationship Essay Type, indicating that those who wrote about their best friend felt more accepted than those who wrote about their favorite television character. Lastly, a significant main effect of gender was observed, suggesting that women felt less accepted than men felt. There were no other main or interaction effects of Introversion, Belongingness Needs Condition, and Relationship Essay Type on State Feelings of Acceptance.

As summarized in the right-hand panel of Table 2, on the variable of State Stress, there were no significant main effects of Introversion, Belongingness Needs Condition, and Relationship Essay Type. However, there was one significant two-way interaction. Introversion x Belongingness Needs Condition was significantly related to participants' experience of State Stress. As shown in Figure 5, simple slopes analyses showed that in the Activated Belongingness Needs Condition, introversion was negatively associated with State Stress ($B = -.23$, $\beta = -.18$, $p = .085$), though the association was only marginally significant. This suggests that after having their belongingness needs
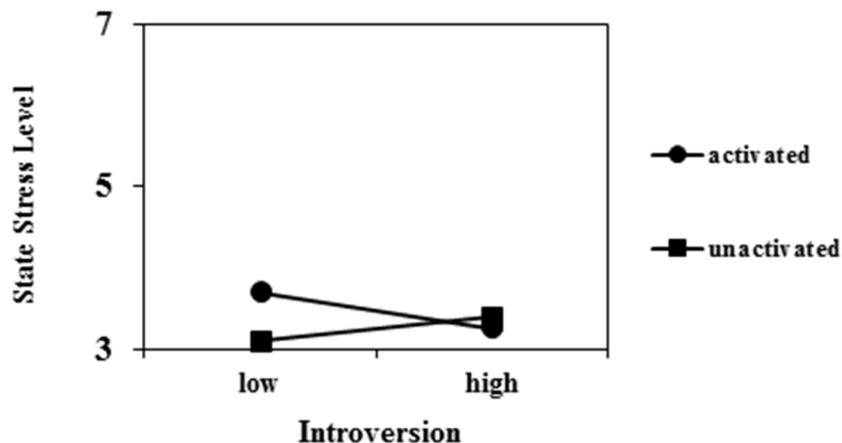
Figure 5. Predicting state stress level from belongingness needs condition and introversion.

activated, introverts experienced less stress than extraverts. However, in the Unactivated

Belongingness Needs Condition, introversion was not significantly associated with State

Stress ($B = .15$, $\beta = .11$, $p = .298$). This indicates that under normal circumstances (i.e.,

when belongingness needs are not activated), introverts experience about the same

amount of State Stress as extraverts. There were no other interaction effects of any of

these three variables on State Stress.

Ancillary Analyses for Study 1

In addition to the effects predicted by the formal hypotheses of Study 1, several

effects of the need to belong were examined. Because there is no validated measure of

this construct, no formal hypotheses regarding the need to belong were made. However,

an unvalidated measure, the Need to Belong Scale (Leary, 1995) was included in the

background measures of Study 1 to explore the relation of Need to Belong to Introversion

and Parasocial Interaction. The Compensatory Paradigm would suggest that introverts

with a high need to belong might show increased reliance on parasocial interaction as a

way to satisfy their need to belong. Further, if such reliance was an effective social substitute, one would expect that increased parasocial interaction would be associated with positive outcomes for those high in introversion, the need to belong, or both.

To test whether the combination of introversion and high need to belong was associated with parasocial interaction level, trait self-esteem, trait feelings of acceptance, and trait stress, I conducted a series of regression analyses. Gender was controlled for due to its significant effect on parasocial interaction.[2] Table 3 shows the results of the regression analyses predicting parasocial interaction level, trait self-esteem, trait acceptance, and trait stress from the Introversion x Need to Belong interaction.

The left panel of Table 3 shows that there were no new main or interaction effects of introversion and the need to belong on Parasocial Interaction Level. However, the next panel of Table 3 shows a significant main effect of the need to belong on Trait Self-Esteem. The direction of this effect suggests that Trait Self-Esteem decreases as the need to belong increases. There was also a marginally significant interaction between introversion and need to belong on Trait Self-Esteem. As depicted in Figure 6, the slope of introversion was not significant for participants with a high need to belong (B = -.08, β = -.09, p = .389), indicating that participants with a high need to belong did not experience significant changes in their Trait Self-Esteem related to how introverted they were. However, the slope of introversion was significant for participants with a low need

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[2] The same set of analyses was conducted using gender as a moderator as well. A significant 3-way interaction occurred on one variable (state acceptance), but no theoretical explanation could be made of it. Thus the more interpretable analyses with gender as a covariate are presented here.

Table 3. Multiple Regression Results: Introversion and Need to Belong Predicting Parasocial Interaction, Trait Self-Esteem, Trait Feelings of Acceptance, and Trait Stress in Study 1

Statistic	Intercept	Introversion	Need to belong	Gender	Introversion × need to belong
		Parasocial interaction (DV)			
B	4.479**	-.008	.074	.213**	-.105
β		-.009	.074	.211	-.115
t	62.327	-.126	1.030	2.923	-1.617
		Trait self-esteem (DV)			
B	5.540**	-.198**	-.297**	-.019	.118†
β		-.222	-.283	-.018	.124
t	76.937	-3.226	-4.114	-.262	1.813
		Trait feelings of acceptance (DV)			
B	5.650**	-.281**	.000	-.188*	.059
β		-.322	.000	-.181	.063
t	79.528	-4.645	-.001	-2.607	.931
		Trait stress (DV)			
B	4.170**	.100	.318**	.081	.074
β		.103	.277	.070	.071
t	51.580	1.461	3.918	.990	1.009

†$p < .10$ *$p < .05$ **$p < .01$
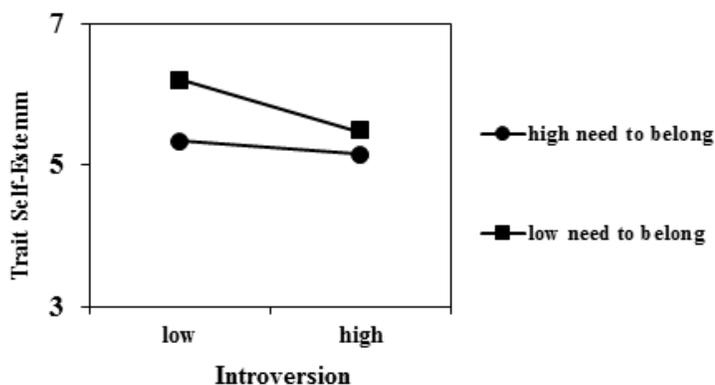
Figure 6. Predicting trait self-esteem from introversion and the need to belong.

to belong ($B = -.32$, $\beta = -.35$, $p = .000$), indicating that for participants with a low need to belong, introverts had significantly lower Trait Self-esteem than extroverts.

Because this data is correlational, various explanations are possible for this effect. One explanation is that extraverts with a low need to belong might have high self-esteem because their social experiences and relationships are so ample they completely fill their need to belong, giving them high self-esteem. However, for introverts, their relatively low level of social enjoyment and relationships might leave even a low need to belong unfilled, resulting in low self-esteem.

As shown in the middle right panel of Table 3, there were no significant main or interaction effects of introversion and the need to belong on Trait Feelings of Acceptance. However the last panel of Table 3 shows that there is a significant effect of the need to belong on Trait Stress. This suggests that stress increases as the need to belong increases. There were no other new main or interaction effects of Introversion and Need to Belong on the Trait Stress.

I also tested the effects of need to belong on the post-manipulation measures. Since Hypothesis 3 investigated relative benefits for introverts and extraverts, on the post-manipulation measures, the same method of analysis used to test Hypothesis 3 was used to test the effect of need to belong on these measures. That is, I analyzed the effect of Introversion, Need to Belong, Belongingness Needs Condition, Relationship Essay Type, and the resulting interactions, while controlling for gender and length of the relationship with the best friend and favorite television character participants indicated. The results of these regressions are presented in Table 4.

Table 4. Multiple Regression Results for Introversion, Need to Belong, Belongingness Needs, and Relationship Essay Condition predicting State Self-Esteem, State Feelings of Acceptance, and State Stress, controlling for Gender and Relationship Length

	State self-esteem (DV)			State feelings of acceptance (DV)			State stress (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	4.881**		20.493	5.712**		27.151	3.331**		9.367
Gender	-.115	-.108	-1.514	-.127†	-.139	-1.890	.076	.049	.670
Known best friend	-.041	-.081	-1.134	-.015	-.035	-.474	.040	.053	.730
Watched TV character	.006	.007	.091	.037	.046	.626	-.059	-.043	-.593
Introversion	-.124*	-.139	-1.983	-.171**	-.223	-3.085	-.020	-.015	-.215
Need to belong	-.344**	-.326	-4.410	-.095	-.105	-1.376	.503**	.324	4.316
Belongingness needs Condition	.003	.003	.045	-.050	-.056	-.783	.088	.057	.809
Relationship essay Condition	-.053	-.050	-.727	-.102	-.114	-1.603	-.180†	-.117	-1.663
Introversion x need to belong	.082	.086	1.177	-.097	-.118	-1.573	-.089	-.064	-.861
Introversion x belongingness needs	.140*	.157	2.245	.64	.084	1.165	-.155†	-.118	-1.667
Introversion x relationship essay	-.002	-.002	-.027	.073	.095	1.322	-.074	-.056	-.792
Need to belong x belongingness needs	-.070	-.066	-.907	-.052	-.057	-.767	.111	.071	.962
Need to belong x relationship essay	-.006	-.006	-.081	-.090	-.099	-1.322	.057	.037	.495
Belongingness needs x relationship essay	.052	.050	.721	.013	.015	.206	-.103	-.067	-.947

	State self-esteem (DV)			State feelings of acceptance (DV)			State stress (DV)		
	B	β	t	B	β	t	B	β	t
Introversion x need to belong x belongingness needs	-.013	-.014	-.196	-.044	-.054	-.738	-.051	-.037	-.508
Introversion x belongingness needs x relationship essay	.136*	.152	2.151	.007	.009	.129	-.044	-.033	-.462
Introversion x Need to Belong x Relationship essay	-.006	-.006	-.084	.078	.096	1.305	-.029	-.021	-.287
Need to belong x belongingness needs x relationship essay	-.043	-.040	-.555	-.106	-.117	-1.558	-.019	-.012	-.166
Introversion x Need to belong x belongingness needs x relationship essay	-.025	-.027	-.372	.061	.074	1.011	-.184†	-.132	-1.818

† $p < .10$ *$p < .05$ **$p < .01$

As shown in the left panel of Table 4, there were no significant interaction effects of Introversion, Belongingness Needs, Relationship Essay Type, or Gender on State Self-Esteem that had not already appeared in the analyses of the formal hypotheses. Nor were they any other significant interactions involving Need to Belong on State Self-Esteem. As shown in the middle panel of Table 4, there were no main effects of Introversion, Belongingness Needs, Relationship Essay Type, or Gender, on State Feelings of Acceptance that had not already been discovered by previous analyses. Nor were there any new interactions of these variables on State Feelings of Acceptance.

As shown in the right panel of Table 4, a marginally significant main effect of Relationship Essay Type on State Stress arose that had not manifested itself in the analyses of the formal hypotheses. This showed that those who wrote about their best friend had lower State Stress than those who wrote about their favorite TV character. Additionally, there was a significant main effect of the Need to Belong on State Stress. The direction of this effect indicated that people with a high need to belong reported more State Stress compared to people with a low need to belong.

However, there was a marginally significant four-way interaction of Introversion x Need to Belong x Belongingness Needs Condition x Relationship Essay Type on State Stress.[3] I explored the nature of this interaction by testing the significance of the three-way Introversion x Need to Belong x Belongingness Needs Condition interaction in each

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[3] Additionally, analyses excluding the variable of Introversion were conducted on the three measures taken after the experimental manipulation. These analyses of the three-way interaction between Need to Belong, Belongingness Needs, and Relationship Essay Type on the outcome variables did not reveal any significant interaction effects on any of the outcome variables.

of the Relationship Essay Type Conditions. As demonstrated in Figure 7, the three-way

interaction predicting State Stress was not significant in the Real Social Essay Condition

($B = .10$, $\beta = .07$, $p = .500$). However, it was marginally significant in the Parasocial

Essay Condition ($B = -.25$, $\beta = -.18$, $p = .076$).
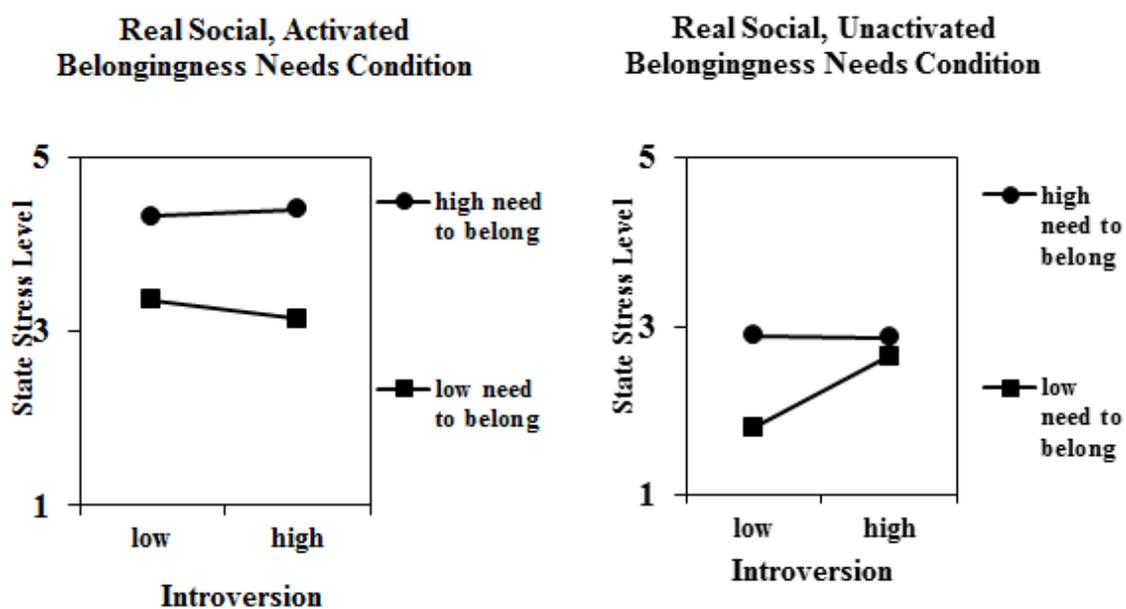
Figure 7. Predicting state stress level from need to belong and introversion in the real social essay condition.

To determine the nature of the significant three-way interaction in the Parasocial

Essay Condition, I separately tested the significance of the two-way interaction between

Introversion and Need to Belong in both of the Belongingness Needs Conditions. As

shown in the graph on the left side of Figure 8, this revealed a marginally significant 2-

way interaction of Introversion x Need to Belong predicting State Stress in the Parasocial,

Activated Belongingness Needs Condition ($B = -.36$, $\beta = -.24$, $p = .092$). However, the 2-

Parasocial, Activated
Belongingness Needs Condition

Parasocial, Unactivated
Belongingness Needs Condition
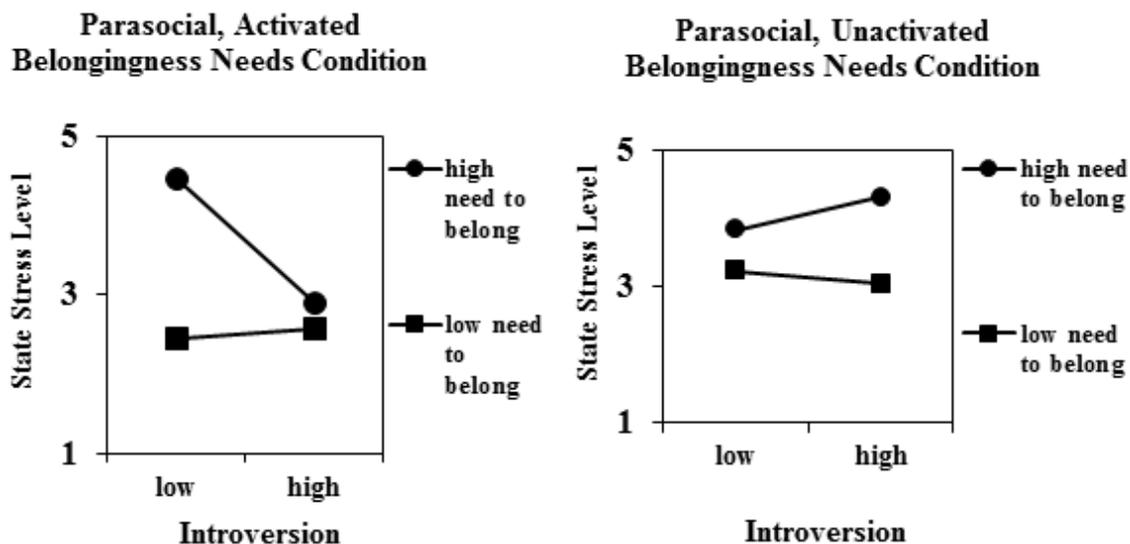
Figure 8. Predicting state stress level from need to belong and introversion in the parasocial condition.

way interaction of Introversion x Need to Belong was not significant in the Parasocial, Unactivated Belongingness Needs Condition ($B = .14$, $\beta = .11$, $p = .498$).

To determine the nature of the Introversion x Need to Belong interaction in the Parasocial, Belongingness Needs Activated condition, I analyzed the simple slope of introversion regressed on State Stress for people both high and low in the need to belong. As depicted in the graph on the right side of Figure 8, simple slopes analyses revealed that after having their belongingness needs activated and then writing about their favorite television character, participants with a low need to belong experienced about the same amount of stress regardless of whether they were introverted or extraverted ($B = .05$, $\beta = .04$, $p = .848$). However, participants with a high need to belong who wrote about their favorite television character after having their Activated Belongingness Needs

experienced significantly less stress if they were introverted, as opposed to extroverted ($B = -.67$, $\beta = -.49$, $p = .021$).

One explanation of the interaction of Introversion and Need to Belong on State Stress is that stemming from the Compensatory Paradigm of Parasocial Interaction. It follows from this paradigm that introverts with a high need to belong in particular, might supplement their feelings of belongingness with parasocial interaction after recalling social rejection. It also follows that under these conditions, parasocial interaction might be more effective than real interaction for this group of people, because they may be more susceptible to the risks inherent in real interactions. The effectiveness of parasocialinteraction for socially threatened introverts with a high need to belong might manifest itself in reduced feelings of stress for this group of people.

Last, I conducted a series of regression analyses to determine the effects of Need to Belong x Belongingness Needs Condition x Relationship Essay Type x Gender on the post-manipulation variables.[4] As with the previous analyses on the post-manipulation measures, I controlled for the length of the participants' relationship with their best friend and favorite television character. These analyses revealed no new significant main or interaction effects of Need to Belong, Belongingness Needs Condition, Relationship Essay Type, and Gender, on any of the three post-manipulation measures.

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[4] There was one additional series of analyses conducted to ensure a thorough exploration of the data from Study 1. In this set of regressions, each of the pre-manipulation individual differences variables was substituted for introversion. No new significant effects were discovered, except for a three-way interaction of Trait Stress X Belongingness Needs Condition X Relationship Essay Type. However, a probe showed that neither of the resulting two-way interactions was significant.

However, the four-way interaction between Need to Belong, Belongingness Needs Condition, Relationship Essay Type, and Gender was marginally significant for one of the post-manipulation variables, that of State Stress ($B = .21$, $\beta = .14$, $p = .084$). I probed this interaction by analyzing the three-way interaction of Need to Belong x Belongingness Needs Condition x Relationship Essay Type separately for each gender. The three-way interaction was not significant for men ($B = -.26$, $\beta = -.18$, $p = .199$) or women ($B = .18$, $\beta = .11$, $p = .25$).

Study 1: Discussion

Is introversion related to increased reliance on parasocial interaction, or are the two variables unassociated? Research seeking the answer to this question has produced some evidence in support of a relation between these variables, and some evidence to the contrary. The results of Study 1 support the latter. That is, Study 1 suggests that there is no significant association between people's level of introversion and the degree to which they engage in parasocial interaction.

Additionally, the results of Study 1 indicate that women appear to engage in more parasocial interaction than men do. Despite this, women did not receive more benefits from parasocial interaction than men. Prior research has not consistently supported that women engage more in parasocial interaction, and the question of whether they receive more beneficial psychological outcomes from parasocial interaction has not previously been addressed.

While some research supports the idea that women develop stronger parasocial relationships (Cohen, 2003, Lather, 2011), others have found no significant main effect of

gender on parasocial interaction (Cole and Leets, 1999) or imagined closeness with television personae (Greenwood & Long, 2011). Research has documented clear gender differences only pertaining to specific realms, such as identification with aggressive characters (Eyal & Rubin, 2003). Determining whether women engage in more parasocial interaction than men requires more research. If it is indeed the case that women engage in parasocial interaction more than men do, it might be explained by a variety of factors. The finding could be explained by such factors as engagement in pastimes other than parasocial interaction, differences between men and women in empathy for TV characters, or differing degrees of benefits received from parasocial interaction. Future research is needed to explain the possible role of these factors in gender differences in parasocial interaction level.

The results of Study 1 indicate that introverts have lower self-esteem than extraverts, and feel less accepted than extraverts. The results of Study 1 also indicate that women feel less accepted than men. Although introversion was related to negative outcomes for both sexes in Study 1, it appeared that these effects were manifested differently in each sex. The negative effect of introversion manifested itself as decreased self-esteem in men, but in increased stress for women.

In Study 1, when belongingness needs were activated, introverts did not, as compared to extraverts, experience significantly increased self-esteem after writing about their favorite TV character. Nor did extraverts experience significantly increased self-esteem by writing about their best friend, as compared to introverts. In this way, Hypothesis 3 was not supported. However, effects on participants with activated

belongingness needs may have been small, and thus might have supported the Compensatory Paradigm if Study 1 had increased power. Since the slope of introversion regressed on state self-esteem trended toward significance for socially threatened people who wrote about their favorite character, greater power may have increased the significance of this trend. If socially threatened introverts indeed had higher self-esteem after writing about their favorite character than did socially threatened extraverts, it might suggest that, consistent with the Compensatory Paradigm, the decreased risk of rejection in parasocial relationships helps introverts raise their self-esteem when they feel socially threatened. In contrast, results suggest that under neutral conditions, thinking about one's favorite TV character is not effective for introverts seeking to increase their state self-esteem.

Study 1 failed to replicate the results of a prior study (Jarzyna & DeHart, 2011a), in which the combination of high introversion and high need to belong was associated with increased stress. Instead, Study 1 showed that introversion impacted self-esteem only for people low in the need to belong. For this group, being introverted was associated with significantly lower self-esteem. Further research is needed to address this inconsistency with prior studies.

In Study 1, introversion and the need to belong interacted on state stress only for those who wrote about their favorite TV character under social threat. When belongingness needs were activated, introverts with a high need to belongdecreased their state stress by writing about their favorite TV character, more than did high need to belong extraverts. This supports the Compensatory Paradigm and the Social Surrogacy

Hypothesis, since it is plausible that introverts with a high need to belong are particularly comforted by parasocial interaction when their belongingness needs are activated because it lacks the risk of social rejection.

While stress decreases for high need to belong introverts after they are instructed to recall a parasocial friend, the results of the current studies do not suggest that these individuals spontaneously draw upon parasocial friendships more than others do so. Further, this study did not examine how individual differences in the need to belong and introversion affect spontaneous reliance on parasocial friendships under conditions of social threat. In light of the apparent benefit of parasocial interaction for high need to belong introverts under conditions of social threat, future research investigating this issue might provide helpful information for this group of people.

Study 1 is limited by the fact that it examined only whether parasocial interaction provides beneficial outcomes, and not the particular ways in which it might do so. Hence, Study 2 extends these results. Since past research has suggested that parasocial interaction exerts it power specifically by helping to fulfill belonging needs, rather than by elevating mood, I investigated this hypothesis in Study 2.

Study 2: Introduction

Study 2 sought to replicate the results of Study 1 pertaining to Hypotheses 1a and 1b. Since previous research regarding these hypotheses has been inconsistent, replication of the results from Study 1 would provide more consistency in this area. Additionally, Study 2 was designed to show that introverts and extraverts derive differential belongingness outcomes from writing about both parasocial and social relationships.

However, because the Social Surrogacy Hypothesis holds that it is specifically the experience of belonging through which parasocial relationships exert their power, Study 2 had an additional goal. This was to show that when belongingness needs are activated, the power of writing about one's favorite television character comes from providing feelings of belonging, not from improving mood. A possible shortcoming of research in this area lies in the fact that beneficial outcomes might arise simply because thinking about a favorite relationship is a pleasant task. Thus beneficial outcomes could be related to participants experiencing improved mood, rather than having their belongingness needs filled. Research has recently begun to address this shortcoming (Derrick et al., 2009), as did Study 2.

In past research, word-fragment completion tasks have demonstrated unconscious or "implicit" memory bias for mood-congruent words (Derrick et al., 2009; Ruiz-Caballero & Gonzalez, 1997; Watkins, Vache, Verney, & Mathews, 1996). The task instructs participants to complete word-fragments by filling in the blanks at the end of a word stem. The word-fragments used may result in words related to positive mood or negative mood, or words unrelated to these concepts. For example, participants in a negative mood complete more fragments that result in negative mood-related words, and fewer fragments that result in positive mood-related words.

The word-fragment completion task just described has been adapted to measure accessibility of words related to social exclusion (Derrick et al., 2009). To be clear, the definition of "accessibility" employed here is strictly that defined in the field of cognitive psychology. That is, accessibility is a heuristic concept which refers to the readiness with

which a cognitive representationis used in cognitive operations (Bruner, 1957). The adaptation of the word-fragment completion task is the same as that used to assess implicit memory bias for mood-congruent words, except that it assesses implicit memory bias for words congruent with one's feelings of social exclusion. To this end, the words that may result from the completed fragments relate either to social exclusion, or to concepts unrelated to social exclusion. Derrick et al., 2009, have successfully used the Word-Fragment Completion Task to demonstrate that when belongingness needs are met, exclusion-related words are less accessible. Such an implicit measure is a useful complement to explicit measures because implicit measures are not susceptible to social desirability bias.

Study 2 measured accessibility for words related to exclusion, positive mood, and negative mood, to test Hypothesis 4. In Study 2, all participants had their belongingness needs activated, and I proposed to show that introverts who wrote about a parasocialrelationship would have decreased accessibility for exclusion-related words, as compared to extraverts. I also proposed to show that extraverts who wrote about a real relationship would have decreased accessibility for exclusion-related words, as compared to introverts. However, because the power of parasocial relationships is in filling belongingness needs, rather than in altering mood, I proposed there would be no interaction of Introversion and Relationship Type on accessibility of positive and negative mood-related words.

Study 2: Method

Participants

One hundred twenty undergraduates from the participant pool of an introductory psychology course at Loyola University Chicago participated in the study. Four of these students were dropped prior to data analysis because they did not do the experimental manipulation, resulting in a total of 116 participants (59 females). The mean age of the sample was 19.8 years old (SD = 1.7). The ethnic composition of the sample was as follows: Caucasian or European American (59.5%), Hispanic American or Latino (16.4%), Asian American or Asian (14.7%), African American or African (4.3%), Native American (.9%) and Multiracial (4.3%). Students received partial course credit as payment for their time and effort.

Overview of Procedure

Participants came to the laboratory and completed the same background measures that were in Study 1. After completing these measures, all participants were asked to write an activated belongingness needs essay. This essay had participants recall a time when they fought with their best friend, and was the same as that used for the activated belongingness needs condition in Study 1. All participants in Study 2 had six minutes to write the activated belongingness needs essay and were asked to describe the event in as much detail as possible.

Upon completion of the activated belongingness needs essay, students were asked to write a second essay. Participants were randomly assigned to either the parasocial relationship essay or the real social relationship essay. After completing the second essay,

all participants in Study 2 performed a Word-Fragment Completion Task that has been used in previous research to measure the accessibility of words related to affect and to social exclusion (Derrick et al., 2009). The entire procedure took approximately 30 minutes. After finishing the experiment, students read a debriefing form telling them about the research and thanking them for their time and effort.

Measures

Introversion. The two introversion items of the TIPI were used as a measure of introversion (α = .68). The 8-item Mini-Marker (Saucier, 1994) was used as an additional measure of introversion. The eight items of the Mini-Marker had good internal consistency (α = .82), so were averaged together to create one composite. As in Study 1, the TIPI and the Mini-Marker were highly correlated r (114) = .86, p < .01, so were averaged together to provide one introversion score.

Parasocial interaction. The Parasocial Interaction Scale (Rubin, Perse, & Powell, 1985) that was adapted for Study 1 was also used for Study 2. The scale had high reliability (α = .88).

Relationship questions. Participants answeredthe same six questions pertaining to their best friend and to their favorite television character as they did in Study 1.

Perceived acceptance. Trait levels of perceived acceptance weremeasured with the Perceived Acceptance Scale (Leary, Cottrell, & Phillips, 2001) used in Study 1. This scale had high internal validity (α = .89).

Global self-esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to assess trait Self-Esteem (α = .90).

General stress. Trait levels of stress were assessed by asking participants to rate how they generally feel on the same three stress-related emotions that were assessed in Study 1. This measure had good internal validity ($\alpha = .74$).

Belongingness needs manipulation. All participants in Study 2 had their Activated Belongingness Needs by writing about a time when they fought with their best friend. This was the same task used to activate belongingness needs in Study 1.

Perceived rejection. The same three items used in Study 1 to assess the effectiveness of the belongingness needs manipulation were used in Study 2 ($\alpha = .85$).

The relationship essay manipulation. The same task used as the relationship essay manipulation in Study 1 was used for Study 2. That is, participants wrote about either a parasocial relationship or a real relationship.

The word-fragment completion task. This task is an implicit measure that has been used successfully in previous research (Bassili & Smith, 1986; Sinclair & Kunda, 1999). It has been adapted to measure the accessibility of exclusion-related words (Derrick et al., 2009), and positive and negative mood (Ruiz-Caballero & Gonzalez, 1997). These adaptations were used in Study 2 as an implicit measure of feelings of acceptance (vs. rejection) and of positive and negative mood.

There were eight positive mood word-fragments presented to participants "ha---, ca--, che--, jo-, gl--, rela---, ela---, and bli--." Items completed as "happy, calm, cheer, joy, glad, relaxed, elated, and bliss," were considered positive mood words and were coded as a "1". Items completed otherwise, e.g., "handy, cape, cheek, jot, glow, related, elapse, and blind," were not considered positive mood words and were coded as a "0".

Only the first five word-fragments listed were averaged to make a composite, with higher scores indicating greater accessibility of concepts related to positive mood. The last three word-fragments listed were not used in the composite because doing so greatly reduced the internal validity.

The eight negative mood word-fragments were "sa-, af----, fe--, ang--, up---, ba-, sca---, and ma-." Items completed as "sad, afraid, fear, anger, upset, bad, scared, or mad," were considered negative mood words and coded as a "1". Items completed otherwise, e.g., "sat, afford, feed, angle, upper, bag, and map," were not considered negative mood words and were coded as a "0". The eight items were averaged to make a composite, with higher scores indicating greater accessibility of concepts related to negative mood.

There were eight exclusion-related word-fragments presented to participants. These word-fragments were "exc----, rej---, ha--, outc---, sh-n, snu-, unwa----, and -anned." Items completed as "exclude, reject, hate, outcast, shun, snub, unwanted, or banned," were considered exclusion words and were coded as a "1". Items completed otherwise, e.g., "exclaim, rejoin, hard, outcome, shin, snug, unwasted, or canned," were not considered exclusion words and were coded as a "0". Only the first five word-fragments listed were averaged to make a composite, with higher scores indicating greater accessibility of concepts related to social exclusion. The last three word-fragments listed were not included in the composite because doing so greatly reduced the internal validity.

The target word-fragments were embedded in a list of 32 filler word-fragments. These filler word-fragments could not be completed in ways associated with rejection,

positive mood, or negative mood. An example of a filler word is "the--." This could be completed as "these," theme," or "there," etc., which are not words related to exclusion, positive mood, or negative mood. The Word-Fragment Completion Task is contained in Appendix C.

Study 2: Results

The Effect of Introversion on Parasocial Interaction Level in Study 2

First, I tested Hypothesis 1a and Hypothesis 1b regarding the relation between introversion and parasocial interaction level. Just as in Study 1, gender was included as a moderator in this analysis. The regression showed no main or interaction effects of introversion on parasocial interaction level (B's < .10, β's <.10, p's > .05). Consistent with the results of Study 1, this analysis did not support the Compensatory Paradigm, but did support the Global Use Paradigm. Inconsistent with the results of Study 1, the results of Study 2 revealed no main or interaction effects of gender on parasocial interaction level (B's < .10, β's <.10, p's > .05).

Effects of Introversion and Parasocial Interaction on Beneficial Outcomes in Study 2

To test Hypotheses 2, I conducted a series of regression analyses predicting trait levels of self-esteem, perceived acceptance, and stress level from the three-way interaction between introversion, parasocial interaction, and gender, and all of the two-way interaction terms and main effects of these predictors, just as in Study 1. Table 5 shows the results of these regressions.

Table 5. Multiple Regression Results for Introversion, Parasocial Interaction, and Gender predicting Trait Self-Esteem, Trait Feelings of Acceptance, and Trait Stress in Study 2

	Trait self-esteem (DV)			Trait feelings of acceptance (DV)			Trait stress (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	5.549**		58.104	5.536**		67.128	4.310**		42.236
Introversion	-.303**	-.317	-3.560	-.338**	-.399	-4.602	.351**	.345	3.858
Parasocial interaction	-.281**	-.272	-3.059	-.125	-.137	-1.581	.158	.144	1.615
Gender	.036	.033	.376	.051	.053	.615	.040	.035	.388
Introversion × parasocial interaction	-.002	-.002	.072	.058	.063	.715	-.088	-.079	-.870
Introversion × gender	.058	.060	.677	.095	.113	1.300	.124	.122	1.370
Parasocial interaction × gender	-.064	-.062	-.699	-.142†	-.154	-1.791	-.083	-.075	-.846
Introversion ×parasocial interaction× gender	.029	.027	.302	.001	.001	.015	-.057	-.051	-.564

†p < .10   *p < .05   **p <.01

As shown in the left panel of Table 5, there was a significant main effect of introversion on Trait Self-Esteem, such that introverts had lower trait self-esteem than extraverts. This finding was consistent with the findings from Study 1. The next result in this panel shows the main effect of parasocial interaction level on self-esteem. The direction of this effect indicates that those who engage in more parasocial interaction have lower self-esteem. This finding was inconsistent with the findings of Study 1. There were no other significant main or interaction effects.

As shown in the middle panel of Table 5, there was a significant main effect of introversion on Trait Feelings of Acceptance, indicating that introverts felt significantly less accepted than extraverts. This finding was consistent with the findings of Study 1. In addition, there was a marginally significant two-way interaction between parasocial interaction and gender occurred on Trait Feelings of Acceptance.

To probe the interaction of parasocial interaction level and gender on Trait Feelings of Acceptance, I analyzed the simple slope of parasocial interaction level predicting trait feelings of acceptance for men and women separately. The regression lines in Figure 9 demonstrate that for women, trait feelings of acceptance decrease significantly as parasocial interaction level increases ($B = -.27$, $\beta = -.29$, $p = .028$). However, for men, trait feelings of acceptance are not significantly associated with their level of parasocial interaction ($B = .08$, $\beta = -.08$, $p = .539$) One way in which this finding may be interpreted is that it suggests that women who feel unaccepted look to parasocial interaction in order to feel accepted (although it is not successful).
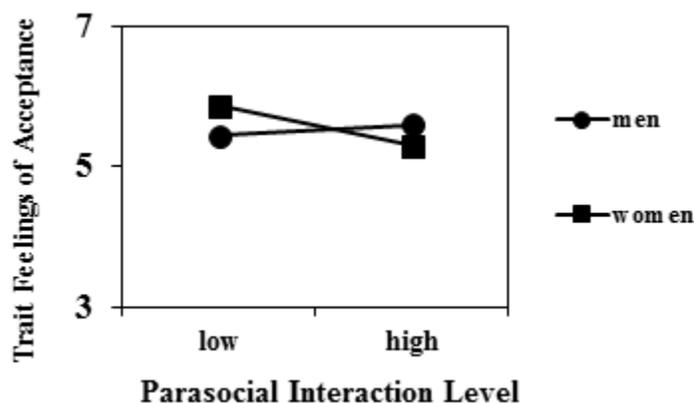
Figure 9. Predicting trait feelings of acceptance from gender and parasocial interaction.

For the outcome variable of general stress, there was a main effect of introversion, as shown in the right panel of Table 5. Specifically, introverts experienced higher levels of general stress than extroverts. There were no other significant effects predicting general stress. Consistent with the findings from Study 1, the results of Study 2 did not uphold Hypothesis 2,which predicted that introverts who engage in more parasocial interaction experience higher levels of beneficial outcomes as compared to introverts who engage less in parasocial interaction.

Regression Analysis on Experimental Manipulation Measures, Study 2

Hypothesis 4 predicted that under conditions of threat, introverts (relative to extraverts) would feel less excluded after parasocial interaction, but not have significantly improved mood. To test this hypothesis, I examined the effect of Introversion, Relationship Essay Type (1 = *parasocialrelationship essay*, -1 = *real social relationship essay*), and the interaction term on accessibility for words related to exclusion, positive mood, and negative mood. As in Study 1, I centered the predictor variables and

controlled for Gender.[5] I also controlled for the length of the relationship that participants had with their best friend, and length of time that participants had been watching their favorite television character. The results of this series of regressions are presented in Table 6.

As shown in the left panel of Table 6, there was a marginally significant main effect of the Introversion on Accessibility of Positive Mood Words. The direction of this effect indicated that introverts had decreased Accessibility of Positive Mood Words compared to extraverts. Additionally, there was a significant effect of Relationship Essay Type on Accessibility of Positive Mood Words. The direction of this effect suggested that those who wrote about their favorite TV character had decreased Accessibility of Positive Mood words as compared to those who wrote about their best friend. Additionally, there was a main effect of Gender on Accessibility of Positive Mood Words, indicating that women had greater accessibility of Positive Mood Words than men. The interaction of Introversion and Relationship Essay Type was not significant.

As shown in the middle and right panels of Table 6, there were no significant main or interaction effects of Introversion and Relationship Essay Type on Accessibility of Negative Mood Words, or on Accessibility of Rejection Words. Since Hypothesis 4

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[5] The same set of regressions using Gender as a moderator instead of a covariate yielded essentially the same results. Only one difference emerged. When sex was used as a moderator, a significant three-way interaction was apparent between Introversion, Relationship Essay Type, and Gender on Accessibility of Positive Mood Words ($B = .033$, $\beta = .180$, $p < .05$). Probes of this interaction indicated that the interaction of Introversion and Relationship Essay Type was significant for women only ($B = .050$, $\beta = .249$, $p < .05$). Simples slopes analyses revealed that the slope of Introversion regressed on Accessibility of Positive Mood Words was significant in the real social essay condition ($B = -.117$, $\beta = -.529$, $p < .01$), but not in the parasocial essay condition. The direction of the effect indicated that introverted women who wrote about their best friend had greater accessibility of positive mood words than extroverted women who wrote about their best friend.

Table 6. Multiple Regression Results for Introversion and Relationship Essay Condition predicting Accessibility of Positive Mood Words, Negative Mood Words, and Rejection Words

	Positive mood words (DV)			Negative mood words (DV)			Rejection words (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	.258**		4.554	.144**		2.951	.268**		4.832
Introversion	-.027†	-.150	-1.675	-.004	-.028	-.290	.006	.035	.357
Relationship essay type	-.042*	-.205	-2.292	-.020	-.123	-1.279	-.008	-.042	-.434
Gender	.047*	.230	2.584	.005	.032	.335	.007	.037	.384
Known best friend	-.006	-.058	-.653	.000	-.005	-.057	-.001	-.014	-.147
Watched TV character	.038*	.212	2.390	.017	.118	1.230	.017	.105	1.094
Intorversion x relationship essay type	.018	.098	1.109	-.009	-.061	-.641	-.009	-.056	-.580

†$p < .10$ *$p < .05$ **$p < .01$

predicted that when belongingness needs were activated, there would be an interaction between Introversion and Relationship Essay Type on the accessibility of exclusion-related words, but not on mood-related words, these results did not support this hypothesis. That is, in Study 2, introverts who wrote about a parasocial relationship did not have decreased accessibility for exclusion-related words, as compared to extraverts. Nor did extraverts who wrote about a real social relationship have decreased accessibility for exclusion–related words, as compared to introverts.

Ancillary Analyses for Study 2

The same series of analyses run in Study 1 to test whether introversion and high need to belong interacted to predict parasocial interaction level, trait self-esteem, trait feelings of acceptance, and trait stress, were also conducted in Study 2. That is, I conducted a series of regressions predicting these outcome variables from introversion, need to belong, and the interaction term (controlling for gender). Table 7 shows the results of these regression analyses.

As shown in Table 7, there were no main effects of introversion or gender that had not been shown in the prior analyses conducted for Study 2. Nor were there any interaction effects of introversion. However, as shown in the left panel of Table 7, this analysis revealed a main effect of the Need to Belong on Parasocial Interaction Level, such that as the need to belong increased, so did parasocial interaction level. This relationship, which was not apparent in Study 1, replicates results already reported in the literature. It may suggest that individuals with a high need to belong are attempting to fill the need with parasocial interaction. However, due to the fact this data is correlational,

Table 7. Multiple Regression Results: Introversion and Need to Belong Predicting Parasocial Interaction, Trait Self-Esteem, Trait Feelings of Acceptance, and Trait Stress in Study 2

Statistic	Intercept	Introversion	Need to belong	Gender	Introversion × need to belong
Parasocial interaction (DV)					
B	4.705**	-.082	.274**	.074	.096
β		-.089	.252	.071	.120
t	49.222	-.967	2.727	.776	1.317
Trait self-esteem (DV)					
B	5.533**	-.245**	-.292**	.022	.060
β		-.256	-.288	.020	.073
t	59.036	-2.928	-3.280	.232	.840
Trait feelings of acceptance (DV)					
B	5.520**	-.324**	-.077	.046	.015
β		-.382	-.085	.048	.020
t	65.880	-4.335	-.968	.549	.233
Trait stress (DV)					
B	4.302**	.315**	.120	.035	.032
β		.309	.111	.031	.036
t	41.815	3.430	1.228	.344	.409

†$p < .10$ *$p < .05$ **$p < .01$

causation cannot be determined. Thus, it may be possible that the effect reflects that parasocial interaction is not filling the need to belong.

Similar to Study 1, there was a significant inverse relationship between need to belong and trait self-esteem, such that as need to belong increased, trait self-esteem decreased. However, the significant interaction between introversion and need to belong on Trait Self-Esteem that appeared in Study 1 did not appear in Study 2. There were no

other significant main or interaction effects of the need to belong on parasocial interaction level, trait self-esteem, trait feelings of acceptance, or trait stress.

Then, I analyzed the effect of Introversion, Need to Belong and Relationship Essay Type and their interactions (controlling for gender and length of the relationship with one's best friend and favorite television character) on the accessibility of positive, negative, and rejection words.

There was a main effect of Relationship Essay Condition on Accessibility of Positive Mood Words ($B = -.05$, $\beta = -.23$, $p = .017$). Participants in the real social condition recorded more positive mood words than participants in the parasocial condition. There was a main effect of gender on this outcome measure as well ($B = .05$, $\beta = -.23$, $p = .021$), suggesting that women recorded more Positive Mood Words than men did. There was also a significant main effect of the length of relationship with one's favorite TV character occurred on Accessibility of Positive Mood Words ($B = .04$, $\beta = .22$, $p = .021$). The direction of this effect suggested that the longer participants had been watching their favorite TV character, the more Positive Mood Words they recorded. There were no other significant main or interaction effects of Introversion, Need to Belong, and Relationship Essay Type on Accessibility for Positive Mood Words. Further, there were no significant main or interactive effects of the predictor variables or covariates on the Accessibility of Negative Mood Words and Accessibility of Exclusion Words.

Next, I conducted the same a series of regression analyses as in Study 1 to determine the effects of Need to Belong x Relationship Essay Type x Gender on the post-

manipulation variables. As with the previous analyses on the post-manipulation measures, I controlled for the length of the participants' relationship with their best friend and favorite television character. These analyses revealed no new significant main or interaction effects of Need to Belong, Belongingness, Relationship Essay Type, and Gender, on positive, negative, or exclusion words.

In the final series of analyses, I substituted each of the individual difference variables for introversion in all of the analyses already conducted. By doing this, I was able to ensure a thorough exploration of the data, while also investigating whether the results of Study 2 replicated previous research by examining the interaction effects of trait self-esteem and relationship essay type on accessibility of positive, negative, and exclusion words. Some significant main effects occurred that were not surprising (e.g., that trait self-esteem was positively associated with state self-esteem). However, a few main and interaction effects occurred in this set of analyses that were of note.

There was a marginally significant interaction between Need to Belong and Parasocial Interaction Level on Trait Self-Esteem ($B = -.149$, $\beta = -.157$, $p = .081$) that did not appear in Study 1. This interaction is plotted in Figure 10. Probes showed that the simple slope of Parasocial Interaction Level regressed on Trait Self-Esteem was not significant for those low in the need to belong ($B = -.04$, $\beta = -.039$, $p = .747$). However, for those high in the need to belong, participants who engaged in more parasocial interaction had significantly lower Trait Self-Esteem than participants who engaged in less parasocial interaction ($B = -.36$, $\beta = -.35$, $p = .009$). This might indicate that contrary
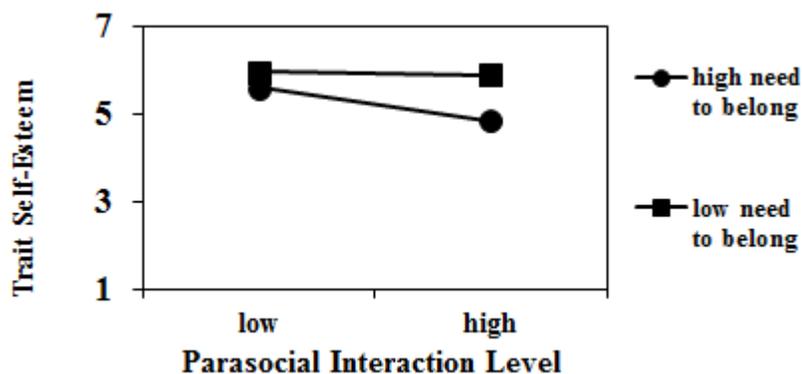
Figure 10. Predicting trait self-esteem from need to belong and parasocial interaction level in study 2.

to expectations, for people with a high need to belong, engaging in increased parasocial interaction does not provide the beneficial outcome of increased self-esteem.

When the individual difference variable of Parasocial Interaction Level was used as a predictor instead of Introversion, a marginally significant main effect of the Need to Belong (B = -.16, β =-.18, p = .072) on Trait Feelings of Acceptance was revealed. The direction of this effect suggested that those high in the need to belong felt less Trait Acceptance than those low in the Need to Belong. However, this main effect was qualified by the significant two-way interaction between Need to Belong and Parasocial Interaction Level on Trait Feelings of Acceptance (B = -.16, β =-.20, p = .041).This interaction had not been significant in Study 1. As depicted in Figure 11, the simple slope of Parasocial Interaction Level regressed on Trait Feelings of Acceptance was not significant for those low in the need to belong (B = .10, β = .11, p = .396). However, for those high in the need to belong, Trait Feelings of Acceptance decreased significantly as Parasocial Interaction Level increased (B = -.25, β = -.27, p = .050). This might indicate
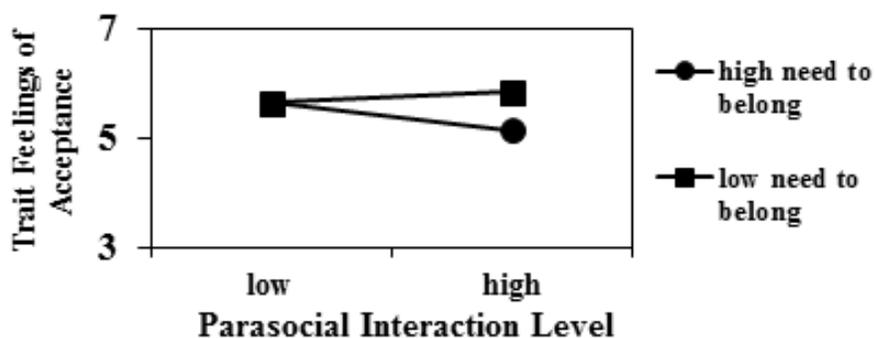
Figure 11. Predicting trait feelings of acceptance from need to belong and parasocial interaction level.

that for people with a high need to belong, engaging in increased parasocial interaction does not provide the beneficial outcome of increased feelings of acceptance.

No other significant interactions or newly apparent main effects on the background measures occurred in the analyses in which the other individual difference variables were substituted for introversion.

I also substituted the above individual difference variables for introversion in the analyses predicting positive, negative, and exclusion words. As with the previous analyses, sex and length of relationship with one's best friend and favorite TV character were used as covariates. Table 8 shows the results of Trait Self-Esteem, Relationship Essay Condition, and the interaction term predicting positive, negative, and exclusion words.

The left panel of Table 8 shows the main and interaction effects on Accessibility of Positive Mood Words. No newly apparent significant main effects on this variable became apparent in this analysis. However, a significant interaction of Trait Self-Esteem and Relationship Essay Type occurred. This interaction is plotted in Figure 12. Probes

Table 8. Multiple Regression Results for Trait Self-Esteem and Relationship Essay Condition predicting Accessibility of Positive Mood Words, Negative Mood Words, and Rejection Words

	Positive Mood Words (DV)			Negative Mood Words (DV)			Rejection Words (DV)		
	B	β	t	B	β	t	B	β	t
Intercept	.259**		4.571	.149**		3.115	.270**		4.874
Trait self-esteem	.008	.040	.451	-.019	-.123	-1.314	-.006	-.036	-.376
Relationship essay type	-.048**	-.235	-2.681	-.022	-.132	-1.423	-.006	-.034	-.361
Gender	.048**	.236	2.676	.005	.032	.337	.006	.032	.335
Known best friend	-.007	-.068	-.771	-.003	-.037	-.396	-.002	-.017	-.179
Watched TV character	.041*	.227	2.561	.018	.124	1.312	.016	.098	1.015
Trait self-esteem × relationship essay type	-.038*	-.200	-2.283	-.024†	-.157	-1.684	.014	.080	.839

Note. † $p < .10$ * $p < .05$ ** $p < .01$
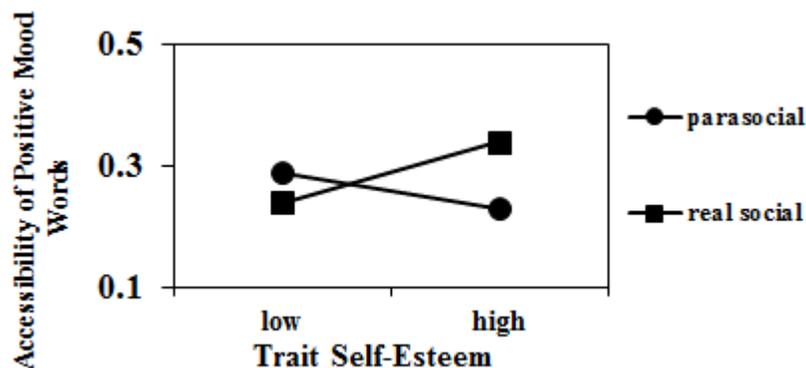
Figure 12. Predicting accessibility of positive mood words from social interaction type and trait self-esteem.

showed that for participants who wrote about a favorite TV character, there was no significant relationship between Trait Self-Esteem and Accessibility of Positive Mood Words (B = -.03, β =-.16, p = .221). However for participants who wrote about their best friend, the slope of Trait Self-Esteem regressed on Accessibility of Positive Mood Words was marginally significant (B =.05, β =.24, p = .071). The direction of this effect indicated that those with high Trait Self-Esteem who wrote about their best friend recorded more positive mood words than participants with low Trait Self-Esteem who wrote about their best friend.

The middle panel of Table 8 shows the main and interaction effects on Accessibility of Negative Mood Words. While there were no significant main effects, there was a marginally significant interaction between Trait Self-Esteem and Relationship Essay Condition. This interaction is shown in Figure 13. Probes showed that for participants who wrote about their best friend, the slope of Trait Self-Esteem regressed on Accessibility of Negative Mood Words was not significant (B =.004, β =.03, p = .820). However, for participants who wrote about their favorite TV character, those who had
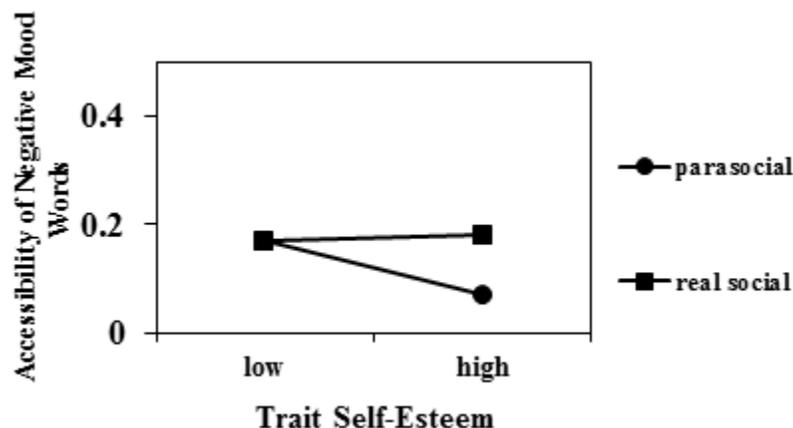
Figure 13. Predicting accessibility of negative mood words from social interaction type and trait self-esteem.

high self-esteem recorded significantly fewer Negative Mood Words than those who had

low self-esteem ($B = -.04, \beta = -.27, p = .046$). This suggests that people high in self-

esteem obtain decreased negative mood from parasocial interaction more so than people

who are low in self-esteem. This differs from the results of Derrick et al., (2009), because

they showed no effects of parasocial interaction on recalling mood-related words.

As shown in the right panel of Table 8, there were no significant main or interaction

effects of Trait Self-Esteem, Relationship Essay Type, or the interaction term, on

Accessibility of Exclusion Words.

Next, I substituted Parasocial Interaction Level for Introversion in the Need to

Belong analyses on accessibility for positive, negative, and exclusion words. That is, I

analyzed the effects of Parasocial Interaction Level, Need to Belong, Relationship Essay

Type and all of the resulting interaction terms on accessibility of positive, negative, and

exclusion words. Again, I controlled for gender and length of the relationship with one's

best friend and favorite television character. This set of analyses revealed a significant

Parasocial x Need to Belong x Essay Type interaction on Exclusion Words (B = -.04, β = -.25, p = .016), but no other significant interactions.

For participants who wrote about their favorite TV character, the interaction of Parasocial Interaction Level and Need to Belong trended toward significance (B = -.03, β = -.24, p = .101). This interaction is shown in Figure 14. Simple slopes revealed that for those high in the need to belong, those who engaged in more parasocial interaction recorded marginally significantly fewer exclusion words (B = -.06, β = -.35, p = .074). However, for people low in the need to belong who wrote about their favorite TV character, there was no significant relationship between their Parasocial Interaction Level and their Accessibility of Exclusion Words (B =.01, β =.06, p = .758). This may indicate that people who are high in the need to belong and often engage in parasocial interaction were particularly buffered from exclusion feelings when they thought of their favorite TV character.

Figure 14. Predicting accessibility of exclusion words from need to belong and parasocial interaction level in the parasocial essay condition.

For participants who wrote about their best friend, the interaction of Parasocial Interaction Level and Need to Belong was marginally significant ($B =.05$, $\beta =.26$, $p = .062$). As shown in Figure 15, for those high in the need to belong, parasocial interaction level did not predict accessibility of exclusion words ($B =.03$, $\beta =.15$, $p = .485$). However, for those low in the need to belong, parasocial interaction level was negatively associated with accessibility of exclusion words ($B = -.08$, $\beta = -.45$, $p = .030$). This could mean various things. One explanation is that people who are low in the need to belong and engage heavily in parasocial interaction are particularly buffered from exclusion feelings when they think about their best friend because they are feeling accepted both parasocially and by their best friend. This "double dose" of acceptance might be quite sufficient to buffer against feelings of exclusion in people who already have a temperamentally low need to belong.
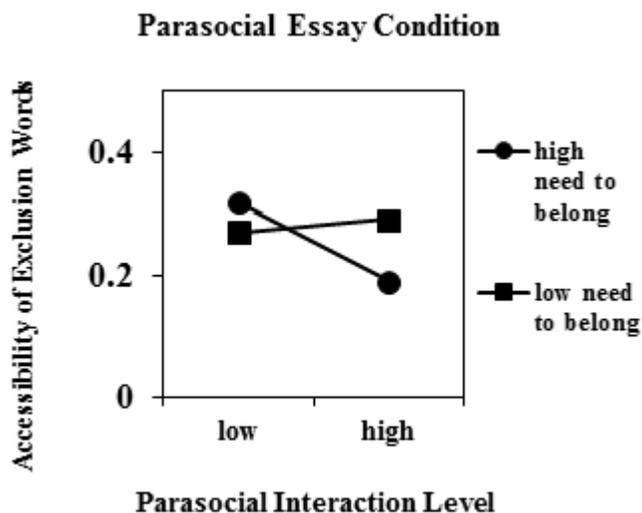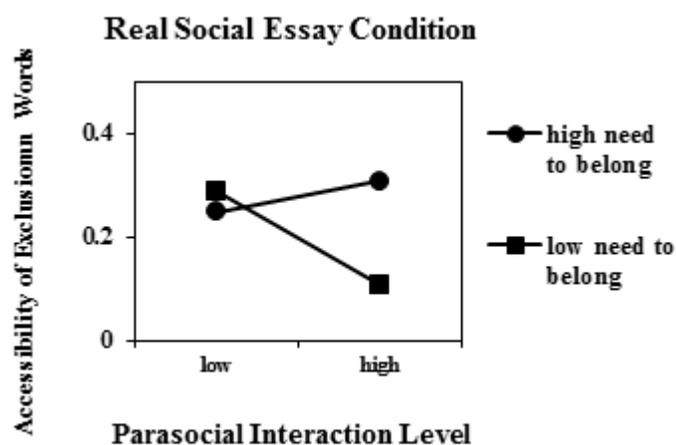

Figure 15. Predicting accessibility of exclusion words from need to belong and parasocial interaction level in the real social essay condition.

Study 2: Discussion

Study 2 sought to replicate the results of Study 1 pertaining to Introversion and Parasocial Interaction. Like Study 1, the results of Study 2 did not support the Compensatory Paradigm of Parasocial Interaction as far as the trait of Introversion is concerned, but instead supported the Global Use Paradigm of Parasocial Interaction. This result suggests that introverts are no more likely than extraverts to use parasocial interaction. Study 2 also replicated the results of Study 1 pertaining to Hypothesis 2. That is, the results of Study 2 failed to show that introverts who engage in more parasocial interaction experience more beneficial psychological outcomes than introverts who engage less in parasocial interaction. Study 2 did not, however, replicate the finding of Study 1 that women utilize parasocial interaction more than men do so.

Study 2 further aimed to replicate the results of prior research (Derrick et al., 2009), which showed that the power of parasocial relationships for those with social challenges lies specifically in fulfilling belongingness needs, rather than in simply improving mood. To this end, Study 2 augmented the explicit measures used in Study 1 with implicit measures, as the latter are less vulnerable to bias. Contrary to the results of Derrick et al., Study 2 did not support the hypothesis that the power of parasocial interaction is in providing feelings of acceptance, but not improving mood. In Study 2, introverts who wrote about their favorite TV character did not record fewer exclusion words than introverts who wrote about their best friend. To the extent that there were significant effects of the predictor variables on the implicit outcome measures, they pertained to Accessibility of Positive Mood Words rather than Exclusion Words.

Study 2 yielded results that are inconsistent with a similar study that supported the Compensatory Paradigm of Parasocial Interaction. Derrick et al., (2008) showed that low self-esteem people in particular benefitted more from a parasocial friend than a real friend. However, the results of Study 2 suggest that people high in self-esteem are in a more positive mood after parasocial interaction as compared to their low self-esteem counterparts. While Study 2 was similar to that by Derrick et al., there were differences in the specific variables of interest and methodologies. While both sets of research examined psychological benefits, Derrick et al., measured movement toward the ideal self. Thus, it is possible that the positive effect of parasocial interaction for people with low-self-esteem pertains specifically to movement toward the ideal self, and not to the benefits tested by the present research. The present research was also different in that it specifically tested parasocial interaction with a favorite television character. In contrast, Derrick et al. used favorite celebrities of all types, including politicians, musicians, and even CEO's. It is possible that the results of Derrick et al. pertain only to parasocial relationships with real people, and not to fictional characters.

It is unlikely that Study 2 failed to replicate the results of Derrick et al. (2009) because of statistical power issues. The present research had statistical power similar to that of the study of Derrick and colleagues. Furthermore, the directions of effects on positive, negative, and exclusion words in Study 2 were not such that increased power would move results in a way consistent with those of Derrick et al. Instead, other differences between the studies may have caused the inconsistencies. For instance, Derrick et al. compared groups different from those examined in Study 2. They compared

three groups, who wrote either about watching their favorite TV show, watching whatever was on TV, or experiencing an academic success. These comparison groups may have the variation in word accessibility just indicated, while people who recall either a parasocial or real friend do not.

Despite the fact that Study 2 failed to replicate the results of the research just discussed, some effects may be viewed as consistent with the Compensatory Paradigm of Parasocial Interaction. For instance, the relation between Trait Self-Esteem and Parasocial Interaction Level might suggest that those with the social challenge of low self-esteem sought to fill belongingness needs through the relatively risk-free behavior of parasocial interaction. However, it is important to note that the direction of causality cannot be definitively stated from this relationship, due to its correlational nature. Still, the explanation is theoretically plausible.

Another such effect concerns the need to belong. Like low self-esteem, high need to belong can be considered a social challenge that may lead to parasocial compensation. One relation shown in Study 2, while correlational, could indicate that people with a high need to belong engage in more parasocial interaction. This is consistent with results of previous research (Greenwood & Long, 2009), as well as with the idea that those with social challenges try to fill their belongingness needs parasocially. Thus, these results of Study 2 may indicate that the Compensatory Paradigm of Parasocial Interaction provides an accurate explanation of the power of this behavior for the socially challenged. Perhaps introversion is simply not one of the social challenges ameliorated by parasocial interaction.

Though Study 2 did not support the view that those with low self-esteem benefit especially by fulfilling their belongingness needs through parasocial interaction, it partially supported this idea for people with a high need to belong. The fact that those with a combination of a high need to belong and high parasocial interaction recorded fewer exclusion words after writing about their favorite TV character is in line with similar research regarding individuals with low self-esteem. Further, the fact that no such effects occurred on positive mood or negative mood words supports the concept that parasocial interaction exerts its power for those high in the need to belong not by improving mood, but specifically through filling belongingness needs.

CHAPTER 6

GENERAL DISCUSSION

Studies 1 and 2 helped elucidate the respective values of certain individual

differences in predicting the use and benefits of parasocial interaction. The results of

Studies 1 and 2 were not always convergent. However, both studies showed that

introversion, the need to belong, self-esteem, and gender, each in some way factor in to

how people utilize parasocial interaction. While some results of Studies 1 and 2

supported the Global Use Paradigm of Parasocial Interaction, other results corroborated

the Compensatory Paradigm. This research also provided some support for the Risk

Regulation Model and the Social Surrogacy Hypothesis.

Introversion

The results of Studies 1 and 2 are consistent with some already established

findings on introversion, such as its association with mood and self-esteem. As for the

new area of inquiry regarding introversion and parasocial interaction level, however, no

relationship was shown. Thus, the results of Studies 1 and 2 are consistent with the

Global Use Paradigm as it applies to introverts' level of parasocial interaction (Tsao,

1996). The premise of the Compensatory Paradigm, on the other hand, that those with

social challenges rely more heavily on parasocial interaction for social fulfillment, largely

was not upheld as it pertains to introversion. It is important to note, however, that this

finding is limited specifically to the role of introversion in parasocial interaction. That is,

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it may be the case that the Compensatory Paradigm accurately explains the role of many social deficits in parasocial interaction, but usually not that of introversion.

More essential to the analysis than mere levels of parasocial interaction is whether introverts experience increased beneficial outcomes from the behavior. This is because, even though introverts apparently don't use parasocial interaction more than extraverts, they could still receive increased benefits from it relative to introverts who engage in less parasocial interaction. Studies 1 and 2, however, did not show this to be the case. Rather, both studies demonstrated that introverts did not experience increased self-esteem, feelings of acceptance, or stress reduction, through parasocial interaction. Further, Study 1 did not reveal increased state levels of feelings of acceptance or stress reduction for introverts who thought about their favorite TV character. Nor did Study 2 reveal decreased feelings of social rejection in introverts who wrote about a parasocial friend rather than a real friend. As such, the Compensatory Paradigm of Parasocial Interaction largely did not apply to the attainment of these particular benefits by introverts. Yet, the Compensatory Paradigm may still explain introverts' achievement of a host of other beneficial outcomes not investigated in Studies 1 and 2.

This research suggests that under non-threatening circumstances, thinking of a parasocial friend raises self-esteem in extraverts, but not introverts.Under conditions of social threat, however, this pattern did not occur. Moreover, the trend that appeared to emerge under conditions of social threat may have supported the Compensatory Paradigm if Study 1 had not been limited by its level of power. Indeed, this trend, which indicated that introverts had greater self-esteem than extraverts after thinking of a

parasocial friend under conditions of social threat, would provide some support not only for the Compensatory Paradigm, but also the Risk Regulation Model. That is, it is indeed plausible that in response to social risk, introverts tried to protect themselves from rejection while maximizing the chance for closeness with those likely to fulfill their need for connectedness— their parasocial friends. Further, the fact that favorite TV characters appeared to substitute for real friends in raising self-esteem supports the Social Surrogacy Hypothesis.

This research failed to support the idea that when socially threatened, introverts would feel less rejected by writing about their favorite TV character, while extraverts would feel less rejected by writing about their best friend. While prior research has shown that those with social deficits respond in this way, the data here suggest that introverts do not. Thus, the current research indicates that the Compensatory Paradigm does not explain the role of introversion in Parasocial Interaction.

One possible explanation for why the Compensatory Paradigm may not apply to introversion is that the trait constitutes a different type of social deficit than those that are ameliorated by parasocial interaction. While research, the present included, has demonstrated introversion's association with adverse elements like negative mood and decreased self-esteem, the trait itself is not inherently unhealthy. Indeed, there are many introverts with positive moods and high self-esteem. Perhaps it is the case that introversion acts as a social deficit only when associated with anxiety, loneliness, or various other factors that were not examined in this research.

The Need to Belong

Prior research has shown that the need to belong reliably predicts parasocial interaction level (Greenwood & Long, 2009; Knowles, 2007). It has also supported the Compensatory Paradigm as well as the Social Surrogacy Hypothesis in explaining the role of the need to belong in parasocial interaction. Studies 1 and 2, however, provide inconsistent evidence regarding this relation. In this regard, Study 1 indicates that the need to belong is not associated with parasocial interaction level while Study 2, on the other hand, suggests that the higher one's need to belong, the more one engages in parasocial interaction. One explanation for this inconsistency is that an unaccounted for variable influences the relation between the need to belong and parasocial interaction level. A number of variables mighthave this effect. For instance, social anxiety, participation in group activities, or involvement in a romantic relationship each could plausibly impact the relationship between one's need to belong and parasocial interaction level. Future research examining these and other potential moderating variables might clarify the inconsistency in findings regarding the relation.

The present research was consistent with prior studies on the Compensatory Paradigm and the Social Surrogacy Hypothesis (Greenwood & Long, 2009; 2011), in that it showed some support for the conclusion that individuals high in the need to belong gain beneficial outcomes from parasocial interaction. While the predicted effects of introversion were generally not borne out, the present research nevertheless suggests that introversion coupled with a high need to belong may affect at least one beneficial outcome in the manner predicted. In this respect, Study 1 indicated that when high need

to belong introverts are socially threatened, they reduce stress more by thinking of their favorite TV character than their extraverted counterparts do. At the same time, in non-threatening circumstances, high need to belong extraverts reduced stress more by thinking of their favorite TV character than introverts did. This suggests that perhaps introverts high in the need to belong constitute a vulnerable group whose members are behaving the way the Risk Regulation Model predicts. That is, they may be gaining more acceptance through parasocial means when socially threatened, because real relationships pose more risk.

In Study 2, results for people high in both parasocial interaction level and the need to belong are compatible with prior research demonstrating the benefits of parasocial interaction for people high in the need to belong. Notably, one interpretation of the results in Study 2 is that that when socially threatened, people high in the need to belong reduce feelings of rejection through parasocial interaction while those low in the need to belong reduce feelings of rejection through real friendships—but only for participants who reported engaging in relatively high levels of parasocial interaction. It is interesting that this pattern pertaining to feelings of rejection appeared to be the only finding on this implicit measure.Prior research has not addressed these combined effects on feelings of rejection and may prove a fruitful direction for future research.

<div align="center">**Self-Esteem**</div>

The present research does not support the conception that people with the challenge of low self-esteem benefit more from parasocial interaction than real social interaction. This is inconsistent with previous research. In particular, the research of

Derrick et al. (2008) suggests that individuals with low self-esteem experience an important beneficial outcome, that of movement toward the ideal self, more from parasocial than real social primes. The present research, by contrast, indicates that low self-esteem individuals do not experience more positive mood after recalling their favorite TV character than they do from recalling their best friend.

Furthermore, the present results are also inconsistent with the findings of Derrick et al., 2009. Using implicit measures, their research showed that parasocial interaction affects feelings of rejection but not mood. However, using the same implicit measures, the research here showed that parasocial interaction affects mood, but not feelings of rejection. Specifically, the research of Derrick et al. suggests that people who think of their favorite TV program reduce feelings of rejection, while people who think about a random TV program or an academic success do not reduce feelings of rejection. The current research, on the other hand, indicates that people's feelings of rejection are not affected by thinking about their favorite TV character.Yet, the current research also suggests that thinking about one's favorite TV character does affect mood in people with high self-esteem. Continued research using implicit measures of parasocial interaction's effects may clarify the inconsistencies in these findings.

Gender

Results of Study 1 suggest that women use parasocial interaction more than men. Previous research has corroborated this finding, although not with complete consistency. In fact, Study 2 did not support the theory that women use parasocial interaction more than men. One explanation for these inconsistencies is that the effect of gender on

parasocial interaction level is small, and thus is only revealed with high statistical power. Another explanation is that an uncontrolled variable is influencing the relation between gender and parasocial interaction. Just as social anxiety, participation in group activities, or involvement in a romantic relationship each could plausibly impact the relation between one's need to belong and parasocial interaction level, so might they moderate the relation between gender and parasocial interaction level. Future research examining these and other potential moderators might clarify the inconsistency in findings regarding the relation. In any event, it should be noted that it would contradict the Global Use Paradigm if indeed certain groups, such as women, use parasocial interaction more than others. For if interaction with television characters is so ubiquitous a practice that it overwhelms significant differences between groups, the effect seen in Study 1 and some prior research should not emerge.

Neither Study 1 nor Study 2 indicated that women benefit more from parasocial interaction than men. Nevertheless, it is still possible that women receive through parasocial interaction relatively greater amounts of beneficial outcomes that were not examined in the current research. There are many beneficial psychological outcomes, and the research here explored only a few of them. Perhaps women, as compared to men, parasocially obtain greater amounts of other beneficial outcomes, like movement toward the ideal self, increased ability to focus, or anger reduction.

Strengths, Limitations, and Implications of the Current Research

The current research has many important strengths. A robust form of analysis, regression, was used to examine the data from both Study 1 and Study 2. In addition,

implicit measures were used to augment explicit measures. Also, the present research is valuable to theory because it contributes to the emerging literature on introversion's role in parasocial interaction, which has thus far been sparse and inconsistent. Moreover, some of the weaknesses of prior research are addressed by the present studies, as discussed more fully below.

One of the main weaknesses of prior research in the area is that it is merely correlational. Here, by contrast, both studies employed experimental manipulations that enabled causal explanations. Also unlike most prior research, the present research uses the Big Five definition of introversion. What is more, the belongingness outcomes of introverts' parasocial interaction that are analyzed in the current studies had not previously been examined. The research here is original in that it assessed introversion's role in the outcomes of parasocially-derived feelings of acceptance, self-esteem, and stress reduction. Ways to attain these benefits are important, because of the negative physical and mental consequences of failure to satisfy belongingness needs (Baumeister & Leary, 1995).

Notwithstanding these strengths, this research has limitations. One limitation is that it is cross-sectional. The experimental manipulations required that outcome measurements be taken at only one time. Thus, the present research does not have the benefits of a longitudinal design. Weaknesses of the present research with respect to statistical power and the nature of the variables may have been addressed by such a design. The repeated measures of a longitudinal design would have increased power. This is important for the current research because it is likely that the effects of interest are

small. In prior research, introversion and need to belong were shown to interact on stress and health symptoms in a diary study, but not in a cross-sectional study. The fact that the present research was cross-sectional may have prevented it from replicating the effects of the longitudinal diary study. Additionally, variables such as mood, feelings of acceptance, and stress, are particularly vulnerable to rapid fluctuations. Longitudinal measures would have been helpful because averaging scores on the repeated measures would have decreased the effect of rapid fluctuations, thus yielding a more accurate measurement. Thus, future research might benefit from integrating longitudinal measures.

The potential for age-specific findings plagues much of psychological research, and the current research is no exception. The results of Study 1 and 2 may pertain only to the population we examined. Due to their age and the fact that many of them had recently experienced the life change of going to college (72% college freshman), the participants in the current research may have behaved differently than other populations regarding variables like self-esteem, feelings of acceptance, and stress. Utilizing other populations (i.e., older adults or participants from a collectivist culture) to investigate the effects of parasocial interaction on these variables would help indicate if the findings of Studies 1 and 2 generalize to other people.

As mentioned previously, a third limitation of the current research is that it relied on only one type of parasocial relationship. The current studies used people's favorite tv character to assess parasocial interactions. Future research should examine other types of parasocial relationships and how they influence beneficial outcomes. For example, future

research should examine how thinking about other parasocial relationship partners, such as god or a dead loved one, may influence beneficial outcomes.

Like most of the research in this area, the analyses conducted on the pre-manipulation variables in Studies 1 and 2 were correlational. Thus a weakness of the pre-manipulation analyses is that the direction of causality cannot be determined from them. For instance, the association between need to belong and parasocial interaction is indeed compensatory if having a high need to belong causes people to engage in more parasocial interaction in order to fill their need to belong through a relationship with a TV character. However, this may not be the direction of causality. An alternative explanation is that engaging in a large amount of parasocial interaction causes one's need to belong to increase (perhaps because they are sacrificing time with real social partners).

Though the present research did not provide support for many of its hypotheses, it nonetheless has practical applications. Because psychological factors can impede the formation and development of fulfilling social bonds, research on parasocial interaction can inform psychological therapies. Like previous research showing that parasocial interaction provides feelings of acceptance (Derrick et al., 2009), movement toward the ideal self (Derrick et al., 2008), and reduction of aggression caused by exclusion (Twenge et al., 2007), the current research also has implications for applied practice. Study 1 suggests that after a social threat, introverts with a high need to belong can reduce stress by thinking of the favorite TV character. In a similar vein, Study 2 suggests that high need to belong individuals who generally use a lot of parasocial interaction feel less socially excluded after thinking about their favorite TV character. While practioners may

not view such behavior as the only way to treat feelings of social exclusion, parasocial interaction appears to be one effective tool for combating the malady. With school violence reaching a grave extent in the past two decades, discovering this healthy way to reduce feelings of social exclusion and the aggression it often causesis of utmost value.

While research has shown parasocial interaction to reduce aggression, the potential for the opposite effect, that of increases in aggression, should not be overlooked. Indeed, parasocial interaction may have negative psychological effects as well as beneficial ones. Though negative effects of parasocial interaction have not been an explicit focus of past research, related research indicates they do exist. Two areas in particular, sexuality and aggression are vulnerable to ill effects. For instance, men who use the internet for sexual gratification have reported decreased sexual interest in their wives even though they thought their wives were still objectively attractive (Doidge, 2007). Pertaining to aggression, past research has indicated that children learn aggression by viewing TV violence by both real and cartoon actors (Bandura, 1961; Kirsh, 2006).Thus, future research investigating the interface of parasocial relationships and aggression modeled on TV may have valuable implications for young people.

In contrast, healthy behaviors modeled on TV might benefit other groups. Past therapies employing video modeling have proven particularly effective for individuals with Asperger's Syndrome. For instance, individuals with Asperger's are often taught social interaction skills through stories, or by watching behaviors modeled onscreen (Hagiwara & Myles, 1999). Parasocial interaction seems a natural progression of this teaching method. In particular, since Asperger's Syndrome is in part defined by difficulty

feeling empathy, and feelings of empathy are a crucial part of parasocial interaction, perhaps developing feelings of empathy for a favorite character could be a stepping stone to experiencing the emotion in real relationships. Indeed, the efficacy of imaginary friendships for buffering against feelings of loneliness is already being investigated in those with Asperger's (Adamo, 2004). And just as parasocial identification with a celebrity has helped individuals with low self-esteem feel closer to their ideal selves, it has been posited that individuals with Asperger's can use identification with famous people with the disorder to increase self-esteem (Ledgin, 2002). With these examples in mind, and since Asperger's Syndrome is increasingly being diagnosed, informing therapies for this disorder could have profound results.

Independent of personality factors that can limit the development of social bonds, modernization has added practical impediments to social interaction. For instance, medical advances have increased the population of elderly individuals. However, older people often live alone and cannot easily travel even short distances. Another example of a practical impediment to socialization is that of jury members who are sequestered for days or months. Globalization too, has resulted in many individuals living far from friends and family. Also, more people now work online, separated from coworkers. For many individuals, even today's fast paced, "workaholic" lifestyles constitute a practical impediment to social interaction.

The remedy of parasocial interaction for this last impediment has never been more apparent to the popular culture than with the recent end of the long-running Oprah Winfrey Show. An abundance of media reports indicated that women, but not men, felt

they had lost a friend when the Oprah Winfrey Show ended. One writer in particular pinpointed how modernization has engendered an atmosphere in which Oprah is womankind's ideal parasocial companion:

The fact that women today need to turn on the TV for some friendship is indeed a sad comment on the state of women in our day, but a true one. Between work, marriage and family, women don't often have time to develop deeper friendships than a brief one hour with their TV set. Oprah is the personification of the best friend we all want in our lives. She is personable, loyal, intelligent,moral, and witty – she's the perfect friend." (Cheryl Levi, 5/2011, Diary of a Mom).

Study 1 indicates that indeed, women use parasocial interaction more than men, and perhaps significant parasocial friendships such as those with Oprah explain why. It is possible that women, more likely to be at home caring for children or juggling this responsibility with a job, should use parasocial surrogates to supplement their real friendships when they are too busy to socialize.

Finally, in our modern world, scientific study, particularly of the Earth's climate, is increasingly important. Such study can require scientists and other professionals to live away from family, in remote, sparsely populated regions, for several months at a time. That region might be as near (relatively speaking) as Antarctica's South Pole Research Station, or as distant as outer space. In these cases of unavoidable isolation, the current research underscores the utility of parasocial interaction as a social substitute. The results of Study 1 suggest that as long as they are not under conditions of social threat, extraverts facing social isolation could use their favorite TV programs as a tool to combat drops in

self-esteem brought on by being separated from close friends. In contrast, Study 1 suggests introverts should not rely on their favorite TV shows to raise their self-esteem. Study 1 also suggests that high need to belong extraverts facing social isolation could utilize their favorite TV programs to reduce stress, while high need to belong introverts should explore other avenues to reduce stress. Study 2 suggests that those who are high in self-esteem could use parasocial interaction as a tool to buffer against depressed mood resulting from social isolation.

In fact, a recent occurrence of social isolation suggests that scientists already recognize the utility of parasocial interaction. In the "Mars-500" study, an international team of scientists is confined in a capsule meant to simulate conditions on an eventual spacecraft to Mars. A previous simulation attempt jarringly revealed the importance of psychosocial needs in such an atmosphere. That simulation ended prematurely because those in the capsule started engaging in aggressive acts related to social isolation. Now more aware of the importance of psychosocial needs, scientists have made this a focus of the "Mars-500" study. Mars-500 will address the ill psychological effects experienced from being apart from loved ones, with few other people, for the 18 months it takes for roundtrip travel to Mars. Astronauts have already started packing their "parasociallunchbags". When asked what they would bring with them for the 18-month confinement they replied, "books, movies, and pictures of relatives" (Isachenkov, 2010).

While modernization has contributed to increases in social isolation such as those just described, it also has provided a powerful new way to interact parasocially. Because the internet is now almost as ubiquitous as television, the implications of parasocial

interaction research are increasingly important. Though much of internet socialization is not truly parasocial, it has significant parasocial elements. For instance, online interaction allows increased control, less pressure, and sometimes even anonymity. Indeed, the latest internet craze, websites such as "omegle.com" provide real-time video interaction with thousands of random partners across the globe, as fast as one can click a mouse. As websites for chat, video, photo-sharing, game-playing, and even sexual encounters increase rapidly, so do opportunities for parasocial interaction and social snacking. Both the positive and negative consequences of this are largely unknown. The proposed studies will add to the body of literature informing research into these consequences, so that all people, introverts and extraverts alike, can utilize parasocial interaction in a healthy way.

APPENDIX A

BACKGROUND MEASURES

Ten-Item Personality Inventory (TIPI)

(Gosling, Rentfrow, & Swann, 2003)

Please enter a number from the scale to indicate the extent to which the pair of traits

applies to you, even if one characteristic applies more strongly than the other.

1. *I see myself as extraverted, enthusiastic.*

2. *I see myself as reserved, quiet.*

Enter the appropriate scale number after each statement.

1 = disagree strongly

2 = disagree moderately

3 = disagree a little

4 = neither agree nor disagree

5 = agree a little

6 = agree moderately

7 = agree strongly

Forty-Item Mini-Marker Set

(Saucier, 1994)

How Accurately Can You Describe Yourself?

Please use this list of common human traits to describe yourself as accurately as

possible. Describe yourself as you see yourself at the present time, not as you wish to be

in the future. Describe yourself as you are generally or typically, as compared with other

persons you know of the same sex and roughly your same age.

Please enter a number indicating how accurately that trait describes you, using the following rating scale:

_____

Inaccurate					Accurate
Extremely	Moderately	Slightly	Slightly	Moderately	Extremely
1	2	3	4 5	6	7

_____ Bashful

_____ Bold

_____ Energetic

_____ Extraverted

_____ Quiet

_____ Shy

_____ Talkative

_____ Withdrawn

Revised Parasocial Interaction Scale

(Rubin, Perse, & Powell, 1985)

Please answer the following questions pertaining to your favorite TV character stated above.

Enter the appropriate scale number after each statement.

1 = disagree strongly

2 = disagree moderately

3 = disagree a little

4 = neither agree nor disagree

5 = agree a little

6 = agree moderately

7 = agree strongly

1. I think my favorite TV character is like an old friend.

2. I am not satisfied when other characters replace or overshadow my favorite TV character.

3. My favorite TV character makes me feel comfortable, as if I am with friends.

4. I would like to meet my favorite TV character in person.

5. My favorite TV character seems to understand the things I know.

6. I like hearing the voice of my favorite TV character in my home.

7. When my favorite TV character shows me how he or she feels about some issue, it helps memake up my own mind about the issue.

8. I look forward to watching my favorite TV character's show.

9. I like to compare my ideas with what my favorite TV character says.

10. My favorite TV character keeps me company when his or her program is on television.

11. I see my favorite TV character as a natural, down-to-earth person.

12. When I'm watching the program my favorite TV character is on, I feel as if I am part of the group.

13. If there were a story about my favorite TV character in a newspaper or magazine, I wouldread it.

14. I miss seeing my favorite TV character when his or her program is not on.

15. I feel sorry for my favorite TV character when he or she makes a mistake.

Relationship Questions

The following questions ask about your best friend.

Is your best friend male or female?   _____

Approximately how old is your best friend? _____

About how many hours a week do you spend interacting with your best friend?_____

How long have you known your best friend? _____

How long has this person been your best friend? _____

Using the scale below, how much would you say you like your best friend? _____

The following questions ask about your favorite TV character.

Who is your favorite television character? Please choose a human character, **not** a cartoon character, and enter it here:_____

Is this character male or female?   _____

Approximately how old is this character? _____

Approximately how many hours a week do you watch this character? _____

How long have you been watching this character? _____

How long has this character been your favorite TV character? _____

Using the scale below, how much would you say you like this character? _____

1 = disagree strongly

2 = disagree moderately

3 = disagree a little

4 = neither agree nor disagree

5 = agree a little

6 = agree moderately

7 = agree strongly

Rosenberg Self-esteem Scale

(Rosenberg, 1965)

This scale is a global measure of your feelings about yourself. Please answer the ten items using the following scale. For each item, please enter one number that best corresponds with your choice.

1 = disagree strongly

2 = disagree moderately

3 = disagree a little

4 = neither agree nor disagree

5 = agree a little

6 = agree moderately

7 = agree strongly

1. I feel that I am a person of worth, at least on an equal basis with others.

2. I feel that I have a number of good qualities.

3. All in all, I am inclined to feel that I am a failure.

4. I am able to do things as well as most other people.

5. I feel I do not have much to be proud of.

6. I take a positive attitude toward myself.

7. On the whole, I am satisfied with myself.

8. I wish I could have more respect for myself.

9. At times I feel that I am useless.

10. At times I think I am no good at all.

Perceived Acceptance Scale

(Leary, Cottrell, and Phillips, 2001)

Please rate how others make you feel on each of the following dimensions by circling the number that best corresponds to your choice:

	1	2	3	4	5	6	7	
Rejected								Accepted

	1	2	3	4	5	6	7	
Not valued								Valued

1   2   3   4   5   6   7

Shunned   Welcomed

1   2   3   4   5   6   7

Excluded   Included

1   2   3   4   5   6   7

Avoided by others   Approached by others

1   2   3   4   5   6   7

Ignored   Appreciated

General Stress

How stressed do you generally feel?

1   2   3   4   5   6   7

not at all   extremely

How pressured do you generally feel?

1   2   3   4   5   6   7

not at all   extremely pressured

How irritable do you generally feel?

       1   2   3   4   5   6   7

not at all   extremely irritable

APPENDIX B

EXPERIMENTAL MANIPULATIONS

Belongingness Needs Manipulation

Activated Belongingness Needs Condition

The next task is a memory recall task. Specifically, we would like you to think of a fight you had with the best friend you answered questions about earlier in the study. We would like you to spend the next 6 minutes writing about the fight you had with your best friend. Please be as descriptive as possible.

Unactivated Belongingness Needs Condition

The next task is a memory recall task. Specifically, we would like you to spend the next 6 minutes writing about all the contents of your residence that you can recall. Please be as descriptive as possible.

Perceived Rejection Questions

Please answer the next three items using the scale provided.

How unaccepted do you fell right now?

How rejected do you feel right now?

How negative do you feel right now?

1   2   3   4   5   6   7

not at all   extremely

Relationship Essay Manipulation

Parasocial Condition

The next task is also a memory recall task. Specifically, we would like you to spend the next 6 minutes writing about the favorite television character you answered

questions about earlier in the study. Please describe a time when you watched this character have a pleasant interaction with another character. Please be as descriptive as possible.

Real Social Condition

The next task is also a memory recall task. Specifically, we would like you to think of the best friend you answered questions about earlier in the study. We would like you to spend the next 6 minutes writing about a time when you and your best friend spent time together and you had a pleasant interaction. Please be as descriptive as possible.

APPENDIX C

POST-MANIPULATION MEASURES

The State Self-Esteem Scale
(Heartherton & Polivy, 1991)

Please enter a number from the following scale indicating how much you agree with each of the statements below at the present time.

1. disagree strongly

2. disagree moderately

3. disagree a little

4. neither agree nor disagree

5. agree a little

6. agree moderately

7. agree strongly

1. I feel confident about my abilities.

2. I am worried about whether I am regarded as a success or failure.

3. I feel satisfied with the way my body looks right now.

4. I feel frustrated or rattled about my performance.

5. I feel that I am having trouble understanding things that I read.

6. I feel that others respect and admire me.

7. I am dissatisfied with my weight.

8. I feel self-conscious.

9. I feel as smart as others.

10. I feel displeased with myself.

11. I feel good about myself.

12. I am pleased with my appearance right now.

13. I am worried about what other people think of me.

14. I feel confident that I understand things.

15. I feel inferior to others at this moment.

16. I feel unattractive.

17. I feel concerned about the impression I am making.

18. I feel that I have less scholastic ability right now than others.

19. I feel like I'm not doing well.

20. I am worried about looking foolish.

Current Feelings of Acceptance
(Murray, Derrick, Leder, & Holmes, 2008)

Please enter a number from the scale below to describe how you feel at the

present moment.

1	2	3	4	5	6	7

Not at all   Very

____ Happy   ____ Angry

____ Hurt   ____ Rejected

____ Betrayed   ____ Included

____ Disappointed   ____ Sad

____ Accepted   ____ Unloved

____ Appreciated   ____ Misunderstood

Current Stress

How stressed do you feel at this moment?

1   2   3   4   5   6   7

not at all   extremely stressed

How pressured do you feel at this moment?

1   2   3   4   5   6   7

not at all   extremely

How irritable do you feel at this moment?

1   2   3   4   5   6   7

not at all   extremely

Word-Fragment Completion Task
(Derrick, Gabriel, & Hugenberg, 2009)

Please complete the following word-fragments with a word from the English language by entering letters in the blank spaces.

Words related to exclusion

exc - - - -	outc - - - -
rej - - -	unwa - - - -
ha - -	snu -
sh - n	- anned

Words related to positive mood

ha - - -	gl - -
ca - -	bli - -
che - - -	rel - - -
jo -	ela - - -

Filler Words

the- -	mon - -
app - -	tee - -
sel	lev -
cl - -	pe -
sch - - -	rob - -
to -	co -
tr - -	ge -
ju - -	he - -
mo-	ho - - -
sal - -	sp - -

Words related to negative mood

sa - -	up - - -	pla - -	bree --
af - - - -	ma –	pi -	gi -
fe - -	ba –	real - -	be - - -
ang - -	sca - - -	grea - -	de -
wai - -	op - -	pas - -	kn - -

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