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Correlates of Parasocial Interactions Across Various Media Figures

College Honors Thesis

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Abstract

Parasocial interactions are one-sided relationships formed between a media spectator and a media figure. The current study examined the association of this phenomenon with loneliness, social anxiety, and attachment style, hypothesizing positive associations between self-reported parasocial interactions and loneliness, social anxiety, and anxious attachment style. The study also investigated whether these associations are moderated by co-viewing habits (how often someone views and discusses the object of their parasocial interactions and what platform they use to discuss), category of media figure (actor, musician, fictional character, etc.), and romantic relationship status (including cohabitation and length of relationship). $N = 307$ participants (41.2% female, 22.8% ethnic minority, ages 19-73) provided data via Amazon Mechanical Turk (MTurk), a crowdsourcing website. Results suggested negative zero-order associations between strength of parasocial interactions and both loneliness and social anxiety as well as a positive partial correlation between strength of parasocial interactions and anxious attachment when other outcome variables were controlled. Significant moderators included cohabitation in a relationship and discussing one's chosen character with others. These results suggest that engaging in parasocial interactions might alleviate distress caused by social deprivation, though further research is needed to clarify directionality. The results are consistent with a complex interplay between how one engages in and balances social and parasocial interactions.

Correlates of Parasocial Interactions Across Various Media Figures

Parasocial interaction(s), or PSI, was originally proposed as a psychological term in 1956 by Donald Horton and R. Richard Wohl, who defined it as “the seeming face-to-face relationship between spectator and performer” (Horton & Wohl, 1956). Early research focused on identifying parasocial interactions as distinctive from face-to-face social interactions as well as separate from identification with a particular performer (Feilitzen & Linne, 1975; Horton & Strauss, 1957; Rosengren & Windahl, 1972). Following the establishment of parasocial interactions as a unique and legitimate phenomenon, the emphasis of psychological research turned to Horton and Wohl’s (1956) original proposal of parasocial interactions as compensation for social deprivation. A new focus on how these interactions worked and how they might be connected to other psychological constructs related to social deprivation, such as loneliness and social anxiety, emerged in the early 1970s. The model of parasocial interactions as compensation for social deprivation remains prominent today. A complementary model emphasizes the cognitive parallels between parasocial and non-mediated interactions (Perse & Rubin, 1989), so that studying parasocial interactions can provide insight into the workings of non-mediated interactions. For example, John Durham Peters notes in a chapter on conversation and media that one-sided conversations have been taking place—for example, with non-verbal infants, or in prayer—since long before parasocial interactions were defined (Peters, 2007). Investigating the relations between attachment style and parasocial interactions is one way that this model has been realized.

In addition to gaining insight into non-mediated interactions, studying parasocial interactions also serves to increase understanding and decrease stigmatization of the phenomenon. Even scholarly researchers often fail to distinguish between pathological celebrity

worship (e.g., stalking) and parasocial interactions, despite theoretical work suggesting a continuum between the two (Stever, 2009). Perhaps this attitude among scholars has led those among the general population who do not engage in parasocial interactions to adopt a “sneering attitude” (Buonanno, 2008) toward those who do; for those who are already prone to social anxiety or loneliness, this could lead to further social isolation and the development of other mental health problems.

In relation to models of social deprivation and non-mediated interaction parallels, the constructs of loneliness, social anxiety, and adult attachment style have been examined in recent parasocial interaction literature. A strong body of evidence exists to support a link between parasocial interactions and loneliness, social anxiety, and anxious attachment; however, it is still not entirely clear whether the relations between parasocial interactions and loneliness and social anxiety are positive or negative. The current study investigated parasocial interactions as they related to these three concepts as well as the two relatively unexplored concepts of co-viewing habits and media figure categorization.

Loneliness

An early study conducted by Nordland (1978) suggested that parasocial interactions could theoretically substitute for normal social interactions, meaning that engaging in parasocial interactions could ameliorate any loneliness caused by social deprivation. Indeed several studies have found that increased strength of parasocial interactions is associated with lower levels of loneliness (Chory-Assad & Yanen, 2005), and one study found experimentally that viewing one’s favorite program (and engaging in parasocial interactions) led to decreased levels of loneliness (Derrick, Gabriel, & Hugenberg, 2009).

It has also been shown, however, that those individuals who formed parasocial relationships could see these relationships as “quasi-friendships” (Koenig & Lessan, 1985) rather than fully-fledged friendships that could make up for social deprivation. Theoretically this means that if someone who participates in parasocial interaction also lacks adequate social interactions, he or she would still experience loneliness—even if the loneliness is what drove him or her to engage in parasocial interactions in the first place. Along these lines, a 1985 study established a link between loneliness and parasocial interactions as moderated by TV reliance (Rubin, Perse, & Powell, 1985), and several studies have established positive relations between strength of parasocial interactions and loneliness (Baek, Bae, & Jang, 2013; Dhanda, 2011; Schiappa, Allen, & Gregg, 2007).

Social Anxiety

Similar to the finding that loneliness may actually decrease with increased strength of parasocial interactions due to amelioration of social deprivation, several studies have found or suggested negative associations between strength of parasocial interactions and social anxiety. Social anxiety is negatively related to transportation, a concept defined as the extent to which individuals are immersed in a storyline that is conceptually very similar to parasocial interactions (Green & Brock, 2000; Green, Brock, & Kaufman, 2004).

However, because parasocial interactions eliminate the potential for judgment and evaluation that comes with a typical social interaction, an individual who is already prone to social anxiety may also be more prone to engaging in parasocial interactions. Consistent with this view, a recent study established a positive correlational link between strength of parasocial interactions and social anxiety (Greenwood, 2008). In a study on social anxiety and internet use, Shephard and Edelman (2005) found that socially anxious individuals were more likely to use

the internet to self-regulate social concerns. Given that one of the main social concerns of socially anxious individuals is the fear of being observed by others as well as the fact that many parasocial interactions involve the internet (Baek et al., 2013; Kassing & Sanderson, 2009), this supports the idea that social anxiety may be positively linked with parasocial interactions.

Attachment Style

Adult attachment styles have been the focus of many parasocial interaction studies. According to a study on attachment styles and parasocial interactions, parasocial relationships exhibit the properties of adult attachment that occur in normal social relationships, namely proximity seeking, a secure base, and separation protest (Cole & Leets, 1999; Weiss, 1982, 1991). Of the three primary attachment styles of secure, anxious-avoidant, and anxious-ambivalent (Bowlby, 1980; Hazan & Shaver, 1987), research points to an association between parasocial interactions and those with an anxious-ambivalent attachment style (Cole & Leets, 1999; Greenwood & Long, 2011; Greenwood, Pietromonaco, & Long, 2008). Adults with an anxious-ambivalent attachment style are often characterized as reluctant to become close with others, usually due to a worry that the other partner in their relationship will not love/like them (Cassidy & Berlin, 1994). Given the inherent one-way nature of parasocial relationships, it is logical that those who fall under this attachment style would be more prone to engage in parasocial interactions.

Co-Viewing Habits

There is virtually no research on the effects of co-viewing habits on parasocial interactions. There has been some educated speculation that co-viewing, including viewing with others and discussing with others, would strengthen existing parasocial relationships (Gantz, 2013; Giles, 2002; Kassing & Sanderson, 2009), and co-viewing has been shown to strengthen

the relationship between the co-viewers (Butner, 2003); however, there is as of yet no empirical evidence to suggest relations between co-viewing and parasocial interactions or the effects of co-viewing on the correlates of parasocial interactions.

Media Figure Categorization

Despite theoretical suggestions that different types of media figures may elicit different responses among viewers (Giles, 2002), very little experimental literature exists on the differences in parasocial interactions with different types of media figures; e.g., actors versus live action fictional characters versus cartoon characters. An analysis by Schramm and Wirth (2010) affirmed that parasocial interactions with mediated fictional, non-mediated fictional, and mediated nonfictional characters could be assessed using the same scale; another study found no differences in strength of parasocial interactions between those who chose fictional and nonfictional characters (J. Cohen, 1997). One recent study has also developed a model to classify media figures based on multiple dimensions of authenticity (Tsay-Vogel & Schwartz, 2013). It has also been suggested that spectators might engage in more parasocial interactions with reality television stars due to the intimate nature of the programs and the stars' personal presence on various social media outlets (Bennett et al., 2014); similarly, numerous scholars have suggested that authenticity and appearance in multiple outlets may lead to stronger parasocial interactions (E. L. Cohen, 2010; J. Cohen, 1999; Giles, 2002; Greenwood & Long, 2011; Meyrowitz, 1986; Tsay-Vogel & Schwartz, 2013). No studies, however, have addressed whether type of media figure, if any, moderates the correlation between PSI and other factors.

Research Gaps and Hypotheses

As shown from the above review, there are several gaps in the research that need to be addressed. One is that a large majority of the studies conducted have focused on a correlation

between PSI and one other factor (Giles, 2002), even though the predictors of PSI are likely to be themselves correlated. It is important to include multiple factors in a single analysis in order to better understand both the motivations to engage in parasocial interactions and the factors that affect the strength of and psychological need for these interactions. Analyzing multiple factors could also help to clarify the true nature of the relations between parasocial interactions and loneliness and social anxiety, which have yet to be conclusively determined. In addition, virtually no literature exists on the differences in parasocial interactions with different types of media figures; e.g., actors versus live action fictional characters versus cartoon characters (Giles, 2002). Finally, as previously mentioned, there are no studies to date that analyze type of media figure as a moderator of the relations between degree of engagement in parasocial interactions and other factors.

The current study attempts to address each of these gaps through the following hypotheses:

H1: Strength of parasocial interactions will be positively correlated with:

- a. social anxiety;
- b. loneliness; and
- c. anxious-ambivalent attachment style.

H2: The relations between strength of parasocial interactions and social anxiety, loneliness, and attachment style will be moderated by co-viewing habits and type of media figure, such that:

- a. A lower degree of engagement in co-viewing will be associated with a stronger correlation between strength of parasocial interactions and each of the three correlates; and

- b. The strongest association between strength of parasocial interactions and the three correlates will be observed for those who report engaging in parasocial interactions with reality television stars (Bennett et al., 2014).

Additional Analyses

Due to the inclusion of a demographics form, the current study also examines gender, age, relationship status, length of relationship, and cohabitation status as moderators of the relations between parasocial interactions and loneliness, social anxiety, and attachment style; these analyses are considered exploratory. Gender has been included in virtually every study on PSI, and when differences are found it is common that women engage in stronger parasocial interactions than men (J. Cohen, 1997; Schiappa et al., 2007). Though research has yet to address age differences empirically, it has been suggested by those who specifically targeted a certain age group in their studies that different factors may be at work in the engagement in parasocial interactions at different ages (Chory-Assad & Yanen, 2005; Greenwood et al., 2008; Theran, Newberg, & Gleason, 2010). Relationship status has often been explored in conjunction with attachment style; findings from Greenwood and Long, which report that single individuals tend to engage more heavily in parasocial interactions, are typical of this literature (Greenwood & Long, 2011). Length of relationship and cohabitation status have yet to be addressed. Finally, despite the exploration of several of these factors in previous literature, none have been used as moderators.

Methods

Participants

A total of 300 participants were recruited from Amazon Mechanical Turk (MTurk). MTurk is an online system in which Human Intelligence Tasks, or HITs, are distributed among

large numbers of paid workers. Workers can search for HITs using various key words such as “psychology” or “short survey”, and they are paid upon completion of each HIT. Workers are typically compensated around 13 cents per minute of expected work time. The 300 participants came from a potential pool of approximately 500,000. On average MTurk users tend to be slightly more anxious than a typical population (Shapiro, Chandler, & Mueller, 2013), but they also tend to be much more demographically diverse than a typical population (Buhrmester, Kwang, & Gosling, 2011). They do not, however, differ from the typical population in abilities to comprehend instructions or complete cognitive tasks (Goodman, Cryder, & Cheema, 2013). The gender divide is approximately even, and slightly over half of the workers are American, with the next largest group of workers coming from India (Ross, Zaldivar, Irani, & Tomlinson, 2010). In addition, the largest concentration of workers falls between ages 18-24, and there is a diverse representation of economic status (Ross et al., 2010).

Measures

Celebrity-Persona Parasocial Interaction Scale (Bocarnea & Brown, 2007). This questionnaire measures strength of a parasocial relationship. Participants respond to 20 items on a scale of 1 (Strongly Agree) to 5 (Strongly Disagree). This measure has demonstrated adequate reliability and validity, including coefficient alpha typically ranging between .80 – .90. A sample item is “[celebrity or persona] makes me feel as if I am with someone I know well”.

Self-Consciousness Scale, Social Anxiety Subscale (Fenigstein, Scheier, & Buss, 1975). This subscale measures social anxiety as discomfort in the presence of others. Participants respond to 6 items on a scale of 0 (Extremely Characteristic) to 4 (extremely Uncharacteristic). This measure has demonstrated adequate reliability and validity, including coefficient alpha of .74. A sample item is “It takes me time to overcome my shyness in new situations”.

UCLA Loneliness Scale (Russell, 1996). This questionnaire measures loneliness. Participants respond to 20 items on a scale of 1 (Never) to 4 (Always). This measure has demonstrated adequate reliability and validity, including coefficient alpha with a typical range between .89 – .94. A sample item is "How often do you feel that you lack companionship?"

Revised Adult Attachment Scale – Close Relationships Version (Collins, 1996). This questionnaire measures adult attachment on three dimensions: how comfortable a person is with closeness (close attachment), the extent to which a person feels they can depend on others when necessary (dependent attachment), and the extent to which a person worries about being rejected (anxious attachment). Anxious-ambivalent attachment style is indicated by high scores on the anxious attachment subscale. Participants respond to 18 items on a scale of 1 (Extremely uncharacteristic of me) to 5 (Extremely characteristic of me). This measure has demonstrated adequate reliability and validity, including coefficient alpha of .85. A sample item is "I am comfortable depending on others".

Procedure

MTurk workers found the study in one of two ways: Amazon may have suggested it to the worker based on tasks they have previously completed; or, the worker may search through studies using various filters, including key words and compensation amount. Upon finding this study, workers first saw the short title: "Answer a survey about media figures". After clicking on the title, they saw a descriptive title: "Answer a few short questionnaires about your favorite media figure and your emotions". They were then directed to the welcome page, where they read a brief description of the study before following a link to the University of Vermont's LimeSurvey system. Upon entering the LimeSurvey website, participants were instructed to read

a brief informed consent document and asked to indicate their consent before proceeding to the questionnaires (see the Appendix).

The third section of the study was a demographics page, which collected information on the participants' gender, age, ethnicity, relationship status, and cohabitation status. The final section of the study was a closing page, which generated a random set of six numbers used to track participation and award compensation. Altogether, the study took participants about 10-15 minutes to complete, for which they were compensated \$1.50, in line with other MTurk studies of similar duration (Buhrmester et al., 2011; Kumar, 2014). Of the 335 participants who began the study on LimeSurvey, 300 returned to Amazon MTurk for compensation and 296 completed the entire study.

Results

Descriptive Statistics

The modal figure chosen by participants was Brad Pitt ($n = 9$), followed by Angelina Jolie ($n = 8$), Bryan Cranston ($n = 6$) and Walter White (Bryan Cranston's character on the show *Breaking Bad*) ($n = 6$). See Table 1 for more details on participants' choice of media figures. Due to a low number of responses in the Reality TV Star category, TV Personality and Reality TV Star were collapsed into a single category; additionally, several "other" responses were recoded into appropriate categories after inspection, which also resulted in new categories of "Musician" and "Athlete" being added. Following this reorganization, 57.3% chose Actor/Actress ($n = 176$), 21.5% chose TV Personality/Reality TV Star ($n = 66$), 8.8% chose Live-Action Fictional Character ($n = 27$), 5.9% chose Animated Fictional Character ($n = 18$), 3.9% chose Musician ($n = 12$), 2% chose Athlete ($n = 6$), and 0.7% chose Other and could not be otherwise categorized ($n = 2$). In line with the typical MTurk population, 58.8% of participants identified as male ($n =$

174) and 41.2% identified as female ($n = 122$). 77.2% of participants identified as Caucasian ($n = 230$), 8.4% as African American ($n = 25$), 7% as Asian ($n = 21$), 4.7% as Hispanic or Latino ($n = 14$), 1.7% as American Indian or Alaska Native ($n = 5$) and 1% as coming from another race/ethnicity group ($n = 3$). Participants ranged in age from 19 to 73 with a mean age of 33.76 ($SD = 14.36$). A majority of participants (62.3%) reported being in a relationship ($n = 185$). Mean relationship length for those in relationships was 94.17 months ($SD = 94.89$), and 76% of those in relationships were cohabiting with their partners ($n = 139$). See Table 2 for complete descriptive statistics for the sample on demographic and viewing variables.

Correlates of Parasocial Interactions

See Table 3 for a complete set of bivariate correlations. In order to assess the hypothesis that strength of parasocial interactions would be positively correlated with social anxiety, loneliness, and anxious attachment, a number of bivariate and partial correlation tests were conducted. In addition to the four variables noted above, two other subscales of attachment (closeness and dependency) and both co-viewing questions were also included. Strength of parasocial interactions was negatively correlated with social anxiety score, $r(304) = -.132, p = .022$, and loneliness, $r(302) = -.119, p = .039$, and positively correlated with how often participants viewed their media figure with others, $r(305) = .278, p < .001$, and how often participants discussed their media figure with others, $r(305) = .338, p < .001$. How often the participant discussed their media figure with others was additionally positively correlated with social anxiety score $r(304) = -.118, p = .039$, and loneliness, $r(302) = -.203, p < .001$, and positively correlated with close attachment score $r(302) = .124, p = .032$ and dependent attachment score, $r(302) = .159, p = .006$.

Because many of the variables were highly correlated with one another, partial correlations were run to account for the effects that certain variables had on one another. When controlling for the effects of social anxiety and loneliness scores, a significant positive correlation was found between CPPI score and anxious attachment score, $r(298) = .236, p < .001$. This relationship decreased slightly in strength when controlling only for loneliness score, $r(299) = .233, p < .001$, but decreased more substantially when controlling only for social anxiety score, $r(299) = .130, p = .024$. Additionally, controlling for social anxiety score and all three subscales of attachment slightly increased the strength of the negative relationship between CPPI score and loneliness score, $r(296) = -.177, p = .002$.

Moderation Analyses

In order to test the second hypothesis, which postulated that the relationships predicted by Hypothesis 1 would be moderated by co-viewing habits and type of media figure, interaction terms were created by multiplying mean-centered CPPI scale scores with dummy-coded variables representing each media figure category and all three co-viewing questions. Additional interaction terms were created with age, gender, relationship status, length of relationship, and cohabitation status. Each of these interaction terms, together with the two original variables, were regressed separately onto social anxiety, loneliness, close attachment, dependent attachment, and anxious attachment for a total of 55 regression analyses.

Media figure category. The regressions for category of media figure each contained 13 predictor variables: CPPI score, dummy-coded variables for each of the categories except for the reference category of “Actor/Actress”, and interaction terms for CPPI with each of the dummy-coded variables. These predictors did not explain a significant amount of the variation in any of the five dependent variables. There was a main effect of Athlete on loneliness, $\beta = .134, t(301) =$

2.322, $p = .021$, and dependent attachment, $\beta = -.121$, $t(301) = -2.097$, $p = .037$. Additionally, the interaction term of the Musician category with CPPI significantly predicted dependent attachment, $\beta = .143$, $t(301) = 2.318$, $p = .021$, such that the relationship between CPPI and dependent attachment was positive for those who chose musicians and negative for those who chose other categories (Figure 1a).

In order to assess the role of the modal category (“Actor/Actress”), 5 additional regressions were calculated in which the “Other” category served as the reference category. The predictors did not explain a significant amount of the variation in any of the five dependent variables. There was a main effect of TV Personality/Reality TV Star, $\beta = -1.161$, $t(301) = -1.984$, $p = .048$, Animated Fictional Character, $\beta = -.681$, $t(301) = -1.985$, $p = .048$, Musician, $\beta = -.579$, $t(301) = -2.032$, $p = .043$, and Athlete, $\beta = -.486$, $t(301) = -2.348$, $p = .020$, on close attachment as well as a main effect of Musician, $\beta = -.586$, $t(301) = -2.065$, $p = .040$, and Athlete, $\beta = -.499$, $t(301) = -2.364$, $p = .019$, on dependent attachment.

Additionally there was an interaction effect for several variables. The interaction term of the TV Personality/Reality TV Star category with CPPI significantly predicted close attachment, $\beta = 1.504$, $t(301) = 2.042$, $p = .042$, such that the relationship between CPPI and close attachment was positive for those who chose TV Personality/Reality TV Star and negative for those who chose other categories (Figure 1b). The interaction term of the Live Action Fictional Character category with CPPI significantly predicted close attachment, $\beta = .859$, $t(301) = 2.039$, $p = .042$, such that the relationship between CPPI and close attachment was positive for those who chose Live Action Fictional Character and negative for those who chose other categories (Figure 1c). The interaction term of the Animated Fictional Character category with CPPI significantly predicted close attachment, $\beta = .757$, $t(301) = 2.130$, $p = .034$, such that the relationship between

CPPI and close attachment was positive for those who chose Animated Action Fictional Character and negative for those who chose other categories (Figure 1d). The interaction term of the Musician category with CPPI significantly predicted close attachment, $\beta = .767$, $t(301) = 2.0195$, $p = .029$, such that the relationship between CPPI and close attachment was positive for those who chose Musician and negative for those who chose other categories (Figure 1e). Finally, the interaction term of the Athlete category with CPPI significantly predicted close attachment, $\beta = .451$, $t(301) = 2.000$, $p = .046$, such that the relationship between CPPI and close attachment was positive for those who chose Athlete and negative for those who chose other categories (Figure 1f).

Co-viewing: viewing with others. The three predictors of viewing with others, CPPI score, and the interaction of viewing with others and CPPI did not significantly explain the variance of any of the five dependent variables and no main effects were observed. No interaction terms were statistically significant.

Co-viewing: discussing with others. The three predictors of discussing with others, CPPI score, and the interaction term explained a significant amount of the variance in loneliness, $R^2 = .049$, $F(3, 298) = 5.148$, $p = .002$, close attachment, $R^2 = .034$, $F(3, 298) = 3.45$, $p = .017$, dependent attachment, $R^2 = .033$, $F(3, 298) = 3.340$, $p = .020$, and anxious attachment, $R^2 = .031$, $F(3, 298) = 3.206$, $p = .024$. There was a main effect of discussing with others on loneliness, $\beta = -.184$, $t(301) = -3.078$, $p = .002$, dependent attachment, $\beta = .156$, $t(301) = 2.578$, $p = .010$, and anxious attachment, $\beta = -.124$, $t(301) = -2.047$, $p = .042$. Additionally there was a significant interaction effect on several dependent variables. The interaction of discussing with others and CPPI score significantly predicted close attachment, $\beta = .510$, $t(301) = 2.262$, $p = .024$, such that relationship between CPPI and close attachment was more negative the less participants

discussed with others (Figure 2a). The interaction term of discussing with others and CPPI score significantly predicted anxious attachment, $\beta = -.486$, $t(301) = -2.155$, $p = .032$, such that the relationship between CPPI and anxious attachment became more positive the less participants discussed with others (Figure 2b).

Co-viewing: discussion platform. The regressions for discussion platform each contained five predictor variables: CPPI score, a dummy-coded variable for the “social media” option, a dummy-coded variable for the “other” option, and an interaction term for CPPI with each of the dummy-coded variables. These predictors explained a significant amount of the variance in social anxiety, $R^2 = .044$, $F(5, 298) = 2.759$, $p = .019$, loneliness, $R^2 = .054$, $F(5, 296) = 3.351$, $p = .006$, and anxious attachment, $R^2 = .063$, $F(5, 296) = 4.003$, $p = .002$. There was a main effect of social media discussion platform on social anxiety, $\beta = .160$, $t(303) = 2.612$, $p = .009$, loneliness, $\beta = .208$, $t(301) = 3.336$, $p = .001$, dependent attachment, $\beta = -.154$, $t(301) = -2.434$, $p = .016$, and anxious attachment, $\beta = .255$, $t(301) = 4.124$, $p < .001$. No interaction terms were statistically significant.

In order to assess the role of the modal platform choice (“Face-to-face”), 5 additional regressions were calculated in which the “Other” category served as the reference category. The predictors explained a significant amount of the variance in social anxiety, $R^2 = .044$, $F(5, 298) = 2.759$, $p = .019$, loneliness, $R^2 = .054$, $F(5, 296) = 3.351$, $p = .006$, and anxious attachment, $R^2 = .063$, $F(5, 296) = 4.003$, $p = .002$. No interaction terms were statistically significant.

Age. The three predictors of age, CPPI score, and the interaction term did not significantly explain the variance of any of the five dependent variables. There was a main effect of age on anxious attachment, $\beta = -.130$, $t(297) = -2.189$, $p = .029$. No interaction terms were statistically significant.

Gender. The three predictors of gender, CPPI score, and the interaction term explained a significant amount of the variance in loneliness, $R^2 = .029$, $F(3, 292) = 2.903$, $p = .035$, and anxious attachment, $R^2 = .038$, $F(3, 292) = 3.831$, $p = .010$. There was a main effect of gender on loneliness, $\beta = -.131$, $t(295) = -2.266$, $p = .024$ and anxious attachment, $\beta = -.180$, $t(295) = -3.134$, $p = .002$. No interaction terms were statistically significant.

Relationship Status. The three predictors of relationship status, CPPI score, and the interaction term explained a significant amount of the variance in loneliness, $R^2 = .082$, $F(3, 293) = 8.746$, $p < .001$, close attachment, $R^2 = .186$, $F(3, 293) = 3.491$, $p = .016$, dependent attachment, $R^2 = .037$, $F(3, 293) = 3.704$, $p = .012$, and anxious attachment, $R^2 = .070$, $F(3, 293) = 7.389$, $p < .001$. There were main effects of relationship status on loneliness, $\beta = -.255$, $t(296) = -4.551$, $p < .001$, close attachment, $\beta = .168$, $t(296) = 2.925$, $p = .004$, dependent attachment, $\beta = .180$, $t(296) = 3.142$, $p = .002$, and anxious attachment, $\beta = -.257$, $t(296) = -4.556$, $p < .001$. No interaction terms were statistically significant.

Relationship length. The three predictors of relationship length, CPPI score, and the interaction term explained a significant amount of the variance in anxious attachment, $R^2 = .062$, $F(3, 180) = 3.993$, $p = .009$. There was a main effect of length of relationship on loneliness, $\beta = -.186$, $t(183) = -2.423$, $p = .016$, dependent attachment, $\beta = .155$, $t(183) = 2.017$, $p = .045$, and anxious attachment, $\beta = -.245$, $t(183) = -3.252$, $p = .001$. No interaction terms were statistically significant.

Cohabitation in relationships. The three predictors of cohabitation status, CPPI score, and the interaction term explained a significant amount of the variance in social anxiety, $R^2 = .069$, $F(3, 179) = 4.420$, $p = .005$, loneliness, $R^2 = .215$, $F(3, 179) = 2.903$, $p = .036$, and anxious attachment, $R^2 = .246$, $F(3, 179) = 3.848$, $p = .011$. Additionally there was an interaction effect

for four of the dependent variables. The interaction term of CPPI and cohabitation status significantly predicted social anxiety, $\beta = .326$, $t(182) = 1.073$, $p = .024$, such that a more negative relationship existed between CPPI score and social anxiety score for those who were cohabiting than for those who were not (Figure 3a). The interaction term of CPPI and cohabitation status significantly predicted loneliness, $\beta = .405$, $t(182) = 2.784$, $p = .006$ such that a more negative relationship existed between CPPI score and loneliness score for those who were cohabiting than for those who were not (Figure 3b). The interaction term of CPPI and cohabitation status significantly predicted dependent attachment, $\beta = -.316$, $t(182) = -2.155$, $p = .033$, such that a more positive relationship existed between CPPI score and dependent attachment score for those who were not cohabiting than for those who were (Figure 3c). The interaction term of CPPI and cohabitation status significantly predicted anxious attachment, $\beta = .441$, $t(182) = 3.051$, $p = .003$, such that the relationship between CPPI and anxious attachment was positive for those who were cohabiting and negative for those who were not (Figure 3d).

Discussion

Contrary to Hypothesis 1, a negative association was found between strength of parasocial interactions and both loneliness and social anxiety. Although contrary to *a priori* hypothesis, this is not unheard of. Multiple studies have found negative associations between strength of parasocial interactions and both loneliness and social anxiety (Chory-Assad & Yanen, 2005; Green et al., 2004). Taken together with Horton and Wohl's (1956) model of parasocial interactions as ameliorative for those suffering from social deprivation as well as Perse and Rubin's (1989) model of parasocial interactions as similar to non-mediated interactions, a case can be made that stronger parasocial interactions (stronger relationships) could be associated with lower levels of deprivation-related constructs such as loneliness and social anxiety. Because

causality cannot be determined through correlational studies, it cannot be said for certain whether stronger parasocial interactions actually cause lower levels of social anxiety and loneliness.

Future research should take a longitudinal approach to determine whether engagement in and strength of parasocial interactions lowers pre-existing loneliness and social anxiety.

The association between strength of parasocial interactions and anxious attachment was only significant when controlling for the effects of social anxiety and loneliness. It is likely that social anxiety and loneliness—both negatively correlated with strength of parasocial interaction and positively correlated with anxious attachment—were acting as suppressors in the relationship between strength of parasocial interactions and anxious attachment. Partialing out social anxiety and loneliness consequently allowed a cleaner look at the nature of the relationship between anxious attachment and strength of parasocial interactions. Hypothesis 1c was therefore supported to some degree, and further evidence was provided to support parasocial interactions as analogous to non-mediated interactions. This particular finding highlights the value of examining multiple predictors, as the predictors themselves are often highly related to one another.

Although co-viewing was not specifically addressed in Hypothesis 1, it was included in the zero-order correlations for completeness. Viewing one's media figure with others and discussing one's media figure with others were both positively correlated with strength of parasocial interactions; that is, a higher degree of engagement in co-viewing habits is associated with stronger parasocial interactions, providing concrete support for what had up to this point only been theoretical speculations (Gantz, 2013; Giles, 2002; Kassing & Sanderson, 2009). While causality cannot be inferred, one potential explanation for this association is that viewing and discussing a media figure with others allows one to experience new perspectives on his or

her media figure, thereby increasing the ways in which he or she can interact with the media figure. Due to the lack of existing literature on the role of co-viewing in parasocial interactions these implications are only educated speculations, and further research is needed to clarify directionality in this relationship; for example, it could be that having stronger parasocial interactions prompts someone to engage in co-viewing.

With regards to Hypothesis 2, it should be noted that a large number of analyses were conducted; given a maximum p value of .05, 1 in 20 observed significant findings on average will be spurious. This could be a possible explanation for the significant interaction terms in media figure category analysis, especially given that the target category of Reality TV Star was collapsed into the TV Personality category due to low response and that the added categories of Athlete and Musician accounted for most of the remainder of the significant interaction effects. Hypothesis 2b was therefore not supported. However, the fact that close attachment was the outcome variable in all but one of the significant media figure interaction terms such that those in the target category exhibited a marginally positive association between close attachment and strength of parasocial interactions and those in other categories exhibited a substantially negative association merits further study.

Hypothesis 2a predicted that the relations between strength of parasocial interactions and the three variables of interest would be strongest with a lower degree of engagement in co-viewing. While no significant interaction terms were found for viewing one's media figure with others, discussing one's media figure with others was found to moderate the association between strength of parasocial interactions and anxious attachment such that the relationship became more substantially positive as discussion decreased, thus providing some support for Hypothesis 2a. This implies that discussing one's media figure with others may be adaptive in terms of

coping with the social difficulties inherent in having an anxious attachment style. Individuals with anxious attachment styles often worry about being rejected in their relationships, but it appears that these symptoms may be slightly ameliorated for individuals who engage in more discussion about the figure with whom they parasocially interact.

Interestingly, moderation was also observed with the added demographic variable of cohabitation in romantic relationships. The relationship between strength of parasocial interactions and loneliness was more negative for those who were cohabiting with their partners than for those who were not; this suggests that cohabiting with a romantic partner may serve as a buffer against parasocial interactions becoming maladaptive through loneliness. Indeed, cohabitation has been observed as a buffer against loneliness in studies of relationships (Lauder, Sharkey, & Mummery, 2004; Shiovitz-Ezra & Leitsch, 2010). On the other hand, the relationship between strength of parasocial interactions and social anxiety was substantially more negative for those who were not cohabiting with their partners than for those who were, and the relationship between strength of parasocial interactions and anxious attachment was negative for those who were not cohabiting with their romantic partner and positive for those who were. Contrary to the findings on loneliness, these two findings suggest that cohabitation may actually contribute to the parasocial interactions becoming maladaptive in terms of increased social anxiety and anxious attachment. Despite strong correlations among all three variables, there could be a characteristic unique to loneliness that is driving this rather stark contrast with social anxiety and anxious attachment. While this particular set of cohabitation findings is difficult to interpret, it suggests at minimum that cohabitation in a romantic relationship may affect the adaptiveness of parasocial interactions and could serve as a buffer depending on one's pre-existing levels of various deprivation-related constructs.

There were a number of limitations to this study. The population of Amazon Mechanical Turk, while certainly diverse, may have characteristics that distinguish it from the general population and inhibit generalizability. As with any online study with forced-choice questions, there is always the risk of survey fraud, distortion due to non-response, and differential interpretation of response options. The co-viewing questions, generated for this study, may not have been worded clearly and specifically enough to capture the underlying construct. This study used a continuous scale to measure attachment that, while useful in running correlational and regression analyses, may not capture attachment style as well as can be done with categorical assessments.

The findings of this study lay the groundwork for a number of new research questions. Further investigation into the role of different media figures is needed. Given the inconclusive results of this study with regards to media figure categorization, it may be more conclusive to employ a model such as dimensions of authenticity (Tsay-Vogel & Schwartz, 2013) or another model that classifies individual figures based on characteristics rather than categories. Similarly inconclusive was the question of what platform participants used to discuss their media figure with others, originally intended to be part of the co-viewing dimension. Although this study only addressed face-to-face discussion versus discussion via social media, future studies should seek to distinguish the platforms of discussion even further (e.g. different social media sites). Of particular relevance to parasocial interactions is the use of social media sites, as they allow discussion among, for example, socially anxious individuals. Future research should also address co-viewing in general, as there now exists concrete evidence to support its association with parasocial interactions. Perhaps most important to the advancement of the field, though, is the need for a longitudinal study or a study with experimentally manipulated variables. In such a

study causality and the directionality of these relationships could be determined, which would greatly increase understanding of the phenomenon of parasocial interactions.

Conclusion

This study has contributed to the field of parasocial interaction research in several ways. It provided support for the model of parasocial interaction as a compensatory strategy for social deprivation and a cognitive parallel to non-mediated interactions by finding a negative association between strength of parasocial interactions and loneliness and social anxiety and a positive association between strength of parasocial interactions and anxious attachment. It has established several significant moderators of these associations, including cohabitation in a romantic relationship and discussing one's media figure with others. While discussing one's figure with others is clearly adaptive, the role of cohabitation is still unclear. Finally, it captured a more extensive understanding of parasocial interactions by examining multiple factors with which the phenomenon is associated. The results indicate that, in several situations, engaging in parasocial interactions is actually adaptive for those experiencing social deprivation. It is the hope of the author that these results and the results of future studies will further increase understanding and decrease stigmatization surrounding parasocial interactions.

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CORRELATES OF PARASOCIAL INTERACTIONS

Table 1
Media figures named more than once

Media Figure	<i>n</i>
Brad Pitt	9
Angelina Jolie	8
Bryan Cranston	6
Walter White	6
Johnny Depp	5
Tom Hanks	5
Batman	4
Christian Bale	4
Tom Cruise	4
Robert Downey Jr.	4
Jimmy Fallon	4
Jennifer Lawrence	4
Melissa McCarthy	4
Jim Carrey	3
Conan O'Brien	3
Julia Roberts	3
Mark Wahlberg	3
Robin Williams	3
Oprah Winfrey	3
Jensen Ackles	2
Jennifer Aniston	2
Steve Carell	2
Louis CK	2
George Clooney	2
Stephen Colbert	2
Robert DeNiro	2
Cameron Diaz	2
Vin Diesel	2
Peter Dinklage	2
Eminem	2
Morgan Freeman	2
Peter Griffin	2
Neil Patrick Harris	2
Tom Hiddleston	2
Sherlock Holmes	2
Hugh Jackman	2
Bill O'Reilly	2
John Oliver	2
Jeff Probst	2
Gordon Ramsay	2
Keanu Reeves	2
Norman Reedus	2
Joe Rogan	2
Charlie Sheen	2
John Stewart	2
Neil DeGrasse Tyson	2
Denzel Washington	2
Emma Watson	2
Doctor Who	2
Bruce Willis	2

CORRELATES OF PARASOCIAL INTERACTIONS

Table 2
Descriptive Statistics: Demographic and Viewing Variables

	Mean	SD	Percent
Male			58.8
Female			41.2
African American			8.4
Asian			7.0
American Indian/Alaska Native			1.7
Caucasian			77.2
Hispanic or Latino			4.7
Other ethnicity			1.0
Age	33.76	14.36	
In a relationship			62.3
Relationship Length (in months)	94.17	94.89	
Cohabiting with partner			76.0
How often views figure with others*	2.97	.72	
How often discusses figure with others*	2.75	.71	
Platform for discussion: face-to-face			70.0
Platform for discussion: social media			29.3

*Scored on a scale from 1 (Never) to 4 (Often)

CORRELATES OF PARASOCIAL INTERACTIONS

Table 3
Bivariate Correlations

	1	2	3	4	5	6	7	8
1. CPPI ^a	--							
2. Social Anxiety	-.132*	--						
3. Loneliness	-.119*	.601**	--					
4. Close Attachment	.080	-.543**	-.688**	--				
5. Dependent Attachment	.064	-.498**	-.808**	.759**	--			
6. Anxious Attachment	.053	.481**	.778**	-.630**	-.705**	--		
7. View ^b	.278**	.001	-.069	.018	-.024	-.034	--	
8. Discuss ^c	.338**	-.118*	-.203**	.124*	.159**	-.091	.384**	--
Mean	3.409	3.242	2.150	3.425	3.186	2.426	2.970	2.750
Standard Deviation	.578	1.088	.696	.924	.970	1.062	.722	.713

Notes. ^aCPPI = Celebrity-Persona Parasocial Interaction scale score (strength of parasocial interactions); ^bView = How often one views their media figure with others; ^cDiscuss = How often one discusses their media figure with others.

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

CORRELATES OF PARASOCIAL INTERACTIONS

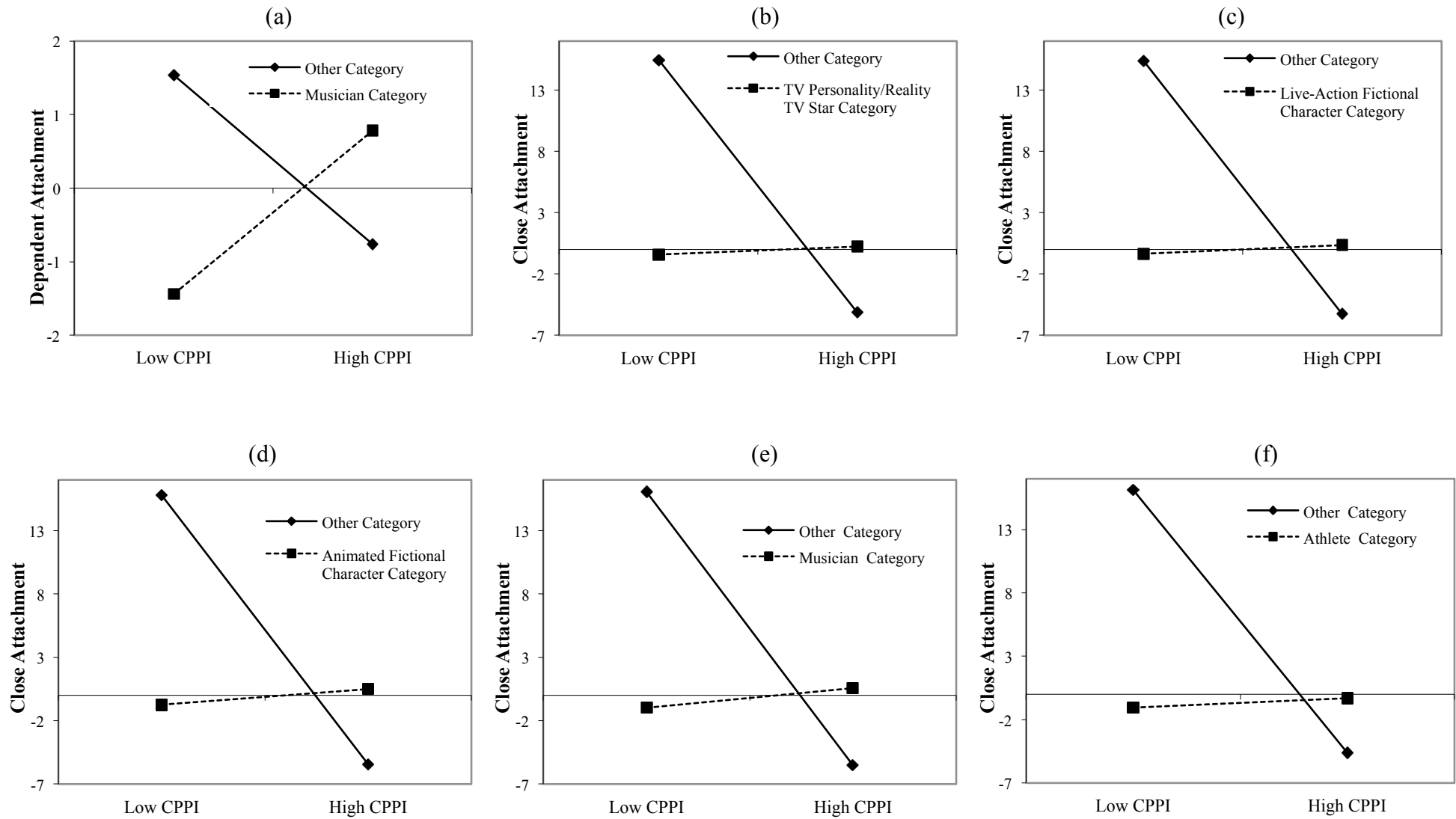


Figure 1. Significant category interaction terms. For CPPI scores, “low” is one standard deviation below the mean and high is one standard deviation above the mean. Dotted lines represent the target category and solid lines represent all other categories.

CORRELATES OF PARASOCIAL INTERACTIONS

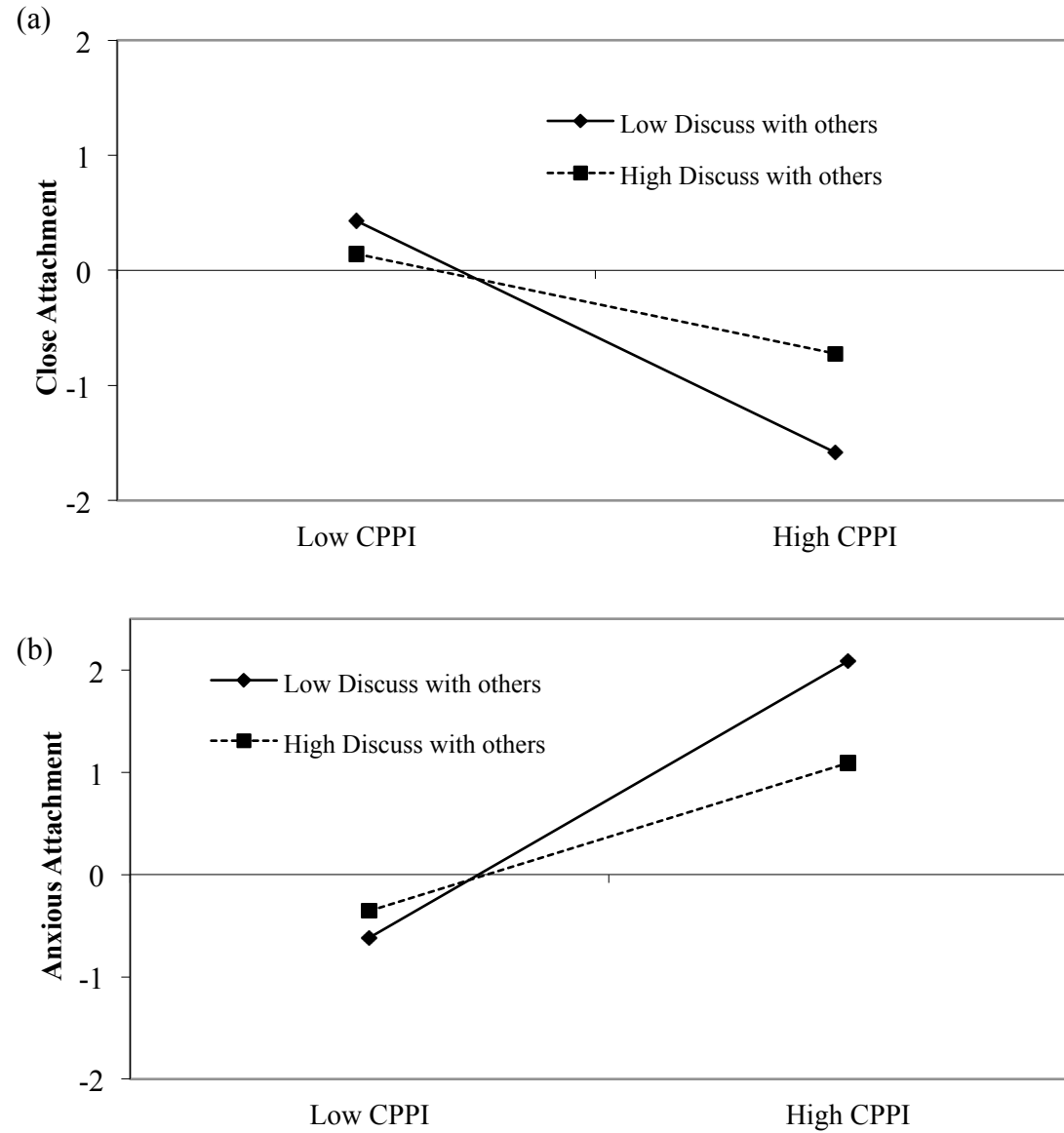


Figure 2. Significant discussion interaction terms. For CPPI and “discuss with others” scores, “low” is one standard deviation below the mean and high is one standard deviation above the mean.

CORRELATES OF PARASOCIAL INTERACTIONS

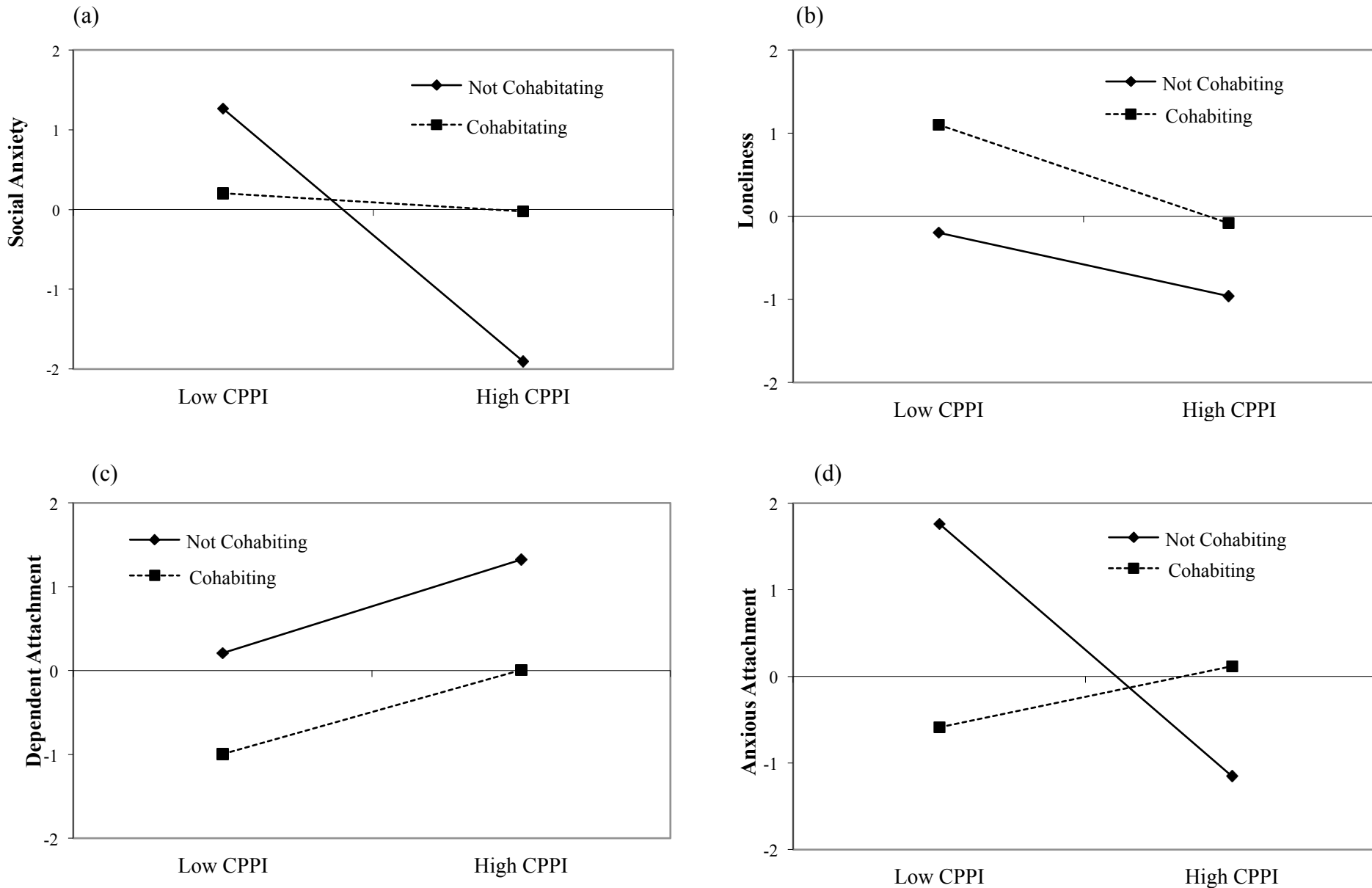


Figure 3. Significant cohabitation status interaction terms. For CPPI scores, “low” is one standard deviation below the mean and high is one standard deviation above the mean. Dotted lines represent those in relationships who were cohabiting and solid lines represent those in relationships who were not.

CORRELATES OF PARASOCIAL INTERACTIONS

Appendix: Questionnaire Measures Employed in the Present Study

Celebrity-Persona Parasocial Interaction Scale

Bocarnea & Brown, 2007

Based on a 1-5 scale, please indicate whether you agree or disagree with the next statements, where:

1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

	1. [celebrity or persona] makes me feel as if I am with someone I know well.
	2. If [celebrity or persona] appeared on a TV program, I would watch that program.
	3. I see [celebrity or persona] as a natural down-to-earth person.
	4. If I saw a newspaper or magazine story about [celebrity or persona], I would read it.
	5. I would like to meet [celebrity or persona] in person.
	6. I feel that I understand the emotions [celebrity or persona] experiences.
	7. I find myself thinking about [celebrity or persona] on a regular basis.
**	8. I do not have any feelings about [celebrity or persona].
	9. I like to watch [celebrity or persona] on television.
	10. Whenever I am unable to get news about [celebrity or persona], I really miss it.
	11. Learning about [celebrity or persona] is important to me.
	12. I have been seeking out information in the media to learn more about [celebrity or persona].
	13. I sometimes go to the Internet to obtain more information about [celebrity or persona].
	14. Sometimes I feel like calling or writing [celebrity or persona].
	15. [celebrity or persona] understands the kinds of things I want to know.
	16. I sometimes make remarks to [celebrity or persona] while watching television.
	17. I am very much aware of the details of [celebrity or persona]'s life.
**	18. I feel like I have very little understanding of [celebrity or persona] as a person.
	19. I look forward to seeing [celebrity or persona] on television or in the print media.
**	20. I am not really interested in [celebrity or persona].

** = Item is reverse scored

CORRELATES OF PARASOCIAL INTERACTIONS

Social Anxiety Subscale of the Self-Consciousness Scale
Fenigstein, Scheier, & Buss, 1975

Based on a 1-5 scale, please indicate whether the following statements are characteristic or uncharacteristic of you, where:

1) Extremely uncharacteristic 2) Uncharacteristic 3) Neutral 4) Characteristic 5) Extremely characteristic

	1. It takes me time to overcome my shyness in new situations.
	2. I have trouble working when someone is watching me.
	3. I get embarrassed very easily.
**	4. I don't find it hard to talk to strangers.
	5. I feel anxious when I speak in front of a group.
	6. Large groups make me nervous.

** = Item is reverse scored

CORRELATES OF PARASOCIAL INTERACTIONS

UCLA Loneliness Scale, Version 3
Russell, 1996

Instructions: The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided. Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always felt happy, you would respond "always".

1) Never 2) Rarely 3) Sometimes 4) Always

**	1. How often do you feel that you are "in tune" with the people around you?
	2. How often do you feel that you lack companionship?
	3. How often do you feel that there is no one you can turn to?
	4. How often do you feel alone?
**	5. How often do you feel part of a group of friends?
**	6. How often do you feel that you have a lot in common with the people around you?
	7. How often do you feel that you are no longer close to anyone?
	8. How often do you feel that your interests and ideas are not shared by those around you?
**	9. How often do you feel outgoing and friendly?
**	10. How often do you feel close to people?
	11. How often do you feel left out?
	12. How often do you feel that you relationships with others are not meaningful?
	13. How often do you feel that no one really knows you well?
	14. How often do you feel isolated from others?
**	15. How often do you feel you can find companionship when you want it?
**	16. How often do you feel that there are people who really understand you?
	17. How often do you feel shy?
	18. How often do you feel that people are around you but not with you?
**	19. How often do you feel that there are people you can talk to?
**	20. How often do you feel that there are people you can turn to?

** = Item is reverse scored

CORRELATES OF PARASOCIAL INTERACTIONS

Revised Adult Attachment Scale – Close Relationships Version
Collins, 1996

Instructions: The following questions concern how you generally feel in important close relationships in your life. Think about your past and present relationships with people who have been especially important to you, such as family members, romantic partners, and close friends. Respond to each statement in terms of how you generally feel in these relationships. Please use the following scale:

- 1) Extremely uncharacteristic of me 2) Uncharacteristic of me 3) Neutral
4) Characteristic of me 5) Extremely characteristic of me

	1. I find it relatively easy to get close to people.
**	2. I find it difficult to allow myself to depend on others.
	3. I often worry that other people don't really love me.
	4. I find that others are reluctant to get as close as I would like.
	5. I am comfortable depending on others.
	6. I don't worry about people getting too close to me.
**	7. I find that people are never there when you need them.
**	8. I am somewhat uncomfortable being close to others.
	9. I often worry that other people won't want to stay with me.
	10. When I show my feelings for others, I'm afraid they will not feel the same about me.
	11. I often wonder whether other people really care about me.
	12. I am comfortable developing close relationships with others.
**	13. I am uncomfortable when anyone gets too emotionally close to me.
	14. I know that people will be there when I need them.
	15. I want to get close to people, but I worry about being hurt.
**	16. I find it difficult to trust others completely.
**	17. People often want me to be emotionally closer than I feel comfortable being.
**	18. I am not sure that I can always depend on people to be there when I need them.

** = Item is reverse scored (for three-way subscale)

CORRELATES OF PARASOCIAL INTERACTIONS

Co-Viewing Habits

Please answer the questions based on the following scale:

1) Never 2) Rarely 3) Sometimes 4) Always

1. How often do you view this media figure in his or her context with others?
2. How often do you discuss this media figure with others?

For the following question, please choose an option from the drop-down menu:

1. What platform, if any, do you use to discuss this media figure with others? (face-to-face, social media, other – please specify)

CORRELATES OF PARASOCIAL INTERACTIONS

Demographics

1. What is your gender?
 - a. Male
 - b. Female
 - c. Other (please specify: _____)

2. What is your ethnicity?
 - a. American Indian or Alaska Native
 - b. Asian
 - c. African American
 - d. Caucasian
 - e. Hispanic or Latino
 - f. Native Hawaiian or Pacific Islander
 - g. Other (please specify: _____)

3. Are you currently in a romantic relationship?
 - a. Yes
 - b. No

IF YES to #3: How long have you been in this relationship, in months? _____

IF YES to #3: Do you currently live with your romantic partner? Yes / No _____

4. Please enter your age in years: _____