

Psychological Predictors of Media Involvement

Solitude Experiences and the Need to Belong

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Does intense engagement with entertainment media programs and characters reflect a psychological need for companionship? The research findings to date have been equivocal. The present study investigates how parasocial interaction (PSI) with media characters and transportation into media programs are related to specific kinds of solitude experiences, as well as to the need to belong (NTB). Results of a questionnaire study (N = 301) show that solitude experienced as self-expansion (e.g., self-discovery), diversion (e.g., engaging in distracting activities), and Other orientation (e.g., loneliness) each contribute to increased PSI with favorite TV characters. Self-expansion and Other-oriented solitude each also predicts increased tendency to transport into media programs and identify with characters. Furthermore, Other-oriented solitude appears to account for the significant association between NTB and PSI. Results provide new evidence for both compensatory and complementary uses and gratifications of entertainment media.

Keywords: *parasocial interaction; transportation; media; solitude; need to belong*

“Nothing could be more reasonable or natural than that people who are isolated and lonely should seek sociability and love wherever they think they can find it” (Horton & Wohl, 1956, p. 223). This statement was made a half century ago in the first paper to outline the phenomenon of what was termed “para-social interaction”—or the imagined intimacy that develops over time as audience members get to know a particular media persona. Although Horton and Wohl intuited that lonely people might be particularly gratified by such imagined intimacies as an alternative to more authentic social interaction, they were also careful to note that “Parasocial interaction . . . is analogous to and in many ways resembles social interaction in ordinary primary groups” (p. 228). Since then, researchers have attempted to test these ideas empirically, examining whether lonely or isolated people do indeed utilize mass media more frequently or for more parasocial purposes than do their less lonely peers. Thus far, links between loneliness and parasocial interaction (PSI) have been inconsistent.

Motivations for PSI

Although some research has found increased use of media per se to be associated with increased loneliness (Moore & Shultz, 1983; Perse & Rubin, 1990; Rubin, Perse, & Powell, 1985), these studies and others have typically failed to find a specific link between increased loneliness and the intensity of parasocial relationships with media personas (e.g., Chory-Assad & Yanen, 2005). Other studies, however, do show indirect evidence of a loneliness–parasocial connection. Finn and Gorr (1988) found that increased loneliness is associated with companionship motives for watching television, and Eyal and Cohen (2006) found that although increased PSI was not associated with increased loneliness, distress over a “parasocial breakup” (in this case, the series finale of *Friends*) was correlated with viewer loneliness.

Similarly, when broader personality correlates are examined in conjunction with PSI, the results have been equivocal. While Tsao (1996) found that increased extraversion and empathy and decreased neuroticism predicted increased PSI, Greenwood (2008) found that PSI was associated with negative affect and difficulty regulating impulses. The former suggests that individuals with high social comfort and skill may engage in imagined intimacy with media characters as a way of exercising these characteristics, while the latter suggests that PSI may provide a nonthreatening relational respite for individuals experiencing emotional difficulties.

Scholars have long been concerned with how parasocial engagement fits into the broader profile of individuals’ psychological well-being. Although some researchers have explored more extreme manifestations of parasociality that are symptomatic of acute emotional trouble (e.g., John Hinckley shooting President Reagan to impress actress Jodi Foster; Caughey, 1984), others have noted the “risk of creating a psychopathological dimension” of PSI and invited scholars to conceptualize this phenomenon as “an extension of normal social activity” (Giles, 2002, p. 286). Toward that end, the present study broadens the mundane social psychological context in which parasocial relationships have traditionally been examined by being the first to ask how belongingness needs and specific positive and negative varieties of aloneness predict PSI with favorite media personas. More specifically, the present study was designed to clarify inconsistencies in the literature regarding complementary or compensatory functions of parasocial engagement and to elucidate the role that such engagement with media personas plays in individuals’ social and emotional well-being.

Motivations to Transport Into Media Narratives

In addition to providing imagined friends and role models, media also offers individuals narrative worlds in which they can immerse themselves. This type of immersion has been termed *transportation* (Green & Brock, 2000) and is defined as emotional, cognitive, and perceptual absorption into a narrative (Green & Brock,

2000) and was originally used to explain the persuasive impact of narratives. However, Green (2005) has also theorized that transportation might provide opportunities to enhance the self, offering opportunities to rehearse empowering possible selves and/or process emotional experiences in a “safe space” (p. 61). She also acknowledges the possibility that transportation may enable escapist tendencies and may not always be linked to positive self-expansion. The present study investigates whether the tendency to transport into media programs (“transportability”; Dal Cin, Zanna & Fong, 2002), is associated with experiences of self-expansion or deprivation (e.g., loneliness).

Theoretically, transportation is considered to be relevant to, although distinct from PSI. Specifically, “as individuals become increasingly enmeshed in a narrative world, it is likely that they will develop a strong sense of connection or familiarity with characters encountered repeatedly or continuously over time” (Green, Brock, & Kaufman, 2004, p. 319). Indeed, prior work has shown a substantive positive correlation between self-reported transportation tendencies and PSI (Greenwood, 2008). With regard to fictional characters, however, the tendency to become transported into media narratives has incorporated the phenomenon of empathic identification (e.g., “I find myself feeling what the character might be feeling”) and not imagined friendship. In line with this operationalization, Green et al. theorized that becoming emotionally absorbed provides opportunities for transformation and social connection, via identification with a character or group of characters. The tendency to become transported, then, becomes an important construct to examine not only in the context of positive and negative solitude experiences but in concert with individual differences in the belongingness needs.

Need to Belong (NTB)

Baumeister and Leary (1995) conceptualized a need to belong or a need to develop and maintain meaningful social bonds, as a “fundamental human motivation” that underlies a myriad of human interaction and behavior. Furthermore, they outline specific assumptions that should be met in order to support a broad theory of belongingness as a basic human need. Two are particularly relevant for our research purposes: that failing to meet this need should have a negative impact on health and well-being (including depression, anxiety, and loneliness) and that the NTB should “elicit goal-oriented behavior designed to satisfy it” (p. 498). Although Baumeister and Leary highlight that the ideal way to fulfill belongingness needs is through frequent positive interactions premised on mutual care and concern, they leave open the possibility that individuals may derive partial satisfaction from various substitute interactions when close friends or relatives are unavailable.

We propose that imagined bonds with media personas, while perhaps less optimal than the bonds formed with real-life others, may provide one such substitute interaction

and may thus contribute to individuals' belongingness needs. A small body of research offers support for this hypothesis. Twenge and colleagues (2007) found that writing about a favorite celebrity, friend, or family member functioned to reduce aggression after social exclusion. They concluded that social connections with admired celebrities may buffer individuals against negative effects of social rejection. Similarly, Gardner, Pickett, and Knowles (2005) found that individuals with a high NTB were more likely to report feelings of parasocial connection to media characters.

Individuals who are high in the NTB may find themselves at loose ends when not in the company of others. They may be particularly likely to feel lonely when not in the presence of others and/or use their time alone to reflect on missed or lost loved ones. Engaging more intensely with media may be one way that individuals high in social inclusion needs attempt to cope with loneliness. Media programs are after all, inherently social (indeed, even nature programs feature compelling narrators or experts), and may offer individuals with increased belongingness needs a soothing if temporary replacement for genuine social interaction. Moreover, recent research finds that individuals high in the NTB are also more empathically attuned to and accurate at interpreting others' emotions (Pickett, Gardner & Knowles, 2004). This social and emotional vigilance may enhance the gratifications associated with transporting into media narratives, as well as identifying with and feeling imagined kinship with media characters.

Solitude and Media

The present study clarifies and contributes to the above described literature by assessing a spectrum of solitude experiences that capture both positive and negative emotions experiences while alone, in conjunction with PSI and transportation tendencies. By doing so, we investigate whether these forms of media involvement complement a tendency to spend time alone in creative or self-expanding ways and/or whether media involvement may function to compensate for aversive solitude experiences that give rise to feelings of longing or isolation.

In an attempt to gain deeper understanding into the positive and negative aspects of time spent alone, Long (2000) catalogued undergraduates' experiences of positive and negative solitude, which he and colleagues later refined into a taxonomy of nine solitude types (Long, Seburn, Averill, & More, 2003). To further clarify the nature of solitude experiences, Long et al. performed a factor analysis on these nine different solitude types and identified three factors: solitude experiences relevant to self-expansion (e.g., self-discovery, creativity), solitude experiences more negative in character (e.g., feeling lonely, feeling a need for diversion), and solitude experiences relevant to feeling some form of connection to others (e.g., intimacy, spirituality). They noted that intimacy also loaded relatively highly on the loneliness factor likely

because reflecting on an absent other may conjure feelings of yearning or isolation. Moreover, the loneliness factor correlated with negative indices of emotional well-being such as attachment anxiety and avoidance, neuroticism, and the inverse of life satisfaction.

It stands to reason that individuals who experience solitude as lonely or as a time when diversion is welcome may also be more likely to turn to media to cope. Indeed, Long et al. (2003) defined the diversion type of solitude as spending time alone "watching television, reading a book, surfing the internet, or engaging in other distracting activities" (p. 579). Similarly, Perse and Rubin (1990) found that chronically lonely individuals were more likely to use media than their nonlonely counterparts and were also more likely to report engaging in media use specifically to pass the time "when there was nothing else to do or no one else with whom to talk" (p. 42).

Although loneliness is one important dimension of solitude that may motivate media consumption, it is not the only dimension. Time alone can also provide opportunities for self-exploration, creativity, and freedom from the constraints of social self-consciousness. Long et al. (2003) found that individuals who experienced solitude in such positive ways had higher self-esteem and were more emotionally creative (see Averill, 1999). This conceptualization of solitude as an opportunity for personal growth fits with Larson's (1995) observations of how young people use media to negotiate the developmental stressors that accompany adolescence. He found that although adolescents spend increasing amounts of time by themselves, and, although they tend to report experiencing negative mood during this time, this form of solitude is not without its benefits. He noted, "Rather than being merely the absence of people, aloneness becomes recognized as an experiential niche providing valuable personal opportunities for emotional self-regulation and for the cultivation of the private self" (p. 538). Media use becomes an instrumental part of this process of self-regulation and exploration, for example, by offering adolescents an idealized other (often actors or musicians) with whom to identify and feel connected while media personas explore a wide range of relatable emotional life. We aim to build on this work and explore whether positive dimensions of solitude, in addition to loneliness and longing, may predict increased parasocial connection to media personas and/or transportation into media programs.

The Present Study

The present study examines how specific social and emotional tendencies (i.e., belongingness needs and solitude experiences) are related to specific social and emotional forms of media involvement, namely, PSI with media characters and transportation into media programs. By studying these phenomena in the context of one another, we hope to contribute specific connections between psychological tendencies and psychological involvement with entertainment media. Specifying such connections

directs researchers to particular media-related behaviors enacted in particular contexts by people with particular motivations. Such connections are necessary to understand the psychological mechanisms that differentiate patterns of media use that yield adaptive versus maladaptive social and emotional long-term effects.

More specifically, the present study contributes new evidence to the ongoing debate about whether PSI functions as a surrogate for meaningful social interaction and/or whether it functions as just another way to enjoy or structure time alone. By broadening the concept of “alone time” to a multidimensional and multivalenced construct, we explore whether parasocial connections serve to complement existing tendencies toward creativity and self-discovery and/or whether such involvement may compensate for boredom, loneliness, or a tendency to spend time alone thinking about absent others.

This study is the first to assess how solitude experiences may be linked to the tendency to become transported into media narratives. Although related to PSI, transportability focuses more on immersion into a story per se and on identification with characters. As noted earlier, one study (Greenwood, 2008) found that various indices of lower emotional well-being (e.g., lower self-esteem, increased attachment anxiety) predicted an increased tendency to transport. The present study builds on existing theory regarding psychological motivations for transporting by examining whether and how other indicators of social and psychological well-being—as measured by how individuals experience solitude, in conjunction with their need for social inclusion—are associated with transportation tendencies.

Furthermore, we add another layer to the question of how solitude may be associated with both PSI and transportation tendencies; we ask how individual differences in social inclusion needs may be implicated in both solitude and both forms of media engagement and whether particular solitude experiences (e.g., loneliness, imagined intimacy) may help explain the link between the NTB and PSI and/or transportation tendencies.

Although we might assume that individuals who feel lonely or who experience imagined intimacy in solitude would be the most likely candidates for parasocial involvement with media characters, research to date has only offered indirect support for a compensatory model of PSI. We keep this question open:

Research Question 1: Which types of solitude experiences are associated with PSI with media characters?

Next, just as solitude has been conceptualized as multidimensional, representing opportunities for creativity and self-discovery (Long & Averill, 2003; Long et al., 2003), so has transportation been conceptualized as an opportunity to experience transformation, to role play, and to fulfill belongingness needs (Green et al., 2004). It is possible that both negative and positive dimensions of solitude are implicated in the tendency to transport into media narratives. Therefore,

Research Question 2: Which types of solitude experiences are associated with tendency to transport into media programs?

Next, we predict that individuals who are more preoccupied with social inclusion may be more likely to yearn for either a specific other (intimacy) or a generalized other (loneliness). Therefore,

Hypothesis 1: Increased belongingness needs will be associated with increased experienced of other-oriented solitude (e.g., loneliness, intimacy).

Furthermore, consistent with prior research that shows a relationship between the NTB and parasocial connection to media characters (Gardner et al., 2005),

Hypothesis 2A: Increased belongingness needs will be associated with increased PSI with media characters.

And in line Green et al.'s (2004) theorizing that transportation may fulfill belongingness needs,

Hypothesis 2B: Increased belongingness needs will be associated with increased tendencies to transport into media programs.

Finally, although solitude experienced as loneliness may feel more subjectively unpleasant than solitude experienced as intimacy, each may be likely to occur in individuals who place a high premium on social connections and belongingness. Furthermore, although the NTB is considered a fundamental, evolutionarily derived personality variable, solitude experiences are considered to have developed over the lifespan in response to an individuals' level of NTB among other dispositional tendencies, we propose

Hypothesis 3: Solitude experienced as other-oriented may explain the link between belongingness needs and PSI and transportation tendencies.

Method

Participants

A total of 221 undergraduate participants from a large Midwestern university and 104 undergraduates from a private Southern college completed the questionnaire online for course credit. However, 11 participants completed the survey so quickly (i.e., completed over 140 questions in less than 8 minutes) that they could not have

responded accurately to each question, and another 13 participants failed to complete the survey within a single online session. These 24 participants were deleted from the file, leaving a total of 301 participants. The final sample was comprised of 209 females and 92 males.

Measures

Participants completed the following measures in the order in which they are described, among a few other measures not relevant to the present article.

Solitude (Long et al., 2003). Solitude was defined for participants as time spent alone—either by oneself or, if in the presence of others, without any social interaction (as when dining alone at a restaurant). Participants were then presented with the following nine types of solitude and asked to review them in anticipation of questions about their own experiences.

- *Solitude as inner peace*: While alone, you feel calm and relaxed, free from the pressures of everyday life.
- *Solitude as loneliness*: You feel self-conscious, anxious, or depressed; you long for interpersonal contact.
- *Solitude as anonymity*: Because you are alone, you may act in whatever ways you feel like at the moment, without concern for social “rules” or what others might think.
- *Solitude as self-discovery*: By focusing attention on yourself, you gain insight into your fundamental values and goals, and you come to realize your unique strengths and weaknesses.
- *Solitude as intimacy*: Although alone, you feel especially close to someone you care about, for example, an absent friend or lover or perhaps a deceased relative (such as a beloved grandparent); the absence of the person only strengthens your feeling of closeness.
- *Solitude as creativity*: Being alone stimulates novel ideas or innovative ways of expressing yourself, whether actually in art, poetry, or intellectual pursuits, or whimsically in daydreaming with a purpose.
- *Solitude as spirituality*: While alone, you have a mystic-like experience, for example, a sense of transcending everyday concerns, of being a part of something grander than yourself; such experiences are sometimes interpreted within a religious context (e.g., as being close to God), but they can also be entirely secular (e.g., as being in harmony with nature or social order).
- *Solitude as problem solving*: Aloneness provides the opportunity to think about specific problems or decisions you are facing, and you attempt to come to some resolution.
- *Solitude as diversion*: You fill the time alone by watching television, reading a book, surfing the Internet, or engaging in other distracting activities.

For each type of solitude, participants responded to an 8-point Likert-type scale regarding the frequency with which they experience each type of solitude (endpoints

of *never* to *once/week or more*) and to similar scales assessing the influence each type has had on their life (*no influence* to *very much influence*) and how likely they were to exert effort to experience each type (*not at all likely* to *very likely*). The types of solitude (and the associated questions) were presented in randomized orders to counteract order effects.

Need to belong (NTB; Leary, Kelly, Cottrell, & Schreindorfer, 2007). This 10-item scale taps the extent to which individuals are invested in being socially accepted and to which they experience difficulty when they are without social contacts ($\alpha = .78$). Items include “I do not like being alone,” and “I try hard not to do things that will make other people avoid or reject me.” Responses were made on a 7-point Likert scale with higher scores indicating an increased NTB.

Parasocial interaction (PSI; Cole & Leets, 1999, adapted from Rubin et al., 1985). After participants identified a favorite character or personality (allowing for media icons such as Jon Stewart or Oprah who play versions of themselves) and the show they are featured on, they responded to 15 items ($\alpha = .88$) designed to target the construct of imagined friendship and affinity for a media persona. Items include “My favorite TV personality seems to understand the things I know,” and “My favorite TV personality keeps me company when his or her program is on television.” Responses were made on a 7-point Likert scale with higher scores indicating increased PSI.

Transportation (adapted from Dal Cin et al., 2002; Green & Brock, 2000). This 17-item scale measures a general tendency to become emotionally and mentally absorbed with movies or TV programs and the characters that inhabit them ($\alpha = .84$). Items include “I sometimes feel as if I am part of the movie or TV show,” and “I find myself feeling what the character might be feeling.” Responses were made on a 7-point Likert scale, with higher scores indicating a greater tendency to transport.

Results

Favorite Shows and Characters

PSI scores were based on favorite characters generated by participants. Two participants did not identify a favorite character or show, and eight participants did not follow instructions and identified a favorite movie character instead of a favorite TV character (e.g., Brad Pitt from *Mr. and Mrs. Smith*). These 10 participants were excluded from analyses of PSI ($n = 291$). Results show that the three most popular programs from which characters were chosen were *Grey's Anatomy* ($n = 34$), followed by *The Office* ($n = 25$), and *Friends* ($n = 22$). The majority of participants selected fictional human characters ($n = 218$); the next most frequently chosen characters

Table 1
Mean “Importance” Ratings, Standard Deviations, and Rotated Factor Loadings for Nine Different Types of Solitude

Solitude Types	Factor Loadings				
	<i>M</i>	<i>SD</i>	1	2	3
Self-discovery	4.56	1.26	<i>.71</i>	-.25	.15
Problem solving	5.23	1.15	<i>.66</i>	.08	.08
Inner peace	5.12	1.11	<i>.64</i>	.05	-.24
Creativity	4.38	1.36	<i>.59</i>	.01	-.02
Spirituality	4.10	1.81	.34	-.67	.18
Diversion	5.40	1.00	.18	<i>.66</i>	.24
Anonymity	4.35	1.48	.43	<i>.48</i>	.03
Intimacy	4.13	1.62	-.05	-.16	<i>.77</i>
Loneliness	3.37	1.21	-.01	.28	<i>.68</i>

Note: $N = 288$. Italics indicates highest factor loadings. Importance represents the mean of three scales, which assessed the frequency with which participants experience a particular type of solitude, the degree to which participants believed a particular type of solitude had influenced their lives, and the likelihood participants might exert effort to experience a particular type of solitude, respectively.

were real human characters (e.g., Oprah, reality show participants, Jon Stewart; $n = 53$), followed by cartoon characters ($n = 20$).

Preliminary Solitude Analyses

Based on prior work (Long et al., 2003), we anticipated that the solitude responses would be highly correlated within each type (frequency of experience, influence on life, and effort to experience). Indeed, reliabilities across each type of solitude ranged from .71 (loneliness) to .92 (spirituality) with a mean reliability of .84. Thus, for each type, we averaged responses across each of the three questions and created a composite score of solitude “importance.” The mean composite scores are displayed in Table 1. As can be seen, the most commonly endorsed solitude type was diversion, while the least commonly endorsed was loneliness.

We next performed a principle components factor analysis (with oblique rotation) on the composite variables to determine which types of solitude were most strongly associated with one another. Three factors emerged (with eigenvalues of 2.16, 1.29, and 1.11, respectively) accounting for 50.6% of the total variance. Specifically, also shown in Table 1, Factor 1 (Self-expansion) consisted of positive solitude types with high loadings on inner peace, self-discovery, creativity, and problem solving. Factor 2 (Diversion) consisted of diversion, anonymity, and a negative loading for spirituality. Factor 3 (Other orientation) consisted of experiences of solitude focused on the absence of others—intimacy and loneliness. Although Long et al. (2003) found a slightly different pattern, perhaps owing to regional differences in the samples (the

Table 2
Intercorrelations for Three Solitude Factor Scores
and Media Involvement Measures

Measure	1	2	3	4	5
Factor 1 (Self-Expansion)	—				
Factor 2 (Diversión)	.07	—			
Factor 3 (Other Orientation)	.14*	.03	—		
Parasocial Interaction	.18**	.14*	.20**	—	
Transportation	.20**	.12*	.29**	.59**	—

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

current sample was drawn from universities in the Midwest and Southern regions of the United States, while the former was drawn from the Northeast), only three types shifted their primary loadings. Furthermore, as noted earlier, in the original study intimacy loaded moderately onto the loneliness factor suggesting overlapping variance between these dimensions in both studies or, as Long et al. noted, “A person who feels intimate with someone who is not present also may feel especially lonely” (p. 581).

Bartlett factor scores were computed for each participant based on these three dimensions of solitude. As shown on Table 2, scores for Factor 1 (Self-expansion) and Factor 3 (Other orientation) were correlated with one another, suggesting that those who typically experience solitude in positive, self-expanding ways, are also somewhat likely to experience solitude as an occasion for symbolic intimacy or loneliness. Factor 2 (Diversión) was not significantly correlated with either Factor 1 or Factor 3. (Note: all relevant analyses use two-tailed tests to determine significance)

Solitude, Media Involvement, and the NTB

To determine whether increased PSI and/or transportation tendencies were associated with specific dimensions of solitude experiences, we first conducted a series of correlational analyses. Results are shown in Table 2. As can be seen, each solitude dimension was significantly associated with both PSI and transportability.

Next, two sets of regressions were performed to determine which solitude factors would be predictive of PSI and transportability when each factor was considered simultaneously (Research Questions 1 and 2). Because we left this question open, the solitude factors were entered together in one block for each regression. As Table 3 shows, all three solitude factors remain significantly predictive of PSI when considered together, while Factors 1 (Self-expansion) and 3 (Other orientation) predict transportability.²

Next, we performed correlational analyses between the solitude dimensions and NTB, and between the media involvement variables and NTB to determine whether this individual difference was linked to both solitude and media involvement in

Table 3
Regression Analysis Summary for Solitude Dimensions Predicting
Parasocial Interaction and Transportability

Variable	R^2	B	SEB	b
Parasocial interaction ($N = 272$)				
Factor 1 (Self-Expansion)	.08**	.14	.06	.15*
Factor 2 (Diversion)		.11	.06	.12*
Factor 3 (Other Orientation)		.17	.06	.18**
Transportability ($N = 281$)				
Factor 1 (Self-Expansion)	.12**	.12	.05	.15*
Factor 2 (Diversion)		.08	.05	.10
Factor 3 (Other Orientation)		.21	.05	.26**

Note: Factor 1 comprises inner peace, creativity, self-discovery and problem solving; Factor 2 comprises diversion and anonymity and the inverse of spirituality; Factor 3 comprises loneliness and intimacy.

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

hypothesized ways. We expected that those high in the NTB would endorse increased socially relevant solitude experiences (Factor 3) and would be particularly motivated to engage in PSI with media characters as well as transport into media programs (Hypotheses 1, 2A, 2B). In support of these predictions, increased NTB was significantly associated with Factor 3 (Other orientation), $r(280) = .21, p < .001$, as well as Factor 2 (Diversion), $r(280) = .19, p = .001$. Furthermore, NTB was significantly associated with both PSI, $r(277) = .13, p < .05$, and transportability, $r(286) = .26, p < .001$. Factor 1 (Self-expansion) was not significantly correlated with the NTB.

To determine whether our hypothesis (Hypothesis 3) that Other-oriented solitude experiences (Factor 3), in particular, might explain the links between NTB and media involvement, a final set of regressions was performed. Specifically, borrowing Baron and Kenny's (1986) suggestions for testing mediational hypotheses, we conducted the following regressions for each media construct to determine whether (a) NTB would predict PSI and transportability, respectively; (b) NTB would predict Factor 3 (Other orientation); (c) Factor 3 would predict PSI and transportability, respectively; and (d) NTB would no longer predict the criteria when Factor 3 was added into the model to predict PSI and transportability, respectively.

In addition, we evaluated the significance of the indirect effects for each media involvement criterion according to a procedure outlined by Preacher and Hayes (2004). Specifically, an estimate of the indirect effect (ab) can be calculated as the product of the unstandardized betas of (a) NTB predicting Factor 3, and (b) Factor 3 predicting PSI and transportability, respectively. To avoid problems relating to an often tenuous assumption that the sampling distribution of ab is normally distributed, we followed Preacher and Hayes and bootstrapped a sample-based estimate of the mean indirect effect (i.e., the mean of ab) as well as a 95% confidence interval for this estimate, each based upon 1,000 bootstrap samples. We did this separately for the analyses for PSI and transportability, respectively. If a 95% confidence interval for

an estimated indirect effect did not contain zero, then we were able to conclude that effect was significantly different from zero at $p < .05$.

Results of the analyses for PSI demonstrate that NTB significantly predicts PSI, $\beta = .13$, $t(277) = 2.14$, $p < .05$; $R^2 = .02$, $p < .05$; NTB predicts Factor 3, $\beta = .21$, $t(270) = 3.58$, $p < .001$; $R^2 = .05$, $p < .001$; Factor 3 predicts PSI, $\beta = .20$, $t(271) = 3.41$, $p < .01$; $R^2 = .04$, $p < .01$; and finally, when NTB and Factor 3 are both entered into the model, NTB is reduced to nonsignificant, while Factor 3 predicts PSI, $\beta = .18$, $t(275) = 2.94$, $p < .01$; $R^2 = .05$, $p < .01$. In addition, the bootstrapped estimate of the indirect effect was significantly different from zero, $ab = .04$, lower bound of estimated 95% confidence interval = .01, upper bound of estimated 95% confidence interval = .09. Thus, the link between belongingness needs and parasocial attachments appears to be explained by specific dimensions of solitude experiences, namely, Other-oriented solitude, which accompany such needs.

Results of the analysis for transportability demonstrate that NTB and Factor 3 (Other orientation) predict transportability when entered independently: $\beta = .26$, $t(286) = 4.58$, $p < .001$; $R^2 = .07$, $p < .001$; and $\beta = .29$, $t(280) = 5.09$, $p < .001$; $R^2 = .09$, $p < .001$, respectively. However, indicating that the link between NTB and transportability is not fully mediated, when entered together, both NTB and Factor 3 remain significant predictors: $\beta = .21$, $t(274) = 3.68$, $p < .001$ and $\beta = .22$, $t(274) = 3.84$, $p < .001$, respectively, and $R^2 = .12$, $p < .001$. On the other hand, the bootstrapped estimate of the indirect effect differed from zero, $ab = .04$, lower bound of estimated 95% confidence interval = .02, upper bound of estimated 95% confidence interval = .08. Taken with the results of the regression-based mediational analyses above, the significant indirect effect suggests partial mediation. Specifically, there appears to be a significant direct path from belongingness needs to transportability as well as an indirect route from belongingness needs to transportability through Other-oriented solitude experiences.

Discussion

The present study is the first to demonstrate links between two particular forms of media involvement and specific dimensions of solitude experiences. Our primary aim was to determine whether PSI and transportability were linked to various dimensions of solitude ranging from positive (e.g., creativity, self-expansion) to negative (e.g., loneliness). Factor analysis yielded three solitude dimensions, similar for the most part to Long et al.'s (2003) findings: solitude associated with Self-expansion (e.g., inner peace, creativity, self-discovery, problem solving), solitude associated with the need for Diversion (e.g., diversion, anonymity, the inverse of spirituality), and solitude associated with an Other orientation (e.g., intimacy with absent others and loneliness). Results support both a compensatory and complementary use of media; namely, both positive and negative solitude experiences were predictive of both forms of media involvement.

For both PSI and transportation tendencies, Other-oriented solitude was a strong predictor. This suggests a compensatory use of media; individuals may develop attachments to characters and transport into media narratives in part as a means of coping with private moments of loneliness or loss. However, it also suggests that individuals' media use is reflective of their real-life priorities (i.e., social connection). In this sense, media use may be conceptualized as complementing existing social psychological tendencies. Additionally, solitude experienced as Self-expansion was significantly predictive of both forms of media involvement. This suggests that becoming emotionally engaged with characters and stories may be a creative and potentially transformative process. Individuals who capitalize on solitude as self-expansion may be able to use media for the same end. The alternative realities of movies or television programs may provide opportunities for role play and emotional processing that facilitates personal growth.

Solitude experienced primarily as an opportunity for Diversion (e.g., watching television, surfing the Web, not experiencing spiritual reflection or insight) was significantly predictive of PSI but was no longer significantly predictive of transportation when the other two factors were taken into account. While the latter finding may seem counterintuitive, watching television as a form of diversion may inhibit absorption into a narrative or identification with characters. Individuals who are watching TV to structure their alone time (a so-called ritualized viewing motivation; Conway & Rubin, 1991) may skip from channel to channel or engage in multiple activities while the television is on, thereby reducing their capacity to become caught up in a storyline. PSI, by contrast, does not necessarily require that a viewer be emotionally absorbed in a particular program while viewing, only that they feel a particular kinship with a media persona. This is evident in the PSI scale items: "If there were a story about my favorite TV personality in a newspaper or magazine, I would read it," and "I miss seeing my favorite TV personality when his or her program is not on." The link between solitude experienced as a time for diversion and PSI is consistent with Conway and Rubin's research that shows that PSI is correlated with viewing to pass the time, to be entertained, and to relax, in addition to viewing for more informational purposes.

The above results suggest that individuals who become emotionally and/or interpersonally involved in entertainment media may use media while alone to feed impulses toward self-discovery and creativity and to experience an ersatz social connection. But how might belongingness needs fit into the picture? Our second aim was to examine whether individual differences in the NTB would predict socially relevant (Other-oriented) solitude experiences as well as PSI and/or transportation tendencies, and if so, whether Other-oriented solitude would account for the association between NTB and media involvement. In support of these hypotheses, NTB was predictive of both Other-oriented solitude experiences and both PSI and transportation tendencies. Furthermore, Other-oriented solitude appeared to account for the relationship between NTB and PSI. These findings suggest that imagined social rapport with favorite characters may not only function to buffer individuals against the negative experience of solitude, but that it is this relationship between Other-oriented solitude

and media use that accounts for why individuals high in the NTB may be more likely to parasocially engage with characters to begin with. In this case, PSI with favorite characters may be utilized as “social surrogates” (Gardner et al., 2005) that may enable lonely individuals to feel connected to others.

That Other-oriented solitude did not fully account for the link between belongingness needs and transportability indicates that the tendency to become emotionally immersed in media programs is likely associated with belongingness needs that are distinct from loneliness- or intimacy-relevant solitude experiences. Such a tendency appears broader than simply a compensatory process that facilitates regulation of loneliness or thoughts of an absent intimate other. More work is needed to continue clarifying the complex patterns connecting social and mediated interactions.

Finally, one consideration important to any discussion of PSI is the nature of the characters with whom individuals selectively interact. This study found that, not surprisingly, the most popular characters were drawn from hugely successful TV programs like *Grey's Anatomy* and *The Office*. The character of “Meredith Grey” appears to hold large appeal among undergraduates, perhaps because they can readily identify with her as a central character who deals with emotional, relational, and career obstacles and anxieties. This kind of attachment may offer viewers the opportunity for emotional processing and self-discovery, as well as company. However, there may be a downside to this kind of attachment if the viewer in question idealizes the character and consequently holds herself up to unrealistic standards of say, physical attractiveness, romantic, and/or professional success. Indeed, research has found that increased interpersonal affinity for female TV stars is associated with increased body image concerns (Harrison, 1997; Greenwood, 2009). The character of “Michael Scott” from *The Office* may offer a different kind of parasocial relationship—one premised less on identification and more on entertainment and humor appreciation. In both cases, however, the characters may offer individuals opportunities for creative self-expansion, diversion, and imagined intimacy. More work is needed to determine whether certain kinds of character attachments are relevant to specific kinds of solitude experiences and interpersonal needs and what the long-term effects of such attachments might be.

Limitations

Although this study contributes important new insights about psychological predictors of media involvement and although we suggest a potentially causal framework from which to understand and interpret links between the NTB, solitude experiences, and PSI, the data are correlational and preclude causal interpretations. Longitudinal and experimental work would augment these findings and help elucidate the causal links that emerge.

Another limitation of the present study is the self-report nature of the data. For example, it is possible that solitude experienced as loneliness was underreported as a function of social desirability biases. However, it is worth noting that the mean scores for loneliness “importance” hovered at the midpoint of the scale. It is also

worth noting that we conceptualized loneliness as a particular dimension of solitude that was associated with imagined intimacy with absent others. By departing from more traditional measures of loneliness (e.g., the UCLA loneliness scale; Russell, Peplau, & Cutrona, 1980), we contributed new insights to the research on loneliness and PSI. However, future work should continue to operationalize this fundamental social psychological construct in diverse and meaningful ways.

Lastly, our results may not generalize beyond a college population. However, college students may be a uniquely interesting group to study with regard to the primary research questions in this study. First, for many students, the transition to college may pose new challenges with regard to navigating belongingness and solitude. Second, college students are typically members of the 18-24-year-old demographic that is heavily targeted by media advertisers. Lastly, compared to the general public, college students are likely to have increased access to media technology (e.g., computers and other devices with high-speed Internet connections), which may enhance their ability to tailor media use to belongingness and solitude needs.

Conclusions and Future Directions

Results demonstrate the multidimensional nature of both solitude and media involvement and speak to the value of understanding media use as reflective of the various ways that individuals negotiate solitude and belongingness needs. Although solitude that inspires loneliness and/or a focus on absent Others is implicated in the nature and intensity of individuals' media involvement, as well as in the relationship between belongingness needs and PSI, it is not "only the lonely" who imaginatively immerse themselves into media narratives and connect with media characters. Rather, our data show that media involvement may also be reflective of an increased capacity for creativity and self-discovery.

Mapping the social psychological terrain associated with PSI and transportation tendencies provides valuable information for future research endeavors focused on the impact of these forms of media involvement on social and emotional well-being. For example, it is possible that for lonely individuals in particular, media involvement may provide only a temporary and superficial solution to a problem that requires more authentic social interactions. More optimistically, media involvement may provide needed emotional and social scaffolding for individuals whose affiliative needs are out of step with their current life circumstances. Future research might also address whether media involvement serves to enhance (vs. reflect) individuals' capacity for creativity, self-discovery, and problem-solving solitude experiences. Along these lines, another question to address is whether individuals who utilize media to complement self-expansion tendencies do so in a qualitatively different way than do individuals who use media to compensate for social deficits. Ultimately, further investigations will yield valuable information about whether individuals might learn how to interact with media in ways that optimize rather than simply reflect social and emotional well being.

Notes

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2. Gender differences in all key study variables were assessed via *t* test. Females reported increased Need to Belong, $t(292) = 2.18, p < .05$, as well as increased scores on the loneliness/intimacy factor of solitude (Factor 3), $t(286) = 2.30, p < .05$. No other gender differences emerged. Regressions were run with gender added in as a control; results were virtually identical. Source differences (the two different locales for data collection) were also examined for all key study variables via *t* test. Results show that the two groups diverged only for Factor 2 (Diversion, anonymity, and the inverse of spirituality), $t(286) = 5.69, p < .001$; participants drawn from the private Southern college scored significantly lower on this factor, which is attributed to the increased religiosity of this group. When regressions were performed with the source entered as a control variable, the results were unaffected. Thus, neither gender nor source was included in the regression model reported.

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