



## Social surrogacy: How favored television programs provide the experience of belonging

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### ABSTRACT

The current research examines the *Social Surrogacy Hypothesis*: parasocial relationships in favored television programs can provide the experience of belonging. Four studies support the hypothesis. Study 1 demonstrated that people report turning to favored television programs when feeling lonely, and feel less lonely when viewing those programs. Study 2 demonstrated that experimentally activating belongingness needs leads people to revel longer in descriptions of favored (but not non-favored) television programs. Study 3 demonstrated that thinking about favored (but not non-favored) television programs buffers against drops in self-esteem and mood and against increases in feelings of rejection commonly elicited by threats to close relationships. Finally, Study 4 demonstrated that thinking about favored television programs reduces activation of chronically activated rejection-related words. These results yield provocative preliminary evidence for the Social Surrogacy Hypothesis. Thinking about valued television programs appears to yield the experience of belongingness.

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We humans share a great deal with our hominid ancestors. We require food and drink, shelter and safety, and the experience of inclusion and connectedness with others (Baumeister & Leary, 1995; Williams, 2007). We also share an affective system evolved to subserve these needs. When our needs are met, we feel good. When our needs are not met, or the environment is dangerous or otherwise problematic, we feel badly (Frijda, 1988). Despite these sweeping similarities, certain characteristics are uniquely human. Perhaps the most obvious among them is the robust and continued use of technology. Importantly, many technological advancements are designed to help us meet such needs. Indeed, most of our needs seem to be addressed more easily than ever by using such technological advancements.

Curiously, not all technology serves to meet human needs. To the contrary, some technological advancements serve to provide the *experience* of having needs met, without actually meeting the need. Indeed, evolutionary biologist Steven Pinker, in his modern classic, *How the Mind Works* (Pinker, 1997), argues that a number of technological advances are designed not to directly fulfill evolved needs, but rather to deceive our mind into believing that some needs have been fulfilled. In Pinker's own words, such technologies can "get at the pleasure circuits of the brain and deliver little jolts of enjoyment without the inconvenience of wringing bona fide fitness increments from the harsh world" (p. 524). For example, both humans and our

hominid ancestors evolved to crave food, especially food high in fats, oils, and sugars, which were historically difficult to obtain, but absolutely vital to ingest. Historically, humans have relied upon naturally occurring substances (e.g., coca leaves) or meditation to suppress the appetite. More recently, humans have turned to technologies, such as diet drugs, or more drastically, gastric bypass surgery, to experience satiety without eating.

We argue that other commonplace technologies, such as narrative fiction, television, music, or interactive video games, can also provide the experience of need fulfillment. We hypothesize that the facsimiles of social contexts presented in these technologies may be used to satisfy the fulfillment of belongingness needs. Just as Harlow's (1958) infant monkeys experienced succor from cloth surrogates, satisfying belongingness needs, so too may beloved books, television programs, movies, music, or video games potentially serve as "social surrogates," leading to an experience of belongingness even when no real, bona fide belongingness has been experienced.

Treating the parasocial relationships provided by such technologies seriously as surrogates for actual belongingness is, we believe, a novel theoretical treatment of a ubiquitous part of the human environment. To this end, we first outline the increasing evidence that the need to belong is, itself, as basic a human need as food and shelter. We then describe research on parasocial relationships and means by which those relationships are frequently achieved. Next we explain why television shows in particular present both a ubiquitous and potent vehicle for delivering parasocial relationships. Finally, we present four studies in which we test

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the hypothesis that calling to mind favored television programs can yield the experience of belonging.

### Human's sociality and parasociality

The evidence that human beings seek out, value, and maintain relationships with other humans is myriad, and a full review is certainly beyond the scope of the current work. Indeed, the evidence is so strong that Baumeister and Leary (1995) argue the *need to belong* is a fundamental human need (see also Williams, 2007). Yet belonging is not unconditional, and rejection is an all too common part of the human experience. Rejection hurts. People who have been rejected may experience, among a host of other consequences, reduced state self-esteem and negative mood states (Leary, Haupt, Strausser, & Chokel, 1998; Leary, Tambor, Terdal, & Downs, 1995; Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004). Positive social connections or interactions, however, can buffer against the effects of rejection. For example, Buckley, Winkel, and Leary (2004) demonstrated that participants who were initially negatively evaluated but then were evaluated more positively (increasing acceptance) were protected against the mood and state self-esteem decrements experienced by participants who were only rejected. Similarly, even simple reminders of positive social interactions may be enough to buffer against the effects of rejection (Gardner, Pickett, & Knowles, 2005).

Based on this evidence that social connections can buffer against feelings of rejection, we hypothesize that technologies such as television, books, music, and video games may afford the experience of belonging, via one-way *parasocial* relationships. There is a well-founded theoretical basis for such a hypothesis. It seems clear that people can, and frequently do, form parasocial relationships with sets of favorite media characters or media personalities, both fictional and real (Horton & Wohl, 1956). These one-sided parasocial relationships also frequently show psychological hallmarks of real relationships. For example, in the presence of a parasocial relationship partner or after thinking about a parasocial relationship, those with strong parasocial attachments react much as they would when in the presence of “real” friends. They become more willing to self-disclose, show more empathy (Knowles, 2007), and demonstrate social facilitation effects (Gardner & Knowles, 2008). They even become more similar to their ideal selves (Derrick, Gabriel, & Tippin, 2008), a phenomenon elicited by only the closest of relationships (Drigotas, Rusbult, Wieselquist, & Whitton, 1999; Gabriel, Carvallo, Jaremka, & Tippin, 2008).

Some preliminary evidence already exists that technology (and specifically television) may afford the experience of belonging. First, Green and Brock (1998) found that people prefer parasocial (or “ersatz” social) activities when the costs of friendship are salient, at least among those who are low in trust. Thus, their findings provide initial evidence suggesting that people may be interested in seeking parasocial relationships, especially in situations where real interactions may be perceived as problematic. Similarly, Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007, Study 3) found that the tendency to aggress after social exclusion is reduced among individuals who think about a well-liked celebrity. Indeed, they provide provocative preliminary evidence that a faux relationship can ameliorate one of the negative sequelae of rejection.<sup>1</sup> Moreover, exclu-

sion by a technological ‘other’ seems to elicit similar effects to that of a real friend. For example, extensive anecdotal evidence suggests that people commonly react to the end of a television series as if it were the end of a relationship (Cohen, 2004). Even being rejected by a computer (Zadro et al., 2004) elicits the same hurt feelings that people experience after rejection by other real people. Finally, survey evidence also suggests a link between technology and belongingness: data from the General Social Survey demonstrate that people who watch more television actually feel as if they have more friends (Kanazawa, 2002). Thus, despite the one-sided nature of parasocial relationships, it appears that such relationships are psychologically real to the people experiencing them.

### Television as a vehicle for parasocial relationships

Television programming, particularly reliably-followed favorite programs, allows viewers the opportunity, week after week (or even day after day), to regularly immerse themselves in a narrative about a recognizable “social” world in which familiar people, situations, landscapes, and events become intimate and comfortable (Cohen, 2006). The most common themes in these narratives are social (Hogan, 2003), and strong initial research demonstrates that narratives engage people in social processing (Mar & Oatley, 2008). For example, engaging in narratives leads to an increase in thoughts and emotions congruent with the ones presented in the narrative (Oatley, 1999), and exposure to narratives is related to more sophisticated social skills and abilities (Mar, Oatley, Hirsh, dela Paz, & Peterson, 2006). Indeed, Mar and Oatley (2008) argue that one core function of narratives is to mentally simulate social interactions, potentially facilitating subsequent social behavior.

Although there are numerous possible technologies that may supply narratives (e.g., books, movies, and video games), television is likely one of the most potent. First, Americans report spending an average of 3 h per day watching television (US Department of Labor, 2006). This is over half the total time spent on leisure activities, and is substantially more time than is actually spent with friends. Second, whereas reading narratives requires mental simulation (Mar & Oatley, 2008), television provides a rich visual and auditory environment, mirroring almost completely our daily experience, and requiring few of the cognitive resources necessary to simulate lexically mediated parasocial relationships. In summary, television viewing is ubiquitous, copious, and provides multi-sensory stimulation, making it a potent facsimile of social interaction.

### Favored television programs as a social surrogate: the current research

In this research, we sought novel evidence for our *Social Surrogacy Hypothesis*; that is, that parasocial relationships provided by television programs can yield the experience of belonging. Specifically, we drew three primary predictions from the Social Surrogacy Hypothesis. If favorite television programs can yield the experience of belonging, we hypothesized that (1) events that typically elicit belongingness needs (e.g., threats to a relationship, a rejection experience) would elicit a desire to experience a favored television program, (2) thinking about a favored television program could buffer against threats to real-world belongingness, and (3) thinking about a favored television program should reduce the accessibility of loneliness related concepts.

Given the novelty of these predictions, we adopted a multi-pronged approach, involving both correlational and experimental evidence. We first conducted a preliminary correlational study. In this study, we examined a large sample of people to determine whether they report preferring to watch a favorite television program relative to enacting other non-social activities when feeling

<sup>1</sup> Although supportive of our hypotheses, the (Twenge, Baumeister, et al., 2007; Twenge, Zhang, et al., 2007, Study 3) study differs from the current research in important ways. First, it examines a parasocial relationship with a specific individual rather than with an entire parasocial world. Second, it examines only one effect of a rejection experience (aggressive behavior) leaving it somewhat more open to alternate explanations. The current research examines behavior, mood, state self-esteem, feelings of rejection, and chronically accessible concerns with exclusion. Nonetheless, the study's findings are innovative, provocative, and consistent with the current hypotheses.

lonely, and if so, if they report that this favored television program reduces the need for social interaction and acceptance. Importantly, to differentiate between true social surrogacy and mere escapism, we compared favored television programs to non-favored television programs, hypothesizing that favored television programs would be more likely to include parasocial relationships, and thus, would be more likely to alleviate the belongingness need.

Across three additional studies, we experimentally investigated whether the parasocial relationships afforded by favored television programs can address belongingness needs aroused by threats to a real relationship. In Study 2, we examined the effect of a threat to a relationship (thinking about a fight with a close other) on the desire to spend time thinking about a favorite television program. In Study 3, we examined how calling to mind a favorite television program buffers against the feelings of rejection, self-esteem, and mood effects often engendered by a threat to a real relationship. Finally, in Study 4, we investigated how calling to mind a favorite television program reduces the accessibility of chronically activated exclusion-related concepts. Overall, we hypothesized that when individuals' need for belongingness is aroused, they will turn to television programs as one means to address those needs; when belongingness is threatened by experiencing or recalling a rejection experience, calling to mind a favored television program will buffer against the negative effects of that belongingness threat.

### Study 1: A correlational approach

Can television programs and their attendant parasocial relationships serve as social surrogates? Can these faux "interactions" provide the experience of belonging? To provide preliminary evidence for this Social Surrogacy Hypothesis, we investigated the activities in which people participate when feeling lonely. We hypothesized that people would report watching a favored television program as a preferred activity when belongingness needs were aroused. Moreover, we hypothesized that participants would report feeling less lonely when watching this television program, both in comparison to less-favored television programs and in comparison to other non-social activities.

#### Method

##### Participants

Seven-hundred and one undergraduate students (233 men, 322 women, and 146 participants who did not indicate their gender; mean age = 18.86) participated in exchange for course credit. Most participants were Caucasian (67%). The remainder was predominantly Asian (15%) and African American (7%). Participants who did not answer a question were excluded from analyses involving that question.

##### Materials and procedure

Participants completed two primary measures, the lonely activities scale and the likelihood of feeling lonely scale.<sup>2</sup> The order of these two measures was counter-balanced across participants. Participants then completed a demographic measure. Finally, participants were thanked, debriefed and dismissed.

**Lonely activities scale.** Participants indicated how likely they would be to engage in each of 31 activities when feeling lonely (see Table 1). They responded on a scale from 1 (definitely would not do) to 7 (definitely would do).

**Likelihood of feeling lonely scale.** Participants indicated how likely they would be to feel lonely when engaging in each of 31 activities (see Table 1). They responded on a 1 (definitely would feel lonely) to 7 (definitely would not feel lonely) scale. Participants were also given the response option "0" (would not do activity); participants who responded "0" on an item were excluded from analyses involving that item. Responses on this measure were reverse-scored so that lower scores indicated less likelihood of feeling lonely.

#### Results

Overall, this initial correlational investigation was designed to give us a window into the extent to which people (1) report engaging in parasocial "interactions" with television programs when belongingness needs are activated, and (2) report experiencing decreases in belongingness needs when engaging in parasocial "interactions" with favored television programs. Importantly, both the lonely activities scale and the likelihood of feeling lonely scale were designed to compare favored television programs to other enjoyable activities and to other less-favored programs.

##### Lonely activities scale

Do people report watching favored television programs when belongingness needs are aroused? As a preliminary test of the Social Surrogacy Hypothesis, we examined participants' mean evaluations of the 31 activities rated by participants. As can be seen in Table 1, viewing a favored television program was reported as one of the top two most frequent activities in which participants reported engaging while feeling lonely. Indeed, the only other activity in which participants engaged with the same frequency was listening to favored music,  $t(690) = -.09$ ,  $p = .93$ , another technology that can provide parasocial relationships via connections to celebrities (e.g., Derrick et al., 2008). However, the mean rated frequency for watching a favored television program was significantly higher than the mean for all other activities, all  $ps < .001$ . Importantly, when lonely, viewing a favored television program is preferred to viewing "whatever is on television,"  $t(691) = 19.74$ ,  $p < .001$ , suggesting that a favored program offers more than mere escapism. Thus, people report viewing more favored television programs than watching whatever is on television (and many other activities) when feeling lonely.

##### Likelihood of feeling lonely scale

Can favored television programs ease an activated need for belongingness? As can be seen in Table 1, of all of the investigated activities, participants reported feeling the least lonely while viewing favored television programs. Although the means for taking a shower, sleeping, and exercising are not significantly different from the mean for viewing favored television programs,  $ps > .15$ , participants reported feeling significantly less lonely while watching a favored television program than after participating in all other activities, all  $ps < .001$ , including watching "whatever is on television,"  $t(666) = 19.11$ ,  $p < .001$ .<sup>3</sup> In summary, in line with the Social Surrogacy Hypothesis, people report that consuming favored television programs buffers against feelings of loneliness. Importantly, people report that these favored televi-

<sup>2</sup> To create the lonely activities scale and the likelihood of feeling lonely scale, we conducted a preliminary pilot study. Twelve undergraduates listed non-social activities they believed people do when feeling lonely. They each listed as many items as possible and together came up with 31 viable items (see Table 1).

<sup>3</sup> Participants also reported feeling significantly less lonely while watching a favored television program than when listening to favored music,  $t(675) = 4.88$ ,  $p < .001$ , watching a favored movie,  $t(662) = 11.98$ ,  $p < .001$ , or reading a favored book,  $t(559) = 8.66$ ,  $p < .001$ , providing confirmation for the decision to focus on favored television programs as the vehicle for social surrogacy in this population.

**Table 1**

Mean ratings of participants' likelihood of enacting each activity when feeling lonely, the likelihood of feeling lonely when enacting each activity, and time spent enacting each activity.

Activity	When feeling lonely		Likely to feel lonely		Time spent (in h)	
	M	SD	M	SD	M	SD
Listen to music – a particular CD/tape	5.82	1.37	2.97	1.70	10.82	15.49
Watch television – a favorite TV program	5.81	1.34	2.64	1.55	5.31	4.52
Sleep	5.43	1.53	2.70	1.86	43.58	15.49
Surf the web	5.22	1.54	3.26	1.65	14.42	15.48
Eat	5.20	1.51	3.39	1.77	8.99	4.90
Exercise	5.02	1.66	2.73	1.52	5.66	4.38
Rent/watch a movie – an old favorite	5.00	1.67	3.43	1.68	3.38	3.88
Rent a movie – one you haven't seen before	4.88	1.70	3.47	1.74	1.82	2.37
Take a shower	4.87	1.61	2.67	1.66	3.49	2.39
Watch television – anything that's on	4.86	1.65	3.69	1.70	8.18	8.91
Focus on work or schoolwork	4.79	1.59	3.18	1.66	15.96	12.61
Clean your house/apartment/room	4.62	1.74	3.34	1.73	2.39	2.37
Go for a drive	4.57	1.86	3.87	1.76	1.15	1.85
Go for a walk	4.49	1.75	4.03	1.71	2.27	3.64
Look at old photographs	4.44	1.91	4.67	1.78	.80	1.15
Listen to music – anything that's on the radio	4.41	1.71	3.57	1.73	7.30	10.45
Go to the mall; go shopping	4.36	1.91	3.54	1.77	1.53	1.81
Spend time with a pet	4.15	2.07	3.08	1.80	2.51	11.70
Read a book – a new one	3.89	1.94	3.16	1.77	1.57	3.23
Watch television – a sports game	3.87	2.17	3.45	1.81	4.43	4.92
Read a book – an old favorite	3.75	1.95	3.29	1.87	1.11	2.81
Play video games	3.63	2.15	3.65	1.79	4.21	5.98
Go to a movie	3.56	1.97	4.15	2.05	1.27	1.69
Engage in a favorite hobby	3.43	1.72	2.90	1.57	9.32	9.73
Look through old stuff or wear old clothes	3.20	1.76	4.27	1.87	1.19	2.19
Write in a journal or a diary	3.09	2.01	4.19	1.89	.37	1.04
Go to a bar or club	2.94	2.01	3.54	2.04	2.52	3.61
Go to church	2.85	1.96	3.16	1.81	.42	1.21
Drink alcohol (at home)	2.44	1.80	4.75	1.94	2.27	5.78
Smoke	1.85	1.72	4.23	2.03	1.29	5.22
Do drugs	1.66	1.45	4.29	2.11	.59	2.18

sion programs have benefits over-and-above non-favored television programs.

### Discussion

The Social Surrogacy Hypothesis predicts that people are more likely to watch favored television programs over other such stimuli when feeling lonely *because* favored television programs can buffer against loneliness. While this initial investigation yielded data congenial with this hypothesis, these data are self-reported and descriptive, leaving numerous possible alternative explanations. For example, participants' tendency to report watching favored television programs when lonely may simply be due to base rates. That is, the tendency to watch a favored program when lonely was not compared to the tendency to watch such programs when in other need states (or when needs have been addressed). Instead, it may be that watching favored programs simply occurs more frequently than does non-favored programs.

To examine this question, an additional 73 participants indicated how many hours per week they spent on each of the 31 activities employed in the previous study (see Table 1). Participants reported spending 5.31 h per week ( $SD = 4.52$ ) on average watching favored television programs, while spending 8.18 h per week ( $SD = 8.91$ ) on average "watching whatever was on television." Therefore, it appears unlikely that participants watch more of their favorite television programs when feeling lonely simply because they spend more time watching their favorite television programs overall. The base rates appear to go in the opposite direction. Instead, the Social Surrogacy Hypothesis predicts that belongingness needs draw individuals to favored television programs.

### Study 2: Belongingness needs enhance thinking about favorite television programs

The results of our correlational study suggest that belongingness needs elicit high frequencies of self-reported consumption of favorite television programs, and that self-reported feelings of loneliness are minimized when watching favorite television programs. Due to the provocative, yet correlational nature of this evidence, we examined each of these associations experimentally. In Study 2, we examined how activating belongingness needs may increase the desire to think about favored television programs.

Do people spend more time thinking about favored television programs after a threat to a relationship? In Study 2, we manipulated belongingness needs by having participants write about a fight with a close other. Previous research has used similar reliving tasks to successfully induce concerns about belongingness (see Williams, 2007; see also Murray, Derrick, Leder, & Holmes, 2008; Pickett, Gardner, & Knowles, 2004). Participants in the belongingness needs control condition simply listed objects in their dwelling. All participants then spent time writing about a television program, but we manipulated the program about which participants wrote. Participants in the television control condition described a time when they watched "whatever was on television." Participants in the favored television condition wrote about a time when they watched their favorite television program.

We predicted that participants who had aroused belongingness needs (those who wrote about fights with close others) would write for longer about a favored television program than would participants who did not have aroused belongingness needs. However, we predicted this difference between belongingness needs conditions would not be observed when participants were writing about "whatever was on television," thereby distinguishing be-

tween watching television for social surrogacy and watching television merely for escapism. In line with the Social Surrogacy Hypothesis, if belongingness needs elicit a desire for favored parasocial interactions, then exacerbating belongingness needs should increase the amount of time participants spent writing about (and therefore, thinking about) favored television programs, but not non-favored television programs.

### Method

#### Participants and design

One hundred and two undergraduates (49 women; mean age = 20.23) participated in exchange for course credit. Most participants (53%) were Caucasian; the remainder was predominantly Asian (20%) and African American (19%). The experiment employed a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) between-subjects design. Participants were randomly assigned to condition.

#### Materials and procedure

Participation occurred in private cubicles on computers. All participants wrote two essays. The first manipulated belongingness needs. The second manipulated the importance of the television program. The length of time spent writing about the television program (measured via computer) served as the primary dependent measure. Finally, participants were debriefed, thanked and dismissed.

**Belongingness needs (essay 1).** As a manipulation of belongingness needs, all participants wrote an initial essay. Participants assigned to the Aroused Needs condition wrote about a time they fought with a close other. Participants in the Control condition listed as many items in their residence as they could remember. All participants had 6 min to write their belongingness needs essay.

**Parasocial essay (essay 2).** All participants were asked to write about a time in which they viewed a television program. Participants in the Favored condition wrote about a time they watched their favorite television program, describing it in as much detail as possible. Participants in the Control condition wrote about a time when they had watched “whatever was on” television, describing it in as much detail as possible. Participants were asked to describe as much as they could about the content of the program and their experience watching it.<sup>4</sup> Length of time writing this Parasocial essay served as the primary dependent measure.

### Results and discussion

Of primary interest was the extent to which aroused belongingness needs elicited an increase in the amount of time participants spent elaborating upon (and thus, thinking about) favored, but not non-favored television programs. To test this aspect of the Social Surrogacy Hypothesis, we submitted time spent writing the parasocial essay to a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) ANOVA, which yielded the predicted Belongingness Needs  $\times$  Parasocial Essay interaction,  $F(1,98) = 7.91, p < .01$  (Fig. 1).

In line with the Social Surrogacy Hypothesis, participants spent significantly longer writing about favored television programs after having belongingness needs aroused than after recalling objects in

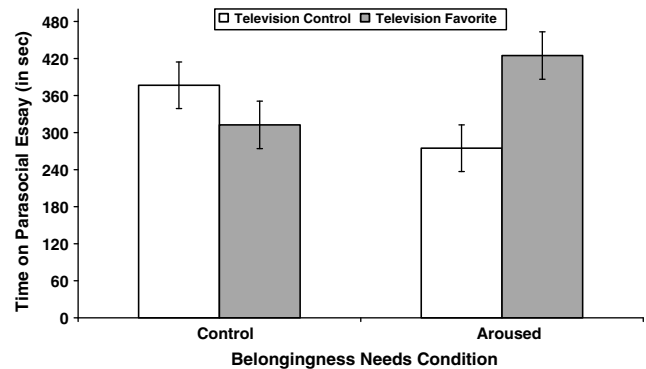


Fig. 1. Length of time spent writing television essay as a function of social needs condition and type of television program.

their residence,  $t(98) = 2.07, p = .04$ . Importantly, this tendency for belongingness needs to increase the time spent writing about a favored televised program does not appear to be mere escapism. If this were true, activating belongingness needs should increase the length of time spent elaborating upon and writing about any recalled televised material. To the contrary, participants with aroused belongingness needs spent significantly more time writing about their favorite television program than writing about whatever was on television,  $t(98) = 2.82, p < .01$ . This effect was not significant for participants who listed items in their residence,  $t(98) = -1.18, p = .24$ . Moreover, participants spent marginally less time writing about “whatever was on television” when belongingness needs were aroused, as compared to when those needs were not aroused,  $t(98) = -1.91, p = .06$ .

The Social Surrogacy Hypothesis predicts that television programs can serve as a surrogate for real interactions, that these faux relationships can provide the experience of belonging. If true, when belongingness needs are aroused favored television programs should become particularly attractive. In line with this hypothesis, participants preferred to spend more time thinking about (and thus writing about) a favored television program when belongingness needs were aroused. Moreover, this effect does not appear to be simple escapism; participants spent less time writing about non-favored television programs when those same belongingness needs were aroused.<sup>5</sup>

### Study 3: Favored television programs buffer against relationship threats

Study 2 demonstrated that people spend more time thinking and writing about favored television programs, with all of their attendant parasocial relationships, when belongingness needs are aroused. We also predict that such parasocial relationships can actually buffer against the potential pain elicited by threats to valued relationships. Drawing on extensive research on belongingness needs, we hypothesized that recalling a relationship threat (fights with close others) would decrease state self-esteem and mood and increase feelings of rejection (e.g., Baumeister & Leary, 1995; Leary et al., 1995, 1998).<sup>6</sup> However, in line with the Social Surrogacy

<sup>5</sup> Additional follow-up analyses were also conducted on the actual word length of the essays. These analyses yielded a nearly identical interaction,  $F(1,98) = 5.71, p = .02$ .

<sup>6</sup> We chose this manipulation (recalling a negative social event) because it has been linked to the outcome variables in which we were interested, whereas more immediate and intense rejection experiences tend to affect different dependent variables (e.g., DeWall & Baumeister, 2006; Twenge, Baumeister, Tice, & Stucke, 2001; Twenge, Catanese, & Baumeister, 2003; Twenge, Baumeister, et al., 2007; Twenge, Zhang, et al., 2007; Zadro et al., 2004). It would be interesting for future research to examine whether favored programming can buffer against those outcomes as well.

<sup>4</sup> We were able to code 83 of the essays for the social vs. non-social nature of the program described (e.g., sitcoms or dramas vs. news or cartoons). The vast majority of participants described a social program: 78.7% in the Favored condition and 88.9% in the Control condition. Analyses controlling for the type of program described yielded consistent results in all studies.

Hypothesis, recalling a favored television program (but not a non-favored television program) should buffer against these deleterious effects.

### Method

#### Participants and design

One hundred and sixteen undergraduates (59 women; mean age = 19.81) participated in exchange for course credit. Most participants (71%) were Caucasian; the remainder was predominantly Asian (16%) and African American (8%). Participants who did not answer a particular question were excluded from analyses involving that question. The same experimental design was used as in Study 2; specifically, the experiment employed a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) between-subjects design. We were able to code 90 essays for the social vs. non-social nature of the program described. The vast majority of participants again described a social program in both the Favored (84.6%) and Control (94.7%) conditions. Participants were randomly assigned to condition.

#### Materials and procedure

First, all participants completed a measure of global self-esteem at a large preliminary testing session. This measure was collected to serve as a covariate, to control for participants' overall levels of self-esteem. Participants were subsequently called to an ostensibly unrelated laboratory experiment. Participation in this second phase of the experiment occurred in private cubicles on computers.

The manipulations in this study were nearly identical to those utilized in Study 2. Participants wrote for 6 min describing a fight with a close other or listing the contents of their residence. Participants then wrote about either a time when they watched their favorite television program or a time when they watched whatever was on television. In Study 2, participants were not limited in the amount of time they could spend writing the Parasocial Essay. However, in the current experiment, participants in both conditions were limited to writing for 6 min. After completing both essays, participants then completed two measures of state self-esteem, a measure of mood, and a measure of feelings of rejection, which served as the primary dependent measures. Participants then completed some demographic questionnaires, after which they were debriefed, thanked, and dismissed.

**Global self-esteem measure.** Participants completed the 10-item Rosenberg Self-Esteem Scale (1965;  $\alpha = .90$ ) in an unrelated session early in the semester. Participants responded to statements related to global self-evaluations on a 1 (not at all true) to 5 (completely true) scales. Higher scores indicate higher global self-esteem.

**State self-esteem measures.** As in Leary et al. (1998), two measures of state self-esteem were used. First, participants indicated how they felt on ten self-relevant emotions (Leary et al., 1998; see also McFarland & Ross, 1982). Participants rated each emotion ( $\alpha = .73$ ) on a 1 (not at all) to 5 (extremely) scale. Second, participants completed the Heatherton and Polivy (1991) measure of state self-esteem ( $\alpha = .88$ ). Participants indicated their agreement with each of 20 self-related statements on a 1 (not at all) to 5 (extremely) scale. An overall state self-esteem composite (see Leary et al., 1998) was computed by standardizing the total scores on each scale and averaging them ( $\alpha = .74$ ). Higher scores indicate higher state self-esteem.

**Mood measure.** The 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) assessed participants' positive ( $\alpha = .76$ ) and negative ( $\alpha = .89$ ) mood. Participants indicated on a 1 (not at all) to 9 (extremely) scale how much they felt each emotion (e.g., distressed, enthusiastic). The scores for positive

mood and negative mood were computed separately. Higher scores indicate more positive and more negative mood, respectively.

**Feelings of rejection.** An eight item measure ( $\alpha = .87$ ) assessed participants feelings of rejection. For three items, participants indicated on a 1 (strongly disagree) to 7 (strongly agree) scale how much they agreed with each statement (e.g., "Right now, I feel rejected"). For five items, participants indicated on a 1 (not at all true) to 5 (extremely true) scale how much they agreed with rejection-related statements (e.g., "I feel alone right now"). The items were standardized and averaged to compute the overall score. Higher scores indicate stronger feelings of rejection.

### Results

Of primary interest was the extent to which thinking about favored television programs buffers against relationship threat. When belongingness needs are aroused by an insult to a relationship (e.g., fighting with close others), this typically elicits reductions in state self-esteem, increases in negative mood, and increases in feelings of rejection. If thinking about favored television programs and the parasocial relationships they provide can alleviate those increases in belongingness needs, then favored television programs should buffer against the relationship threat elicited by recalling a fight with a close other. Moreover, insofar as this occurs uniquely for favored, but not for non-favored television programs, we can distinguish the benefits of these parasocial relationships from mere escapism.

#### State self-esteem

Did the drop in state self-esteem due to relationship threat disappear when participants wrote (and thus thought) about their favorite television program? To test this hypothesis, we submitted participants' composite state self-esteem scores to a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) Analysis of Covariance (ANCOVA), with global self-esteem entered as a covariate. This was done to control for participants' overall levels of self-esteem. Naturally, global self-esteem predicted state self-esteem,  $F(1, 100) = 79.81, p < .001$ . As predicted by the Social Surrogacy Hypothesis, a significant Belongingness Needs  $\times$  Parasocial Essay interaction also emerged,  $F(1, 100) = 4.51, p = .04$ . As Fig. 2 demonstrates, when participants wrote about non-favored television programs, they experienced lower state self-esteem after belongingness needs were aroused, as compared to when they simply recalled objects in their residence,  $t(100) = -2.45, p = .02$ . Thus, the manipulation of relationship threat seems successful.

However, the insult to self-esteem typically engendered by threats to close relationships was not observed when participants wrote about favored programs,  $t(100) = .81, p = .42$ . Among participants for whom belongingness needs had been aroused, those who wrote about a favorite television program had higher state self-esteem than did those who wrote about a non-favored television program (i.e., whatever was on television),  $t(100) = 2.06, p = .04$ . Self-esteem among participants who simply recalled items from their residence, however, appeared to be unaffected by thinking about a favored or non-favored television program,  $t(100) = -.81, p = .42$ . As predicted by the Social Surrogacy Hypothesis, therefore, it appears that calling to mind the parasocial relationships embedded in a favored television program can buffer state self-esteem against the negative effects of a threat to a close relationship.<sup>7</sup>

<sup>7</sup> The degrees of freedom for state self-esteem analyses are lower than those for mood and feelings of rejection because several participants did not answer the self-esteem questions in mass testing.

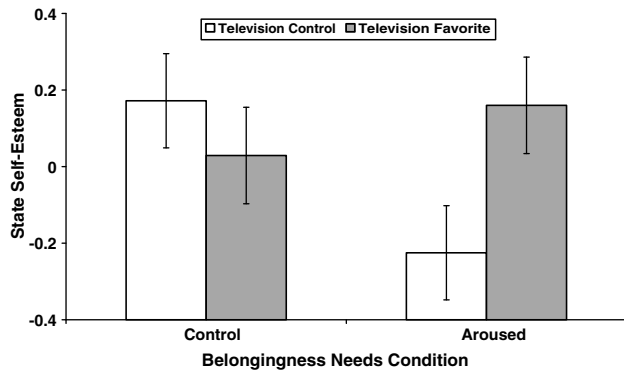


Fig. 2. State self-esteem as a function of social needs condition and type of television program.

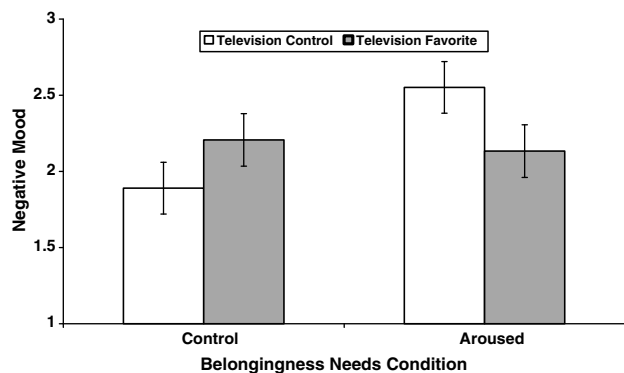


Fig. 3. Negative mood as a function of social needs condition and type of television program.

### Negative mood

Negative mood is also a common result of a threat to a relationship. The Social Surrogacy Hypothesis predicts that thinking about favored television can also buffer against such negative moods. To test this hypothesis, we submitted participants' average negative mood scores from the PANAS to a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) ANOVA. As seen in Fig. 3, the Social Needs  $\times$  Parasocial Essay interaction predicted by the Social Surrogacy Hypothesis again emerged,  $F(1, 112) = 4.61, p = .03$ .<sup>8</sup> For participants who wrote about a non-favored television program (i.e., whatever was on television), recalling a fight with a close other led to stronger negative moods than did simply recalling objects in their residence,  $t(112) = 2.76, p < .001$ . As predicted by the Social Surrogacy Hypothesis, the effect of arousing belongingness needs on negative moods was eliminated by thinking about a favored television program,  $t(112) = -.30, p = .77$ . Additionally, among participants for whom belongingness needs had been aroused, writing about a favored television program elicited marginally lessened negative moods than did writing about a non-favored television program,  $t(112) = 1.69, p = .09$ . Among participants who simply recalled objects in their residence, however, writing about a favored or a non-favored television program did not have a significant influence on negative mood states,  $t(112) = -1.33, p = .19$ . Therefore, it appears that writing about a favorite television program also buffered participants' mood against the negative effect of writing about a fight. In other words, participants who were given the opportunity to call to mind parasocial relationships that com-

monly appear in favorite television programs were protected against the negative mood effects of a relationship threat.

### Feelings of rejection

The Social Surrogacy Hypothesis predicts that thinking about a favored television program can also buffer against feelings of rejection. To test this hypothesis, we submitted participants' scores on the Feelings of Rejection measure to a 2 (Belongingness Needs: Aroused Needs vs. Control)  $\times$  2 (Parasocial Essay: Favored vs. Control) ANOVA. As can be seen in Fig. 4, the Social Needs  $\times$  Parasocial Essay interaction predicted by the Social Surrogacy Hypothesis was marginally significant,  $F(1, 112) = 3.01, p = .09$ . For participants who wrote about a non-favored television program (i.e., whatever was on television), recalling a fight with a close other led to marginally greater feelings of rejection than did simply recalling objects in their residence,  $t(112) = -1.85, p = .07$ . As predicted by the Social Surrogacy Hypothesis, the effect of arousing belongingness needs on feelings of rejection was eliminated by thinking about a favored television program,  $t(112) = -.61, p = .54$ . Additionally, among participants for whom belongingness needs had been aroused, writing about a favored television program elicited marginally lessened feelings of rejection than did writing about a non-favored television program,  $t(112) = 1.78, p = .08$ . Among participants who simply recalled objects in their residence, however, writing about a favored or a non-favored television program had no influence on feelings of rejection,  $t(112) = -.65, p = .51$ . Therefore, it appears that writing about a favorite television show buffered participants' feelings of rejection against the negative effect of writing about a fight.

### Discussion

The results of Study 3 support the Social Surrogacy Hypothesis across all three dependent measures. Whereas recalling a fight with a close other serves to depress self-esteem, increase negative mood, and increase feelings of rejection, thinking about a favored television program buffers against such negative effects. Moreover, these effects appear unique to favorite television programs, not any television program, suggesting the results are due to more than just mere distraction. Thus, it seems that only well-established parasocial relationships found in beloved television programs offer any protective benefit; mere escapism via the consumption of other televised media does not seem sufficient.

### Study 4: Television programs assuage chronic belongingness needs

The results of the previous studies provide support for the Social Surrogacy Hypothesis. Study 2 suggests that people revel long-

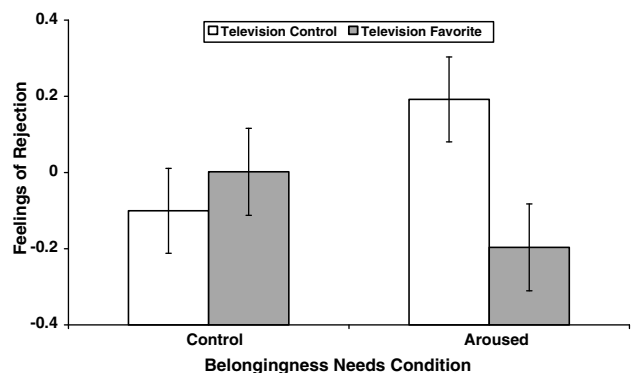


Fig. 4. Feelings of rejection as a function of social needs condition and type of television program.

<sup>8</sup> Analyses of positive mood data yielded no significant effects.

er in the recall of television programs when their belongingness needs have been aroused. Study 3 suggests that thinking about favored (but not non-favored) television programs can actually buffer against the drops in self-esteem, increases in negative mood, and feelings of rejection typically experienced when relationships suffer a threat. Yet in both experiments, the possibility remains that the results were obtained because of the generally positive experience of thinking about a favored television program, rather than because of the increased experience of belongingness that the Social Surrogacy Hypothesis suggests. Perhaps participants turn to favorite television programs, not because they make them feel less lonely, but because they make them generally happier. To examine this hypothesis, Study 4 directly examined the effects of favorite television programs on the reduction of belongingness needs and on mood.

As psychologists have long known, unalleviated goal states are accompanied by the increased accessibility of goal-related concepts (Zeigarnik, 1927). Indeed, one of the signature effects of having an unmet need or goal is sustained activation of need- or goal-relevant concepts (Förster, Liberman, & Friedman, 2007). Moreover, a certain chronic level of anxiety about social rejection or lack of acceptance is common among most people (Leary & Kowalski, 1995). Drawing on this logic, we hypothesized that if thinking of favored television programs alleviates chronically activated belongingness needs, the accessibility of exclusion-related concepts would be reduced.

To examine this, we had participants think about either watching a favored television program, watching whatever is on television (television control), or experiencing an academic success (a non-social, positive control). We then employed a word completion task (e.g., Bassili & Smith, 1986; Sinclair & Kunda, 1999) designed to measure the accessibility of words related to loneliness or exclusion, and words related to positive and negative mood. Previous researchers have found that people who are depressed or in negative moods show priming effects for negative words stems (e.g., Ruiz-Caballero & Gonzalez, 1994, 1997; Watkins, Vache, Verney, & Mathews, 1996). We predicted that relative to the two control conditions, participants primed with favored television programs would show weaker accessibility of exclusion-related concepts because their belongingness needs should be reduced. However, we did not expect that the accessibility of mood related words would vary by condition. In other words, we did not expect that the experience of writing about a favored television program would be any more generally positive or negative of an experience than writing about non-favored programs or about a non-social control. After all, academic successes and leisure time “zoning out” in front of the television are both positive experiences that many people seek out and enjoy. Thus, we predicted that favored television programs exert their power by providing the experience of belonging, not by altering mood. At first glance, this may seem at odds with the results of Study 3 in which we found that thinking about a favored television program reduced negative mood; however, it should be noted that the reduction was only evident when participants’ social needs were first activated and thus mood threatened. For participants in the control condition, writing about a favored or a non-favored television program had no influence on mood states.

## Method

### Participants and design

Two hundred and twenty two undergraduates (129 women; mean age = 19.27) participated in exchange for course credit. Most participants were Caucasian (68%); the remainder was predominantly Asian (17%) and African American (8%). Twenty-four participants (11%) did not speak English as their primary language and

were excluded from analyses. An additional five participants did not answer the word completions and were excluded from analyses. The final sample consisted of 193 participants (110 women). Participants were randomly assigned to one of three conditions: favored television program, whatever was on television, or academic success.

### Procedure and materials

Participation occurred in private cubicles on computers. Participants first completed the parasocial manipulation: they wrote an essay about their favorite television program, about programs they watch on television “when nothing else is on” (television control), or about experiencing a positive academic achievement (non-social control). Participants were asked to write about the topic for 10 min, and they were asked to describe it in as much detail as possible. Participants then attempted 48 word completions. All word stems were presented at the same time on the computer screen, with letters missing from each word. They were presented together so that participants could answer them in any order they chose. Participants were tasked with entering the missing letters in provided blank spaces. Each item could be completed in more than one way. The target words to be completed included three exclusion words, eight negative non-exclusion words, and five positive non-exclusion words, embedded among an additional 32 filler words, for a total of 48 word stem completions. Finally, participants completed some demographic information and were debriefed, thanked, and dismissed.

**Exclusion words.** The exclusion-related words were exclude, reject and hate. They were presented to participants as exc\_\_\_, rej\_\_\_, and ha\_\_\_. Examples of other ways the items could be completed are excite, rejoin, and hard. Items completed as exclusion words were coded as 1, and items completed in other ways were coded as 0. The three items were averaged to create an exclusion composite, or a percentage of the words that were completed using exclusion words. Higher scores indicate greater accessibility of exclusion-related concepts.

**Positive mood related words.** The positive words were happy, calm, cheer, joy, and glad. They were presented to participants as ha\_\_\_, ca\_\_\_, che\_\_\_, jo\_\_\_, and gl\_\_\_. Examples of other ways the items could be completed are hands, cake, check, job, and glow. Items completed as positive mood related words were coded as 1, and items completed in other ways were coded as 0. The five items were averaged to create a positive composite. Higher scores indicate greater accessibility of positive mood related words.

**Negative mood related words.** The negative words were sad, afraid, fear, anger, upset, bad, scared, and mad. They were presented to participants as sa\_\_\_, af\_\_\_, fe\_\_\_, ang\_\_\_, up\_\_\_, ba\_\_\_, sca\_\_\_, and ma\_\_\_. Examples of other ways the items could be completed are say, afford, feet, angel, upper, bat, scales, and man. Items completed as negative mood related words were coded as 1, and items completed in other ways were coded as 0. The eight items were averaged to create a negative composite. Higher scores indicate greater accessibility of negative mood related words.

**Filler words.** Thirty-two additional word stems were included that could not be completed with valid English words in ways that denoted or connoted exclusion, positive mood, or negative mood. For example the\_\_\_ could be completed as there, their, theme, etc., none of which is exclusion relevant.

### Results and discussion

Are chronic belongingness needs uniquely reduced among individuals who have thought about a favored television program, as



compared to those who have thought about either a non-favored television program or about a positive, but non-social life event? To answer this question, we submitted the exclusion composite to a one-way ANOVA with three levels. As predicted, the effect of condition on the completion of exclusion words emerged,  $F(2,190) = 4.34, p = .01$ . Participants in the favored television condition ( $M = .35, SD = .16$ ) completed significantly fewer items as exclusion words than participants in either the television control,  $M = .43, SD = .16, t(190) = -2.56, p = .01$ , or the positive non-social control,  $M = .43, SD = .18, t(190) = -2.56, p = .01$ .

The manipulation, however, had no effect on the completion of positive,  $F(2,190) = .92, p = .40$ , or negative,  $F(2,190) = .43, p = .65$ , mood related words. Additionally, the manipulation had no effect on participants' overall capacity to complete word stems,  $F(2,190) = 1.56, p = .21$ . We also conducted a follow-up ANCOVA on the index of exclusion accessibility that included the number of accurately completed filler word stems as a covariate. This analysis yielded a nearly identical pattern of data to the initial analysis,  $F(2,189) = 3.45, p = .03$ , with participants in the positive parasocial condition completing fewer exclusion-related words than the participants in the other two conditions. Therefore, it appears that thinking about a favorite television program decreased the accessibility of exclusion-related words, even controlling for participants' ability to accurately complete word stems. Just as completing a goal or reducing a need can inhibit the accessibility of goal- or need-related words, so too does thinking about valued parasocial relationships reduce the accessibility of belongingness related concepts. This effect appears to be a result of the reduction of belongingness needs, not improved mood; there was no difference across conditions in the completion of positive or negative mood words.

## General discussion

Across four studies, one correlational and three experimental, and seven different dependent measures, we have provided novel evidence for the *Social Surrogacy Hypothesis*: humans can use technologies, such as television, to provide the experience of belonging. In line with our initial correlational evidence, Study 2 found that belongingness needs lead people to revel for longer in a description of their favored (but not non-favored) television program. Also in line with our correlational evidence, Study 3 found that thinking about a favored (but not non-favored) television program can buffer against the effects on self-esteem, mood, and feelings of rejection that are commonly elicited by a threat to a close relationship. Extending this logic, just as addressing a goal reduces the activation of goal-related concepts, Study 4 found that thinking of a valued television program reduced activation of exclusion-related concepts, providing evidence that these televised parasocial relationships can ease latent belongingness needs.

### Alternate explanations and limitations

Although we believe our data demonstrate the ability of favorite television programs to provide the experience of belonging, there are alternative explanations for the findings that need to be addressed. First, it is possible that people are more likely to watch a favored television program with another *actual* person, as compared to other televised content. Therefore, the effects of Studies 2 and 3 may have been driven by the social atmosphere of watching favorite programs rather than by the parasocial "interaction." Indeed, participants did report watching favored television programs with others more frequently than non-favored programs,  $t(100) = 4.52, p < .01$  in Study 2, and  $t(114) = 7.06, p < .01$  in Study

3. However, follow-up analyses of each dependent variable, controlling for whether participants reported having watched the program with others, still yielded the predicted Social Needs  $\times$  Parasocial Essay interactions:  $F(1,97) = 8.38, p < .01$  for time spent writing in Study 2;  $F(1,99) = 4.19, p = .04$  for state self-esteem;  $F(1,111) = 5.45, p = .02$  for negative mood; and  $F(1,111) = 3.12, p = .09$  for the marginally significant interaction for feelings of rejection in Study 3. Therefore, the presence of others during the initial viewing of the televised programming cannot clearly account for the effects.

Second, we acknowledge that the use of the same control condition (watching whatever is on television) in all of the experiments is a potential limitation. Because only one control condition was used, it is possible that some other difference between watching whatever is on television vs. watching one's favorite program (other than the propensity to provide a social surrogate) accounts for some of the differences. For example, perhaps watching a favorite program is more enjoyable, easier, or more rewarding. Our concerns about this limitation are tempered by the findings in the control (belongingness needs not activated) conditions of Study 2 and Study 3. Across these studies, control participants who wrote about favored television programs did not differ from those who wrote about non-favored television programs in the time they spent writing, mood, state self-esteem, or feelings of rejection, suggesting that the two conditions only differ in their ability to address deficits on belonging. Nonetheless, we thought it prudent to run a replication of one of the studies (Study 4) using a different control condition. In the replication, participants in the control condition also wrote about their favorite television program. However, they were specifically told not to write about the characters or plots but to focus on the non-social aspects of their favorite program (e.g., they wrote about what time it was on, where it was filmed, what the costumes and sets were like, etc.). Participants then completed the PANAS mood measure (Watson et al., 1988) and the differential loneliness scale (Schmidt & Sermat, 1983). Thus, the follow-up study was a conceptual replication of Study 4 with a different control condition, a different measure of mood, and a different measure of belonging. The results of Study 4 were replicated exactly. Although both positive ( $p = .72$ ) and negative ( $p = .95$ ) mood were not affected by the manipulation, loneliness was  $t(45) = 2.41, p = .02$ . Participants who wrote about their favorite program felt significantly less isolated from social groups than those in the control condition. Thus, our ability to replicate Study 4 using a different essay in the control condition reduces the likelihood that the social surrogacy effects are driven by confounds of writing about whatever is on television.

Finally, we acknowledge that although all of the stages in our model are supported by at least one of the studies presented, none of our studies simultaneously support all stages of our model. Specifically, our model argues that people turn to favored television programs when they feel lonely (Studies 1 and 2) because those programs reduce the negative effects of loneliness (Studies 1 and 3) by providing the experience of belonging (Study 4). Because none of the studies measures all of the stages together, we cannot be certain of the mediating role of providing the experience of belonging; it is possible that the effects of Studies 1–3 are driven by something other than addressing these belongingness needs. For example, perhaps watching a favored television program is enjoyable and thus increases mood, which leads to other positive outcomes.<sup>9</sup> Although intriguing, we think this alternate explanation is unlikely for a number of reasons. First, Study 3 demonstrated that writing about a favored television program only affected mood and self-esteem when belongingness needs are activated, indicating a

<sup>9</sup> We thank a helpful reviewer for this suggestion.

link specific to social situations. Second, both Study 4 and its replication, each using different measures, found direct effects of television on loneliness but no effects on mood. Thus, we believe that our explanation of the data is the most parsimonious. Nonetheless, we acknowledge that these data present only a first examination of the Social Surrogacy Hypothesis and that additional research is needed.

#### *Trick or treat: Does social surrogacy suppress or fulfill belongingness needs?*

Throughout, we have discussed social surrogacy as providing the experience of belonging, even without having a “true” social interaction. As yet, it remains an open question as to whether such social surrogacy merely *suppresses* belongingness needs, or whether such surrogacy actually *fulfills* the need. While beyond the scope of this initial investigation, investigating the extent to which social surrogacy suppresses or fulfills belongingness needs is certainly a necessary next step.

Similarly, seemingly inherent in the argument that social surrogacy can serve as an alternative to “real” social interaction is the argument that social surrogacy is maladaptive, or at least an impoverished experience as compared to “real” interaction. We do not, however, necessarily endorse such an evaluative position. We believe that extracting the experience of belonging from technology is neither an inherently adaptive nor maladaptive behavior. For those with very high belongingness needs, such need management may reduce chronic feelings of rejection or isolation. For others who might have difficulty experiencing social interaction due to physical or environmental constraints, such technologically induced belongingness may provide otherwise difficult to achieve succor. Of course, using such technologies to the exclusion of true social interaction is certainly maladaptive, and likely self-defeating. Turning one’s back on friends and family for the solace of televised media for extended periods of time will likely leave an individual with fewer rather than greater social resources over time.

#### *Parasocial relationships and relationship processes*

This research also raises the question of the boundary of what might be considered a relationship. Specifically, in the current research, we allowed participants the complete freedom to think about favored (or non-favored) television programs, and did not specify that they consider a favorite character or media persona. Analyses of participants’ essays suggest that individuals frequently do isolate a favorite character or characters within a program, especially when writing about their favorite television program (87%). However, the Social Surrogacy Hypothesis does not specify what about the favorite television program allows social surrogacy to occur. It is possible that people identify with a particular character (e.g., Cohen, 2006), that they interact parasocially with a character (e.g., Horton & Wohl, 1956), or that they experience transportation into the narrative world, allowing them to transport themselves into the program and enjoy the full story and the full gamut of relationships (e.g., Green, 2005; Green, Brock, & Kaufman, 2004). Although the current model does not specify at what level (e.g., individual, collective) or through what framework (e.g., attachment, identification) the parasocial relationship and social surrogacy itself occurs, it is certainly possible that different types of parasocial relationships may yield the experience of belonging differently. For example, given that men seem to prefer social interactions within groups or hierarchies and women seem to prefer dyads (Baumeister & Sommer, 1997; Gabriel & Gardner, 1999), it is possible that men may prefer parasocial interactions with groups or teams, and have their needs best met by such collective parasocial relationships.

Moreover, we have discussed social surrogacy as though it were something that all people are inclined to do. However, it is possible that the tendency to use television in this manner is limited to a particular portion of the population. For example, past research has demonstrated that people with low self-esteem, people with an anxious-ambivalent or preoccupied attachment style, people low in trust, and people high in the need to belong are more likely to experience parasocial relationships, experience stronger parasocial relationships, or are more likely to turn to parasocial activities than their more securely-attached or “better-adjusted” counterparts (Babb, 1995; Cohen, 2004; Cole & Leets, 1999; Green & Brock, 1998; Knowles, 2007). To investigate this possibility in the current research, we measured several individual difference variables in a large testing session at the beginning of the semester that each study was run. We assessed self-esteem (Rosenberg, 1965), attachment style (Bartholomew & Horowitz, 1991), need to belong (Leary, Kelly, Cottrell, & Schreindorfer, 2005; not assessed in Study 2), and gender. None of the individual difference variables moderated our findings.<sup>10</sup> Although this list of individual difference variables is certainly not exhaustive, the results of these analyses suggest that social surrogacy does not appear limited to just one gender or to “insecure” or “maladjusted” individuals.

#### **Conclusion**

In our current research, we have endeavored to take seriously the hypothesis that seemingly asocial human technologies, such as television, can actually serve a *social* function. Indeed, we believe that the Social Surrogacy Hypothesis is a theoretically-driven treatment of a truly ubiquitous part of the modern human environment, one that moves beyond mere descriptive evidence to test novel, provocative, social psychological hypotheses about basic human needs. We believe that investigating the underlying motivations for such human technologies offers a new way for social psychologists to consider the functional underpinnings of human behavior. Perhaps more importantly, we hope that the current work serves to elucidate a new mechanism by which humans can address an important need: the need to belong.

#### **Acknowledgments**

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<sup>10</sup> A marginal relationship between attachment anxiety and the likelihood of feeling lonely while watching a favorite television program trended toward significance in Study 1,  $r(617) = -.08, p = .06$ , all other  $ps > .68$ . Given the large sample size in this study (all  $ns > 617$ ), the absence of any significant correlations seems noteworthy.

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