

**THE DEVELOPMENTAL COURSE OF
A PARASOCIAL RELATIONSHIP**

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ABSTRACT

The parasocial relationships that people form with figures from mass media have received a great deal of attention from researchers. However, little is known about the developmental course of these relationships. The purpose of the current study was to fill this fundamental gap in the literature by gaining a better understanding of how parasocial relationships change over time. A total of 98 participants were recruited from undergraduate psychology courses, 80 of whom were included in the final analysis. Participants were given a season of a designated television program on physical media to take home and watch. The strength of their parasocial relationships with the lead character in the program was tracked over four viewing weeks and two postviewing weeks. Parasocial breakup distress, the negative emotions that people experience when their contact with a media figure is severed, was also tracked in the postviewing period. Results indicate that parasocial relationships were moderately strong after initial exposure to the character. Relationship strength underwent small increases in subsequent viewing weeks and a small decrease over the postviewing weeks. Parasocial breakup distress was generally modest at the beginning of the postviewing period, and it also underwent a small decline over the postviewing weeks. Relationship strength and breakup distress were stronger among participants who reported higher levels of perceived similarity and attraction to the character, as well as higher levels of parasocial interaction, identification, wishful identification, and transportation. There was no evidence that changes in relationship strength or breakup distress varied according to these same variables. These results have implications for viewer attitudes and behaviors in several domains.

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INTRODUCTION

Individuals that we encounter through mass media, such as celebrities, fictional television characters, and nonfictional television personalities, are an important part of our everyday lives (Caughey, 1978). Not only are these media figures a common source of entertainment and relaxation, but people often develop close emotional bonds with these figures. Within the academic literature, these emotional bonds are conceptualized as one-sided, nonreciprocal relationships between the media user and the media figure. Researchers have examined many different aspects of these relationships, such as their various benefits and drawbacks for media users. However, research on the developmental course of these relationships is largely nonexistent. For instance, little is known about the manner in which these relationships form in the period after one's introduction to a media figure. Is relationship formation a gradual process that mimics the formation of interpersonal relationships, or is it a much quicker process that capitalizes on the unique characteristics of mass media? Similarly, it is unclear how these relationships change after contact with a media figure is lost. Do these relationships persist in subsequent weeks, or do people quickly abandon these relationships in favor of new ones? The purpose of the present study was to fill these fundamental gaps in the literature by tracking the developmental course of a relationship with a media figure. Prior to discussing the study in question, some general background in this area will be considered.

Historical Background

In 1956, Horton and Wohl published a landmark paper that addressed people's cognitive and affection reactions to figures from mass media, particularly nonfictional television personalities. Their paper introduced two concepts that have since received a

great deal of attention in the research literature: *parasocial interaction* and *parasocial relationships*. Parasocial interaction is generally defined as the perception of being engaged in a reciprocal interaction with a media figure (Hartmann, 2016; Hartmann & Goldhoorn, 2011; Klimmt, Hartmann, & Schramm, 2006; Rosaen & Dibble, 2016). During these interactions, media users experience a feeling of “conversational give and take” with the media figure and come to see the media figure as a communication partner (Horton & Wohl, 1956). Although media users consciously know that the media figure is not interacting with them directly, they perceive that the figure is aware of them and is responding to their presence (Rosaen & Dibble, 2016). For instance, one might experience a strong sense of parasocial interaction when a television personality such as a news anchor or a talk show host looks into the camera and addresses the viewers of the television program. Parasocial interaction also occurs in more conventional media programming that does not contain these overt forms of visual or auditory address, albeit to a lesser degree (e.g., Tukachinsky & Sangalang, 2016).

The second concept that Horton and Wohl’s (1956) paper introduced is parasocial relationships. A parasocial relationship is an illusory relationship that often forms after a media user becomes acquainted with a media figure (Isotalus, 1995; Schiappa, Allen, & Gregg, 2007). These relationships are characterized by a sense of familiarity and intimacy with the media figure, as well as a strong affective bond that resembles a feeling of friendship. They are also one-sided and nonreciprocal in nature – a media user might feel a strong connection to the media figure, but the media figure does not experience a similar connection with the media user. Whereas the perceived interactions that comprise parasocial interaction only occur during exposure to media content, the bond that defines

a parasocial relationship persists beyond the actual media exposure (Cohen, 2009; Klimmt et al., 2006; Rosaen & Dibble, 2016; Schramm & Wirth, 2010).

Horton and Wohl's (1956) paper continues to be influential in this research area, although it has also been the source of some conceptual confusion. In their paper, Horton and Wohl did not clearly distinguish between the concepts of parasocial interaction and parasocial relationship, and in places they appear to use these terms interchangeably. Consequently, researchers in subsequent decades tended to use the term parasocial interaction to describe the perceived relationships that individuals form with media figures rather than the perceived interactions that they experience with these figures (Schramm & Hartmann, 2008). For instance, Rubin and McHugh (1987) defined parasocial interaction as "a one-sided interpersonal relationship that television viewers establish with media characters" (p. 280). Similarly, Perse and Rubin (1989) described parasocial interaction as an "imaginary, one-sided friendship that a television viewer has with a mass communication 'persona' or character" (p. 60).

The confusion surrounding these parasocial processes extended to early survey instruments as well (Rosaen & Dibble, 2016). Levy (1979) published what is likely the first questionnaire in this area, which ostensibly assesses parasocial interactions with newscasters. A quick review of this questionnaire reveals that its items are measuring affective relationships with newscasters instead of perceived interactions with these figures (e.g., "The newscasters are almost like friends you see every day"). Although Levy's questionnaire saw little subsequent use, it did provide the foundation for Rubin, Perse, and Powell's (1985) Parasocial Interaction Scale. For several decades, the Parasocial Interaction Scale and its shorter revision (Rubin & Perse, 1987a) were the

most widely-used questionnaires in this research area, and they continue to be used to a lesser extent today. Here again, the items on these questionnaires are devoted almost entirely to the relationships that viewers form with television figures rather than the perceived interactions that viewers experience with these figures. Subsequent questionnaires from other researchers suffered from the same problem (e.g., Auter & Palmgreen, 2000; Bocarnea & Brown, 2007; Tsay & Bodine, 2012).

In response to the conceptual confusion surrounding parasocial interaction and parasocial relationships, researchers have made a greater effort to distinguish between these concepts in recent years. They have also devised new measurement instruments that adhere to these stricter conceptualizations of parasocial interaction and parasocial relationships (e.g., Bond & Calvert, 2014a; Claessens & Van den Bulck, 2015; Hartmann & Goldhoorn, 2011; Hartmann, Stuke, & Daschmann, 2008; Richards & Calvert, 2017; Slater, Ewoldsen, & Woods, 2018; Tukachinsky, 2010). Some older survey instruments are still in use, although researchers tend to use them in a manner that is consistent with current terminological definitions. For instance, a number of studies have adapted the Parasocial Interaction Scale for use as a parasocial relationship measure (e.g., Behm-Morawitz, Aubrey, Pennell, & Kim, 2019; Eyal & Cohen, 2006; Eyal & Dailey, 2012; Semmler, Loof, & Berke, 2015; Tukachinsky & Sangalang, 2016). In general, measures that assess parasocial interaction tend to show moderate to strong correlations with measures that assess parasocial relationships (.31 to .54; Bond & Calvert, 2014a; Dibble, Hartmann, & Rosaen, 2016; Dibble & Rosaen, 2011; Hartmann & Goldhoorn, 2011). This finding reinforces the idea that parasocial interaction and parasocial relationships,

although closely related, are distinct concepts and should be treated as such by researchers.

Another recent but important trend in this research area concerns the types of media figures that are selected for study. The first theoretical papers on parasocial interaction and parasocial relationships focused on television personalities, particularly hosts of talk shows and game shows (Horton & Strauss, 1957; Horton & Wohl, 1956). When the first empirical studies began to emerge several decades later, they also focused on figures from specific genres of television programming, such as newscasters and reporters (Levy, 1979; Houlberg, 1984; Palmgreen, Wenner, & Rayburn, 1980; Rubin et al., 1985), soap opera characters (Canary & Spitzberg, 1993; Perse & Rubin, 1988, 1989; Rubin & Perse, 1987a), and hosts of television shopping programs (Auter & Moore, 1993; Grant, Guthrie, & Ball-Rokeach, 1991; Skumanich & Kintsfather, 1998; Stephens, Hill, & Bergman, 1996). Some attention was directed toward favorite television characters or personalities in general (Cohen, 1997; Cole & Leets, 1999; Rubin & McHugh, 1987), although this type of research was much less common at that time than it is today. Toward the end of this period, scholars also started to look at media figures that are known outside of a television format, such as popular celebrities, athletes, and public figures (Brown & Basil, 1995; Brown, Basil, & Bocarnea, 2003a, 2003b; Brown, Duane, & Fraser, 1997).

Contemporary researchers have continued to expand beyond the boundaries of television by studying parasocial interaction and parasocial relationships with figures from other types of media, including radio (Quintero Johnson & Patnoe-Woodley, 2016; Rubin & Step, 2000; Savage & Spence, 2014; Sood, 2002), books (Burnett & Beto, 2000;

Kokesh & Sternadori, 2015; Liebers & Schramm, 2017; Schmid & Klimmt, 2011), video games (Jin, 2010; Jin & Park, 2009; Song & Fox, 2016), Internet blogs (Colliander & Dahlén, 2011; Kassing & Sanderson, 2009a, 2009b; Sanderson, 2008a, 2008b), video-sharing websites such as YouTube (Chen, 2016; Ko & Wu, 2017; Rihl & Wegener, 2019), and social networking websites such as Twitter and Facebook (Baek, Bae, & Jang, 2013; Frederick, Lim, Clavio, & Walsh, 2012; Lee, 2013; Lee & Jang, 2013; Stever & Lawson, 2013; Tsiotsou, 2015). They have also assessed parasocial processes that occur with figures appearing in nonmediated contexts, such as theater actors (Schramm & Wirth, 2010) and robotic animals (Lee, Peng, Jin, & Yan, 2006). Finally, a growing number of researchers have approached these concepts from a business or marketing perspective. For instance, studies have addressed parasocial relationships with company representatives (Men & Tsai, 2015; Tsai & Men, 2017a) and chief executive officers (CEOs; Tsai & Men, 2017b), as well as more unconventional parasocial targets such as nonprofit organizations (Pressrove & Pardun, 2016) and companies or brands (Fetscherin, 2014; Labrecque, 2014; Lee & Lee, 2017). Employers themselves may form parasocial relationships with job applicants after reviewing online information about these applicants (e.g., from social media) during the employment screening process (Berkelaar, 2017).

As these latter studies indicate, the scope of this area has been expanding at a rapid pace. Whereas most of the early research in this field came from communication scholars exclusively (Giles, 2002; Isotalus, 1995; Rafaeli, 1990), it is now common to see papers from the fields of psychology and business or marketing. Recently, researchers have started to examine how parasocial processes relate to other disciplines as well, such

as economics, finance, and investing (Bozkurt & Hatipoglu, 2017; Lepori, 2015). Across these various disciplines, there seems to be a greater emphasis on parasocial relationships than there is on parasocial interaction. The current work continues this trend by focusing on parasocial relationships specifically. However, the phenomenon of parasocial interaction is tied to parasocial relationships in an integral way and will occasionally be addressed in the following sections, as necessary.

Two Perspectives on Parasocial Relationships

In their seminal paper, Horton and Wohl (1956) provided two explanations for the occurrence of parasocial relationships. According to one explanation, these relationships emerge as a form of compensation for individuals who are lonely or have unmet social needs. To date, research has provided mixed support for this claim. On one hand, there is some evidence that parasocial relationships are particularly strong among individuals with heightened social inclusion needs (Gardner, Pickett, & Knowles, 2005; Greenwood & Long, 2009; Rosaen & Dibble, 2016) and high levels of anxiety regarding their close relationships (Greenwood & Long, 2011; Greenwood, Pietromonaco, & Long, 2008; Theran, Newberg, & Gleason, 2010). Parasocial relationships may supplement or offer an attractive alternative to social relationships for these types of individuals. On the other hand, a large number of researchers have failed to find a link between parasocial relationships and feelings of loneliness (Canary & Spitzberg, 1993; Eyal & Cohen, 2006; Chory-Assad & Yanen, 2005; Rosaen & Dibble, 2016; Rubin et al., 1985). Lonely individuals do appear to consume more media than nonlonely individuals, likely as an attempt to compensate for their unmet relational needs (Derrick, Gabriel, & Hugenberg, 2009; Nordlund, 1978; Perse & Rubin, 1990; Rubin et al., 1985). However, they do not

appear to have stronger parasocial relationships than their more socially satisfied counterparts.

A further issue with the compensatory view of parasocial relationships is that it does not explain the prevalence of these relationships among the general population. Indeed, people seem to form relationships with media figures regardless of whether they are lonely or social isolated. To account for this phenomenon, Horton and Wohl (1956) provided a second explanation for the occurrence of parasocial relationships. Namely, they suggested that these relationships are a normal consequence of media use that result from people's preexisting social skills and processes. Horton and Wohl were ambiguous about the precise mechanisms behind this phenomenon, although Tsao (1996) later proposed that parasocial relationships arise from the same general process of emotional bonding that is responsible for the formation of social relationships with real people. Researchers have argued that humans have a fundamental need to connect with other people such that we are inclined or motivated to form relationships when we come across others in our social environment (Baumeister & Leary, 1995). It is possible that relationships with media figures are an extension of this inherent drive to form interpersonal connections to others (Stever, 2017). In other words, when we encounter people in media such as film or television, we experience the same inclination or motivation to form relationships that we typically experience when we encounter people in real life.

The notion that parasocial relationships are due to the same underlying processes and motivations as our social relationships may seem unusual at first, although there is an evolutionary basis for this idea. Reeves and Nass (1996) and Kanazawa (2002) noted that

the human brain is adapted to the environment in which it evolved, such that it may have difficulty fully comprehending stimuli that did not exist within that environment. For instance, throughout much of human history, the only people that individuals encountered during their daily activities were real, flesh-and-blood human beings. People encountered through mass media are a relatively recent phenomenon, particularly with respect to electronic media such as television. Since the human brain did not evolve in a media-saturated environment, it may lack the ability to distinguish media figures from real people on some unconscious level. If this is the case, then one would expect the brain to respond to media figures as though they are people in the social environment. There is some evidence for this proposition, as media figures appear to trigger a wide range of social effects that are generally produced by real interpersonal partners (e.g., Gardner & Knowles, 2008; Goode & Robinson, 2013; Knowles, 2007; Lakey, Cooper, Cronin, & Whitaker, 2014; Reeves & Nass, 1996; Schiappa, Gregg, & Hewes, 2005; Tukachinsky, 2015). Parasocial relationships with media figures may be merely another manifestation of this phenomenon. In other words, when people see media figures on a television, computer, or movie screen, their brains likely mistake these figures for real, flesh-and-blood humans; people subsequently form relationships with these media figures due to their inherent drive to establish social connections to other people.

If social and parasocial relationships are truly due to the same underlying processes, as researchers suggest, then there should be clear parallels between these two types of relationships in terms of their formation, their maintenance, and their dissolution (or termination). A growing body of research is supportive of this idea. For instance, researchers have reported similarities between social and parasocial relationships in terms

of relationship formation. Tsao (1996) found that parasocial relationships are associated with personality traits that predict sociability, such as extraversion and empathy. This finding suggests that the same individuals who are inclined to form social relationships with real people are also apt to form parasocial relationships with media figures. In addition, social and parasocial relationships are both closely related to self-disclosure processes. Research has shown that parasocial relationships tend to be stronger when media figures provide personal self-disclosure (Kim & Song, 2016; Ko & Wu, 2017; Savage & Spence, 2014; Haridakis, 2006) such that an individual is better able to predict the feelings, attitudes, and behaviors of these figures (Frederick et al., 2012; Perse & Rubin, 1989). This finding mirrors similar outcomes that occur with social relationships (Altman & Taylor, 1973; Berger & Calabrese, 1975; Clatterbuck, 1979; Collins & Miller, 1994; Greene, Derlega, & Mathews, 2006). Moreover, Tal-Or and Hershman-Shitrit (2015) found that preferred patterns of self-disclosure in parasocial relationships are similar to those seen in social relationships, such that there is a preference for a relationship partner to gradually reveal more intimate information as the relationship progresses (Greene et al., 2006). Thus, there is evidence that the formation of parasocial relationships is contingent on many of the same qualities and processes that govern the formation of social relationships.

Not only are there similarities in terms of the formation of social and parasocial relationships, but there are also similarities in the ongoing maintenance of these two types of relationships. For instance, Eyal and Dailey (2012) and Branch, Wilson, and Agnew (2013) found that an individual's commitment to a parasocial relationship is related to factors such as satisfaction with the relationship and investment in the relationship,

variables that also predict commitment within the context of social relationships (Le & Agnew, 2003). In addition, research from Eyal and Dailey (2012) has shown that the strength of both social and parasocial relationships is related to one's commitment to the relationship partner and the degree to which the partner is integrated into the individual's social network (i.e., the relationship is stronger if close others know and similarly value the relationship partner). These collective findings suggest that some of the same mechanisms that underlie the maintenance of social relationships are also at work when it comes to parasocial relationships.

Researchers have also approached the topic of relational maintenance by analyzing user postings on celebrity websites. These websites offer a unique forum for the study of parasocial relationship maintenance, as they provide qualitative evidence of people's relational behaviors toward media figures. For instance, Kassing and Sanderson (2009a, 2009b) and Sanderson and Emmons (2014) assessed how fans displayed social support and forgiveness to celebrity athletes undergoing various personal or professional trials. They found that individuals offered messages of encouragement and praise, provided empathy and sympathy, and offered advice or money, among other strategies. Similarly, Sanderson (2009) investigated how fans restored their parasocial relationships with members of a celebrity boy band (i.e., a group of young male singers) when the band reunited after a period of several years. The author found that individuals expressed positivity through intimate or affectionate statements, declared their gratitude to the band members, and conveyed their encouragement. They also expressed assurance in their postings by writing about their loyalty to the band members and the influence of the band on both themselves and society as a whole. Taken together, this research indicates that

individuals use many of the same maintenance behaviors in their parasocial relationships that they use in their social relationships with real people (e.g., Canary, Stafford, Hause, & Wallace, 1993; Dindia, 2000; Richman, Rosenfeld, & Hardy, 1993).

Finally, research has shown that the dissolution of a parasocial relationship mirrors the dissolution of a social relationship in many respects. A number of researchers have found that people experience feelings of distress at the prospect of losing a parasocial relationship with a favorite television character or personality (Cohen, 2003, 2004; Lather & Moyer-Gusé, 2011). Moreover, Lather and Moyer-Gusé (2011) reported that gender differences in coping with the loss of a favorite media figure reflect similar gender differences in coping with the loss of a real social partner, with females relying on social sources of support more so than males. Daniel and Westerman (2017), Radford and Bloch (2012), and Sanderson and Cheong (2010) also found evidence that people experience the five stages of grief following the death of a beloved television character or celebrity (i.e., denial, anger, bargaining, depression, and acceptance; Kübler-Ross, 1969; Kübler-Ross & Kessler, 2005). Although the severity of people's grief may not reach the same levels that are seen after the loss of a close social partner, losing a favorite media figure still seems to cause a degree of distress to many individuals (DeGroot & Leith, 2018; Eyal & Cohen, 2006).

To summarize, a large body of research indicates that the formation, maintenance, and dissolution of parasocial relationships bear a strong resemblance to comparable processes that occur in social relationships. This finding suggests that, for most people, parasocial relationships are a normal consequence of media use that arise from preexisting social processes and motivations. One should not discount the compensatory

view of parasocial relationships altogether, as it is possible that a certain segment of the population may be using these relationships to make up for deficiencies in their social relationships. However, Horton and Wohl's (1956) more broad explanation for parasocial relationships does seem to better account for the occurrence of these relationships among the general public.

Although parasocial relationships appear to be fairly common among media users, they are not necessarily experienced in a uniform or identical manner by these users. As some of the content in this section would suggest, the strength of these relationships can vary according to a number of factors, such that some individuals experience stronger relationships and others experience weaker relationships. The next section will outline several of these factors.

Influences on Parasocial Relationships

Research has shown that there are many factors that can influence the strength of people's parasocial relationships. For the purposes of the current paper, these factors will be broken down into two general categories. The first category will consist of characteristics of the media figure or the media program, whereas the second category will consist of characteristics of the media user. This section will start by looking at the former.

Characteristics of the Media Figure or the Media Program

One factor that can have a considerable influence on parasocial relationship strength is the discourse style of a media figure. Several studies have shown that viewers report higher levels of parasocial interaction and stronger parasocial relationships when television characters or personalities break the "fourth wall" and address the viewers

directly (Auter, 1992; Beege, Schneider, Nebel, & Rey, 2017; Cummins & Cui, 2014; Dibble et al., 2016; Hartmann & Goldhoorn, 2011; Tukachinsky & Sangalang, 2016). These results can largely be attributed to the body positioning of the television figure, wherein the figure appears to be looking directly at the viewer instead of an alternate communication target to the side of the screen. Feelings of direct address may be amplified when the media figure's bodily address is accompanied by an appropriate verbal component (e.g., talking to an adult audience in a tone intended for adults instead of a tone intended for children; Hartmann & Goldhoorn, 2011). In a similar manner, voiceover narration that is provided by a television character, which is generally considered to be a direct form of verbal address toward the viewer, encourages stronger parasocial relationships with the character (Semmler et al., 2015). It is likely that these processes follow a distinct causal pathway in which direct bodily or verbal address enhances feelings of perceived interaction with a media figure, such that the viewer comes to feel like an intimate or personal confidant of the figure. These feelings would go on to strengthen parasocial relationships with the figure.

Another factor that appears to influence the strength of parasocial relationships is the type of media programming in which the media figure appears. Nabi, Stitt, Halford, and Finnerty (2006) found that individuals report stronger parasocial relationships with figures from fictional television programming versus nonfictional or "reality" television programming. Similarly, participants in a study by Branch et al. (2013) reported greater commitment to a parasocial relationship and more investment in a parasocial relationship when dealing with fictional television characters compared to nonfictional television personalities. These results are consistent with the fact that individuals who are asked to

indicate their favorite television figures tend to choose fictional characters over nonfictional personalities (Branch et al., 2013; Chory-Assad & Yanen, 2005; Cohen, 1997; Cole & Leets, 1999; Greenwood & Long, 2009). These collective findings are somewhat surprising, as a number of researchers have found that higher perceived realism of television content is related to stronger parasocial relationships (Auter & Palmgreen, 2000; Chung & Cho, 2014; Perse, 1990; Rubin & Perse, 1987a; Rubin et al., 1985). One would expect nonfictional programming to be perceived as more realistic than fictional programming and therefore more conducive to parasocial relationships. Stronger relationships with fictional characters can likely be attributed to the fact that fictional programming is regarded to be more thematically “fair” than reality programming (e.g., characters get what they deserve), that it is more dramatic than reality programming, and that it evokes a greater range of emotional reactions from viewers than reality programming (Nabi et al., 2006).

At the same time, not all fictional characters are ideal parasocial targets. Participants in a study from Gardner et al. (2005) reported stronger attachments to human television characters than they did to animated (i.e., cartoon) television characters. Similarly, Rosaen and Dibble (2008) found that children form stronger parasocial relationships with television characters that look and act like a real person than they do with animated characters or human characters with unrealistic powers. Thus, fictional characters may need to exhibit a certain degree of realism in order to elicit parasocial processes. This provision may be related to feelings of social presence, the perceptual experience that one is in the presence of an actual person. Several studies have shown that feelings of social presence are linked to parasocial relationships in an online setting

(Kim & Song, 2016; Lee, 2013; Lee & Jang, 2013; Lee & Oh, 2012; Thorson & Rodgers, 2006), and it is likely that this association would extend to other types of media such as television.

Three additional factors that are related to parasocial relationships are perceived similarity to a media figure, attraction to a media figure, and affinity for a media figure. Each of these factors is admittedly somewhat subjective and will vary to a certain degree depending on the characteristics of the specific media user. For instance, certain media users may rate attraction to a media figure as high, whereas others may rate attraction to the same media figure as low, depending on the users' personal tastes or preferences. Having said that, the traits of the media figure will obviously play an important role in one's perception of whether the figure is attractive. Keeping this consideration in mind, the following paragraphs will describe each of these three factors in more detail.

Perceived similarity to a media figure, also known as perceived homophily in the literature, is generally regarded to be an important contributor to parasocial relationships (Brown, 2015; Tian & Hoffner, 2010). Perceived similarity can refer to any number of characteristics, such as physical attributes, personality traits, and attitudes or values (Moyer-Gusé, 2008). However, studies within this area tend to assess perceived similarity in a very general or nonspecific manner (e.g., "My favorite television character reminds me of myself"). Research indicates that perceived similarity is moderately to strongly related to parasocial relationship strength (Chory-Assad & Yanen, 2005; Dibble et al., 2016; Eyal & Rubin, 2003; Ko & Wu, 2017; Moyer-Gusé & Nabi, 2010; Tian & Hoffner,

2010; Xiang, Zheng, Lee, & Zhao, 2016).¹ The few studies that have assessed specific types of perceived similarity suggest that similarity in terms of attitudes and values is especially important for parasocial relationships (Frederick et al., 2012; Schmid & Klimmt, 2011; Turner, 1993). In addition, perceived similarity to a media figure seems to be a better predictor of parasocial relationship strength than actual similarity to a media figure, particularly with respect to personality factors (Cohen & Hershman-Shitrit, 2017). This finding emphasizes the importance of media users' subjective evaluations of similarity, which may not always reflect reality.

Researchers have also suggested that attraction to a media figure can promote the formation of a parasocial relationship, much as attraction to a person in real life promotes the formation of a social relationship (Rubin & McHugh, 1987). Attraction is often conceptualized in terms of *social or character attraction*, which refers to interpersonal liking and the desire to be friends; *physical attraction*, which refers to liking another person's physical features and appearance; and *task attraction*, which refers to confidence in a person's competence or ability to complete a task (McCroskey & McCain, 1974; Rubin & McHugh, 1987; Schramm & Hartmann, 2008). Research indicates that attraction to a media figure is closely related to the strength of one's parasocial relationship (Eyal & Cohen, 2006). Social and task attraction appear to be particularly important for parasocial relationships (Lee & Jang, 2013; Rubin & McHugh, 1987; Schmid & Klimmt, 2011),

¹ Note that some of these studies referred to perceived similarity as "identification." Historically, identification has been used as a catch-all term to refer to a number of different concepts, including perceived similarity. However, it has recently acquired a more narrow definition within this literature. Further details on identification are provided in the section Other Types of Media Involvement.

although physical attraction may contribute to these relationships as well (Gong & Li, 2017; Hoffner, 1996; Lee & Watkins, 2016; Liebers & Schramm, 2017; but see Rubin & McHugh, 1987 for a different result).

Attraction is closely related to the concept of affinity, which refers to feelings of fondness or liking (Cohen, 1999; Giles, 2002). In a television setting, parasocial relationships tend to be stronger when individuals report greater liking of a character or personality (Dibble & Rosaen, 2011; Rosaen & Dibble, 2016; Semmler et al., 2015; Tian & Hoffner, 2010), as well as greater affinity for an associated television program (Eyal & Cohen, 2006; Perse, 1990; Rubin & Perse, 1987a; Rubin et al., 1985; Spinda, Earnhardt, & Hugenberg, 2009), an associated genre of programming (Auter, Ashton, & Soliman, 2008; Earnhardt & Haridakis, 2009), or television in general (Auter & Palmgreen, 2000). Similar results have been reported in an online setting (Ko & Wu, 2017; Xiang et al., 2016). Still other studies have shown that parasocial relationship strength is associated with several characteristics that are closely related to affinity or attraction, such as the perceived kindness, prosociality, expertise, intelligence, and helpfulness of the media figure (Hoffner, 1996; Ko & Wu, 2017; Ramasubramanian & Kornfield, 2012; Tsai & Men, 2017b; Xiang et al., 2016).

Although the characteristics of both the media figure and the media program undoubtedly have an important impact on parasocial relationships, they are not the only influences on these relationships. As mentioned briefly in this section, the characteristics of the media user will play a role as well. The next section will address some common media user characteristics that appear to have an influence on the strength of people's parasocial relationships.

Characteristics of the Media User

Over the past several decades, researchers have found that parasocial relationship strength is affected by various media user characteristics. These characteristics can be divided into demographic variables, personality and dispositional variables, motivations for media use, and media behaviors. Whereas some of this research has provided clear and unambiguous results, other research has offered a mixed view of the factors that facilitate strong parasocial relationships.

In terms of demographic variables, one factor that has received a great deal of attention is gender. Several studies have shown that females form stronger parasocial relationships with favorite television characters, television personalities, and celebrities than males (Bond, 2016; Cohen, 1997, 2003, 2004; Eyal & Cohen, 2006; Jin & Kim, 2015; Lather & Moyer-Gusé, 2011). Females tend to be more sociable than males in a real-life setting, and it is possible that these effects spill over into a media context (Cohen, 1997, 2003). At the same time, there are situations in which males are inclined to report stronger parasocial relationships than females. More specifically, gender differences are often reversed when dealing with media figures that tend to have greater appeal to males, such as celebrity athletes (Brown et al., 2003a; Brown & de Matviuk, 2010; Brown et al., 1997; but see Earnhardt & Haridakis, 2009 for a different result). Still other studies have shown no gender differences in parasocial relationships strength (Bui, 2017; Cole & Leets, 1999; Gleason, Theran, & Newberg, 2017; Gleich, 1997; Haridakis, 2006; Hu, 2016; Jennings & Alper, 2016; Rihl & Wegener, 2019; Schmid & Klimmt, 2011; Tsao, 1996), underscoring the fact that any genuine gender differences, if they exist, are small.

Mixed results have also been reported in terms of age. Whereas some researchers have found that parasocial relationships are stronger among older adults (Levy, 1979; Claessens & Van den Bulck, 2015; Gleich, 1997), other researchers have found stronger parasocial relationships among younger individuals (Auter, Arafa, & Al-Jaber, 2005; A.E. Hall, 2019; Jin & Kim, 2015; Rihl & Wegener, 2019; Schmid & Klimmt, 2011). The discrepancy between these two sets of results likely reflects factors other than age, such as perceived similarity to a media figure. In other words, it is plausible that older individuals experience stronger relationships with older media figures, whereas younger individuals experience stronger relationships with younger media figures. Unfortunately, the age of favorite media figures is not typically assessed in research studies, so this point is speculative. However, Bui (2017) did find that individuals who were asked to select their favorite celebrities tended to pick celebrities who were similar in age to themselves, which is consistent with the proposed explanation.

Perceived similarity can readily explain other demographic findings as well. Consider the topic of race and ethnicity. Researchers have found support for the idea that a media figure of a specific race or ethnicity will elicit stronger parasocial relationships from individuals of the same race or ethnicity versus a different race or ethnicity (Brown et al., 1997; Pan & Zeng, 2018). Similar results have been reported with respect to cultural factors. For instance, prosocial media figures tend to elicit stronger parasocial relationships from people belonging to collectivist cultures versus individualist cultures (Schmid & Klimmt, 2011). These results reinforce the notion that perceived congruence between media user and media figure characteristics is an important influence on parasocial relationships with media figures.

Another demographic variable that has received some attention is education level. Several studies have shown that individuals with lower levels of education tend to have stronger parasocial relationships than individuals with higher education levels (Auter et al., 2005; Claessens & Van den Bulck, 2015; Levy, 1979). The reasons for this outcome are unclear, although there has been some speculation in the literature. For instance, this outcome may simply be a result of higher amounts of media use among less educated individuals (Newton & Buck, 1985; Rubin, 1984). Alternatively, it could reflect compensation for lower levels of social interaction within this demographic group (Levy, 1979). In other words, people with lower education may be using parasocial relationships to make up for a lack of relationships in their social lives. As it stands, more research is required to better understand the link between education and parasocial relationships.

Some researchers have found differences in parasocial relationship strength with respect to relationship status. Initial research on this subject offered conflicting evidence on whether single individuals have stronger parasocial relationships than individuals in romantic relationships (Auter et al., 2005; Cohen, 1997). However, a more nuanced study from Greenwood and Long (2011) can help to explain these disparate results. The authors in question found that, whereas feelings of intimacy with same-gender media figures did not differ by relationship status, single individuals reported greater feelings of intimacy with opposite-gender media figures than did those in a romantic relationship. Later research by Adam and Sizemore (2013) is also informative. These authors found that single individuals and individuals in a relationship did not report differences in the strength of their romantic feelings toward attractive media figures; however, single participants did derive more perceived benefits from these relationships (e.g., they felt

better after exposure to the media figure). Thus, there is some evidence that parasocial relationships provide compensatory romantic intimacy to those individuals who are not otherwise receiving this type of intimacy in their daily lives.

Looking past demographic variables, a number of personality and dispositional variables have been linked to parasocial relationships. As mentioned in an earlier section, parasocial relationships tend to be stronger among individuals who are high in personality traits that predict sociability, such as extraversion and empathy (Sun, 2010; Tsao, 1996). This finding underscores the fact that parasocial relationships draw upon some of the same social skills and processes that people use in their relationships with real people. At the same time, relationships with media figures have also been linked to a very different personality profile characterized by high levels of neuroticism, social anxiety, and negative affect, as well as low levels of openness and agreeableness, self-esteem, and effortful control (Greenwood, 2008; Sun, 2010; Sun & Wu, 2012; Tsay & Bodine, 2012). People who fit this latter personality profile likely have difficulty forming or maintaining social relationships, and they may find it easier to seek interpersonal gratification through their interactions with media figures instead.

Other relevant results have been reported in research on interpersonal attachment. A large body of research has shown that higher levels of attachment anxiety, which reflects preoccupation with close relationships and fear of rejection or abandonment, are related to stronger relationships with media figures (Cohen, 1997, 2004; Cole & Leets, 1999; Greenwood, 2008; Greenwood et al., 2008; Jin & Kim, 2015; Rosaen & Dibble, 2016; Theran et al., 2010). Individuals with high levels of attachment anxiety often view themselves negatively while idealizing their close relationship partners (Bartholomew &

Horowitz, 1991; Mikulincer & Shaver, 2007). As a result, they tend to demonstrate dependent or clingy behavior in their close relationships, which may elicit negative reactions from their relationship partners. Anxiously-attached individuals may see parasocial relationships as a safe and reliable alternative to real relationships, as they never have to worry about seeking acceptance or avoiding rejection within the context of these relationships (Greenwood & Long, 2011; Greenwood et al., 2008; Theran et al., 2010). These results provide some support for the idea that compensatory motivations underlie parasocial relationships, if only for a narrow segment of the population.

Several researchers have examined the link between parasocial relationships and belongingness needs. In an influential paper, Baumeister and Leary (1995) argued that people have a fundamental need to belong that motivates them to form and maintain close interpersonal ties with others. Belongingness needs are best satisfied through frequent social interactions that are affectively pleasant and characterized by feelings of mutual care and concern. People tend to meet their belongingness needs through their interactions with social contacts like friends, family, and coworkers. However, it is also possible that individuals with a particularly strong drive for affiliation or inclusion (i.e., those with a large “social appetite”; Knowles, 2007) feel compelled to form relationships with additional targets that exist beyond their social network, such as media figures (Hartmann, 2016). Consistent with this idea, studies have shown that greater chronic or dispositional belongingness needs are associated with stronger parasocial relationships (Escalas & Bettman, 2017; Gardner et al., 2005; Greenwood & Long, 2009; Knowles, 2007; Rosaen & Dibble, 2016). People with high belongingness needs may also use parasocial relationships to supplement their social relationships when they are having

problems meeting their elevated needs (Gardner et al., 2005; Greenwood & Long, 2009). For instance, people with high belongingness needs report strong motivations to form and maintain parasocial relationships when they are experiencing social exclusion. However, these same individuals do not report inordinately strong motivations to form and maintain parasocial relationships when they feel more socially included (Iannone, McCarty, Branch, & Kelly, 2018). Once again, these results provide some limited support for Horton and Wohl's (1956) compensatory view of parasocial relationship formation.

Parasocial relationships have been linked to other motivations for media use as well, with most of this research focusing on television viewing specifically. Research on television viewing motivations typically distinguishes between *instrumental motivations*, which are active, purposeful, and goal-directed, and *ritualistic motivations*, which are more passive and habitual in nature (Rubin, 1984; Rubin & Perse, 1987b). A large body of research has linked parasocial relationships to instrumental viewing motivations, such as excitement or entertainment-seeking (Conway & Rubin, 1991; Gleich, 1997; Kim & Rubin, 1997; Perse, 1990; Rubin & Perse, 1987a), escapism and relaxation (Conway & Rubin, 1991; Gleich, 1997; Rubin & Perse, 1987a; Tsay & Bodine, 2012), pleasure-seeking (Tsay & Bodine, 2012), voyeurism (Kim & Rubin, 1997; Rubin & Perse, 1987a), information-seeking (Conway & Rubin, 1991; Gleich, 1997; Kim & Rubin, 1997; Rubin & Perse, 1987a; Rubin et al., 1985; Tsay & Bodine, 2012), and social utility (i.e., gaining information for social use, such as discussions with others; Gleich, 1997; Kim & Rubin, 1997; Perse, 1990; Rubin & Perse, 1987a). More recently, researchers have found a link between parasocial relationships and instrumental motivations for media use in an online setting as well (Blight, Ruppel, & Schoenbauer, 2017; Frederick et al., 2012; Yuan, Kim,

& Kim, 2016). Parasocial relationships have occasionally been linked to ritualistic motivations, such as using media out of habit or to pass the time, although these outcomes are much less frequent (e.g., Conway & Rubin, 1991; Tsay & Bodine, 2012). Taken together, these results indicate that people tend to form parasocial relationships when using media for personal enjoyment, with informational or social motives also playing a role.

Behaviors associated with media use appear to have an impact on parasocial relationships. For instance, researchers have found that levels of media consumption are directly related to the strength of these relationships. Individuals tend to report stronger parasocial relationships when they experience more frequent exposure to a specific television character, television personality, or celebrity (Bond & Calvert, 2014a; Brown & Basil, 1995; Brown et al., 2003a; Dibble & Rosaen, 2011; Drizin, Malcarne, Schiaffino, & Wells, 2018; Jain, Pandey, & Roy, 2017; Wen, 2017). Similarly, frequent exposure to a specific television show has been linked to stronger relationships with the characters or personalities on that show (Bond & Drogos, 2014; Rasmussen & Ewoldsen, 2016; Schiappa et al., 2006; Tian & Yoo, 2015). Levels of general media use seem to be related to parasocial relationships as well. For example, a greater frequency or a higher amount of television viewing is associated with stronger parasocial relationships (Cohen, 2004; Gleich, 1997; Grant et al., 1991; Greenwood, 2008; Tsao, 1996; Turner, 1993). Most of these latter studies have focused on adult viewers specifically, although some studies have shown that this association also applies to adolescents (Auter & Palmgreen, 2000) and children (Rosaen, Sherry, & Smith, 2011). Similarly, a greater frequency or higher amount of viewing a specific genre of programming, such as home shopping

programs or news programs, is related to stronger parasocial relationships with figures that appear on these types of programs (Auter et al., 2005; Auter et al., 2008; Grant et al., 1991; Jin & Kim, 2015; Levy, 1979; Park & Lennon, 2004, 2006; Perse, 1990). Thus, television viewing may itself “prime” or predispose individuals to form relationships with media figures.

Other behaviors surrounding media use can affect the strength of an individual’s parasocial relationships. Gleich (1997) found that viewers who watch television alone tend to experience stronger parasocial relationships with favorite television personalities than those who watch with others. Viewing alone likely minimizes distractions for the viewer, thereby promoting greater cognitive involvement with the program and stronger relationships with the characters or personalities that appear on that program. Indeed, studies have shown that parasocial relationships tend to be stronger when viewers pay more attention to the program (Kim & Rubin, 1997; Perse, 1990; Rubin & Perse, 1987a) and when they engage in greater cognitive elaboration by thinking about the story or the program content (Kim & Rubin, 1997; Perse, 1990). Researchers have also found that engaging in distracting behaviors during viewing (e.g., eating, reading, doing paperwork) is negatively associated with parasocial relationship strength (Rubin & Perse, 1987a). Thus, specific viewer behaviors can have an important impact on the strength of people’s relationships with media figures.

When considered alongside the characteristics of the media figure and the media program, these demographic variables, personality and dispositional variables, motivations for media use, and media behaviors provide a fairly comprehensive view of the factors that influence the strength of people’s parasocial relationships. A separate but

equally important topic concerns the outcomes or consequences of these relationships for media users. Not surprisingly, this subject has received extensive attention in the research literature.

Consequences of Parasocial Relationships

Research indicates that parasocial relationships are an important means of social influence that can affect people's beliefs, attitudes, and behaviors in a number of different areas. These effects are due, at least in part, to the ability of parasocial relationships to overcome resistance to persuasion. The following paragraphs describe this topic in more detail.

Resistance to Persuasion

Presenting individuals with a persuasive message will often trigger resistance to the message, particularly when the persuasive intent of the message is evident to the recipient (Koch & Peter, 2017; Koch & Zerback, 2013; Moyer-Gusé, Jain, & Chung, 2012; Moyer-Gusé & Nabi, 2010). Two important resistance processes that have been discussed in the literature are reactance and counterarguing (Tukachinsky & Sangalang, 2016; Tukachinsky & Tokunaga, 2013). Reactance refers to an unpleasant reaction that individuals have when they perceive that their freedom of choice is being threatened or restricted by a persuasive message. People who experience reactance are often motivated to regain control and restore their freedom. Counterarguing is a related process that refers to the act of scrutinizing and disputing a persuasive argument. In situations characterized by high levels of reactance and counterarguing, a message will generally have little persuasive impact on an individual.

Tukachinsky and Sangalang (2016) assessed how parasocial interaction and parasocial relationships affect people's resistance to a persuasive message. They found that, when a media figure is conveying a persuasive message, parasocial interaction with the figure tends to facilitate reactance and counterarguing. Media users who experience parasocial interaction in these situations likely feel as though the media figure is directing the persuasive message at them personally, which in turn heightens their resistance response. However, a strong parasocial relationship appears to reduce or eliminate this effect. As noted by the authors, persuasive messages that come from a fiendlike figure probably do not appear to be as overtly controlling or manipulative as similar messages from an unfamiliar media figure. There is some empirical support for this notion. More specifically, Moyer-Gusé et al. (2012) found that stronger parasocial relationships predicted fewer perceptions of persuasive intent after individuals saw a persuasive media message, which in turn predicted lower reactance to the message.

The link between parasocial relationships and persuasion may be mediated by other processes as well. For instance, a number of researchers have found that stronger relationships with a media figure are related to greater perceived credibility of the media figure (Auter et al., 2005; Chung & Cho, 2014; Gong & Li, 2017; Ledbetter & Redd, 2016; Yuan et al., 2016), as well as greater perceived credibility of media content associated with the figure (Men & Tsai, 2013). As one might expect, source credibility is an important influence on persuasion in both real-life and mediated contexts. In media settings specifically, the link between credibility and persuasion seems to be particularly strong when dealing with visual media such as television (Pornpitakpan, 2004). Taken together, these findings suggest that favorite media figures may be able to stimulate

attitude or behavioral change in media users through their status as credible or trustworthy sources (Chung & Cho, 2014; Gong & Li, 2017).

Areas of Influence

There are several different areas in which the persuasive influence of parasocial relationships is evident. For instance, a large body of research indicates that these relationships have an influence on consumer attitudes and behaviors. Gumpert and Drucker (1992) and Stephens et al. (1996) described how hosts of television shopping programs use specific conversational techniques that encourage viewers to form and maintain parasocial relationships with them. For instance, they often address viewers directly and adopt a warm and casual manner when talking to their audience. Moreover, the hosts of these programs appear to draw upon these relationships when attempting to sell products to viewers. One common strategy that they use is embedding products in personal disclosures that are directed toward the viewer (e.g., relaying a story about using a particular product in their daily lives), thereby creating a more favorable impression of the product in the viewer's mind (Stephens et al., 1996). These strategies appear to be successful. Researchers have found that stronger parasocial relationships with television shopping hosts are associated with higher levels of television shopping exposure and greater purchasing behavior (Cortese & Rubin, 2010; Grant et al., 1991; Gudelunas, 2006; Skumanich & Kintsfather, 1998), as well as greater impulse buying (Cortese & Rubin, 2010; Park & Lennon, 2004, 2006) and higher satisfaction with television shopping (Lim & Kim, 2011). Similar results have been reported in an online setting (Fu, Xu, & Yan, 2019; Xiang et al., 2016). These findings suggest that parasocial relationships

with media salespeople may have negative financial implications for viewers, as well as some monetary benefits for television shopping networks and their vendors.

Parasocial relationships may also have an influence on people's attitudes and behaviors toward specific products or brands. One means by which this process occurs is through recommendations and endorsements. Research has shown that stronger parasocial relationships with a media personality are associated with more positive attitudes toward brands, products, and services that are endorsed by that personality (Colliander & Dahlén, 2011; Gong & Li, 2017; Quintero Johnson & Patnoe-Woodley, 2016; Yuan et al., 2016), as well as stronger feelings of connection to companies or brands that are associated with the personality (Escalas & Bettman, 2017; Spinda et al., 2009). In addition, individuals with stronger parasocial relationships are more likely than those with weaker relationships to recall, seek information about, and purchase a recommended brand, product, or service (Chung & Cho, 2014; Colliander & Dahlén, 2011; Gong & Li, 2017; Quintero Johnson & Patnoe-Woodley, 2016). Not only are parasocial relationships an important influence on the effectiveness of an endorsement from a media personality (Ding & Qiu, 2017), but these relationships predict more positive attitudes toward such endorsements as well (Gong & Li, 2017).

Parasocial relationships may also affect attitudes through product placement, a practice in which companies place their products in a media program for advertising purposes. Whereas endorsement involves the explicit promotion of a product, product placement involves a more subtle display of a product (e.g., the product appears in the background or is used by a media figure without any overt acknowledgment) or the integration of a product into a plot or narrative (e.g., Reese's Pieces in the film *E.T. the*

Extra-Terrestrial; Yang & Roskos-Ewoldson, 2007). Dias, Dias, and Lages (2017) found that parasocial relationships with television characters predict positive attitudes toward products and brands that are used by those characters. Furthermore, research from Russell and Stern (2006) indicates that individuals with a strong parasocial relationship with a television character will shift their attitudes toward a product so that they align with the character's attitudes toward the product, either in a positive or a negative direction. Thus, consumers may see media figures as models for correct product decisions, and companies may be able to capitalize on parasocial relationships with these figures to create favorable brand impressions in consumers.

In addition to consumer attitudes and behaviors, a number of studies have linked parasocial relationships to various social attitudes and behaviors. Individuals who form parasocial relationships with celebrity advocates of a social or political cause tend to report greater interest in the cause and higher levels of subsequent engagement in the cause (Brown, 2010; Brown et al., 2003a; Wen & Cui, 2014). Similarly, there is evidence that relationships with characters from educational entertainment programs can prompt individuals to discuss social issues with others and engage in group activities to solve community problems (Papa et al., 2000). Schartel Dunn (2018) found that stronger parasocial relationships with a political commentator predicted greater motivation to investigate and discuss a social issue presented by the commentator, as well as a greater likelihood of behavioral involvement in the issue (donating, attending a political meeting, etc.). In addition, Rubin and Step (2000) found that people who formed parasocial relationships with a talk radio host felt informed about social issues, felt that the host influenced their social and political attitudes, and felt that the host influenced their

political behaviors (e.g., to vote for a specific candidate). Still other studies have shown that parasocial relationships with a political candidate predict more favorable impressions of that candidate and greater intentions to vote for that candidate (Lee & Oh, 2012; McGregor, 2018; Thorson & Rodgers, 2006). Taken together, these findings indicate that parasocial relationships can be a powerful tool for influencing social and political attitudes and for motivating behavior within these domains. This outcome might be positive in some respects, particularly if it stimulates individuals to take action to address social issues. However, it could also lead to negative consequences if one were to be influenced by a parasocial relationship without objectively assessing the content of the media figure's message.

One important social issue that has received attention in the research literature is prejudicial attitudes. Exposure to media figures that belong to stigmatized social groups can reduce prejudice toward the groups in question (Schiappa et al., 2005), and parasocial relationships appear to be an important component of this process. For instance, Schiappa et al. (2006) found that stronger relationships with sexual minority television characters predicted lower levels of prejudice toward sexual minorities. Similarly, Hoffner and Cohen (2012, 2015) reported that stronger relationships with a television character with a mental illness were associated with fewer stereotypes about mental illness and an increased willingness to interact with people who have a mental illness. In addition, these same authors found that stronger relationships with a celebrity who struggled with mental health issues predicted a greater willingness to interact with people who are also dealing with a mental health issue (Hoffner & Cohen, 2018). Although the results of these studies are correlational in nature and causality cannot be determined with certainty, participants

generally perceived that exposure to the media figure influenced their attitudes (Hoffner & Cohen, 2012; Schiappa et al., 2006). Nor are these results limited to stigmatized groups. In their study of Korean viewers, Shim, Zhang, and Harwood (2012) found that stronger parasocial relationships with American television characters predicted more positive evaluations of Americans, lower anxiety about interacting with Americans, and a greater willingness to engage in activities with Americans. These collective studies indicate that an individual's prejudicial attitudes and behaviors toward a specific social group can be changed if that individual forms an affective bond with a media figure belonging to that group.

A large body of research suggests that parasocial relationships are influential in health-related domains. Parasocial relationships with media figures that model healthy attitudes and behaviors appear to promote similar attitudes and behaviors in media users. In addition, parasocial relationships with media figures that are trying to overcome poor health decisions can also prompt healthy attitudes and behaviors. These findings apply to a number of health-related areas. For instance, parasocial relationships with appropriate media models have been linked to exercise self-efficacy and behavior (Tian & Yoo, 2015); diagnostic testing for potentially dangerous genetic mutations (Kosenko, Binder, & Hurley, 2016); concern about drug use, awareness of the risks of drug use, abstinence from drug use, and support for drug prevention programs (Brown & de Matviuk, 2010); personal concern about AIDS, perceived risk of HIV infection, and intentions to reduce high-risk sexual behaviors (Basil, 1996; Brown & Basil, 1995); and greater intentions to engage in safe-sex behaviors to avoid teenage pregnancy (Moyer-Gusé & Nabi, 2010). Furthermore, studies from Bae, Brown, and Kang (2011) and Jeong and Park (2015)

showed that parasocial relationships with public figures and fictional characters that promote organ donation are related to more favorable attitudes toward organ donation and greater intentions to donate one's organs. Thus, parasocial relationships with relevant media models appear to generate interest in health issues and promote the adoption of healthy attitudes and behaviors that can benefit both oneself and others (Brown & Basil, 2010).

At the same time, parasocial relationships with media figures that model negative or maladaptive health behaviors may have a less desirable influence on one's health. Some illustrative studies have focused on the topic of drug use. Brown et al. (2003a) found that parasocial relationships with a celebrity athlete who used a potentially harmful steroid were associated with a desire to use that same steroid, particularly among male respondents. In addition, Fogel and Shlivko (2016) found that parasocial relationships with television personalities who referenced or demonstrated illegal drug use predicted these same drug-related behaviors in viewers. Similar results have been reported in studies that have focused on sexual attitudes and pregnancy. Bond and Drogos (2014) found that parasocial relationships with personalities on a highly sexualized television program predicted permissive sexual attitudes among respondents, which itself predicted greater sexual activity. Furthermore, Aubrey, Behm-Morawitz, and Kim (2014) reported that teenage girls who formed relationships with similar girls experiencing pregnancy and motherhood on a reality television program reported more favorable attitudes toward teen pregnancy, a lower perceived risk of getting pregnant, greater perceived benefits to teen pregnancy, and fewer behavioral intentions to avoid teen pregnancy. Thus, the influence of parasocial relationships on health-related attitudes and behaviors appears to depend, to

a large degree, on the specific attitudes and behaviors that the media figure is demonstrating.

In addition to the literature on parasocial relationships and physical health, there is a small but growing body of research on parasocial relationships and mental health. Rasmussen and Ewoldsen (2016) found that parents and guardians who reported stronger parasocial relationships with a television mental health professional had greater beliefs in the effectiveness of treating mental illness. This in turn predicted greater intentions to seek mental health treatment for both oneself and one's children if respondents believed that such treatment was warranted. Jain et al. (2017) found that parasocial relationships with a clinically depressed celebrity predicted similar outcomes. Other studies have shown that parasocial relationships with a recently deceased celebrity who suffered from a number of mental health issues (depression, drug and alcohol addiction, etc.) predicted a willingness to seek treatment for similar issues, as well as prosocial behaviors such as sharing mental health information and offering mental health support to others (Cohen & Hoffner, 2016; Hoffner & Cohen, 2018). Finally, Hoffner and Cohen (2012) found evidence that forming a relationship with a media figure with mental illness can help individuals with the same mental illness cope with their condition. Thus, there is reason to believe that parasocial relationships with appropriate media figures can contribute to the mental health and wellbeing of both oneself and others.

One topic that is closely related to mental health is body satisfaction. Past research has shown that exposure to thin or muscular media figures can lead to lower body satisfaction in women and men, respectively, due to the perceived contrast between their own bodies and the idealized bodies of these media targets (Barlett, Vowels, &

Saucier, 2008; Grabe, Ward, & Hyde, 2008). The results of a study from Eyal and Te'eni-Harari (2013) suggest that parasocial relationships may be an important factor underlying this process. The authors in question found that parasocial relationships with a same-sex media figure predicted physical comparisons to this figure, which itself predicted lower body satisfaction. In other words, people who were emotionally invested in a media figure tended to compare their own bodies to the body of the media figure, and this may have led to dissatisfaction with their appearance. However, it should be noted that the causal direction of these results is unclear due to the correlational nature of the study. One might assume that parasocial relationships with thin media figures lead to physical comparisons and lower body satisfaction, although it may also be true that those with low preexisting body satisfaction are more likely to make physical comparisons and to be drawn to thin media figures.

In fact, several experimental studies on body satisfaction have been more positive in their conclusions about parasocial relationships. Young, Gabriel, and Sechrist (2012) found that women who were primed with a favorite same-sex celebrity felt better about their appearance and reported higher body satisfaction than similar women who were primed with a control celebrity, particularly when the celebrities in question were thin. In a similar manner, Young, Gabriel, and Hollar (2013) found that males who were primed with a generic muscular superhero experienced a drop in body esteem (i.e., due to contrast effects), whereas those who were primed with a favorite muscular superhero were buffered against these detrimental effects. These outcomes appear to be due to an assimilation effect whereby individuals who have a strong relationship with a media figure experience a heightened sense of similarity to the figure and assimilate the figure's

traits or attributes (Young et al., 2012). Therefore, there is some reason to believe that parasocial relationships with thin or muscular media figures may actually be a protective factor against decreases in body satisfaction.

As mentioned in an earlier section of this paper, parasocial relationships seem to be able to satisfy people's social needs, at least to a certain degree. Some of these effects stem from the parasocial relationships directly. For instance, research from Derrick et al. (2009) indicates that thinking and writing about the characters in a favorite television program can satisfy individuals' belongingness needs. In their discussion of this finding, the authors suggested that media figures serve as "social surrogates" that are able to provide one with the experience of belonging, much like real social contacts. At the same time, parasocial relationships may also satisfy social needs indirectly by affecting the social perceptions of the viewer. A study by Xu and Yan (2011) showed that parasocial relationships with favorite television characters are related to feelings of connectedness to other people. This association may be partially attributed to the fact that viewers often talk about their favorite characters with others, whether in person or online. Parasocial relationships can also cause one to feel part of an "imaginary community" of viewers who are watching the same program and characters, even if the person does not interact with these other viewers directly (Xu & Yan, 2011). In other words, simply forming a connection to a popular or likeable television character can help one to feel part of a large community of similar viewers. This link between parasocial relationships and sense of community has been reported in an online setting as well (Blight et al., 2017; Men & Tsai, 2013). Thus, parasocial relationships appear to satisfy viewers' social needs through a number of different mechanisms.

There is also evidence that parasocial relationships can contribute to emotional regulation, much like relationships with real social partners. Several studies have focused on recovery from social exclusion specifically. For instance, Twenge, Zhang, Catanese, Dolan-Pascoe, Lyche, and Baumeister (2007) reported that writing about a favorite celebrity reduced feelings of aggression after individuals experienced social exclusion. Similarly, Derrick et al. (2009) found that writing about favorite television characters increased self-esteem and decreased negative mood and feelings of rejection after individuals thought about a fight with a close other. Importantly, people do not need to be consciously aware of their favorite media figures for these effects to occur. A study from Knowles (2007) showed that subliminal primes of favorite television characters helped individuals to recover from the negative consequences of social rejection. These effects were particularly evident among those individuals who reported strong parasocial relationships with the characters in question. This body of research indicates that favorite media figures may help to fill the void that people experience when they are excluded from social interactions.

In addition to these studies on social exclusion, some researchers have evaluated how parasocial relationships relate to other types of emotional regulation. For instance, Derrick (2013) showed that writing about favorite television characters increased self-control and decreased negative mood after people performed an effortful self-control task. In other words, parasocial relationships contributed to recovery after people expended their psychological resources. In other research, Derrick, Gabriel, and Tippin (2008) found that writing about favorite celebrities helped people with low self-esteem feel closer to their ideal selves, likely by increasing feelings of safety or security within

these individuals. Finally, Stever (2011, 2017) reported that people who are navigating the loss of a close relationship partner sometimes use parasocial relationships as a means to deal with and recover from their loss. More specifically, relationships with media figures allow these individuals to reconnect with their feelings and provide them with a safe, low-risk opportunity to start reestablishing relationships with others (Stever, 2011).

Parasocial relationships have also been implicated in areas that are closely related to emotional regulation. For instance, these relationships may be able to help media users with the construction or revision of their identities and self-concepts (Fisherkeller, 1997). Favorite media figures appear to act as mentors and role models for many individuals, inspiring emulation, role playing, and subsequent personal growth and transformation (Boon & Lomore, 2001; Gleason et al., 2017; Greenwood & Long, 2009; Shedlosky-Shoemaker, Costabile, & Arkin, 2014; Stever, 2011). These figures also expose individuals to unfamiliar perspectives and experiences, which itself can produce insight and personal growth (Shedlosky-Shoemaker et al., 2014; Slater, Johnson, Cohen, Comello, & Ewoldsen, 2014; Stever, 2011). Consistent with this literature, studies have shown that stronger parasocial relationships with a media figure are associated with a greater perceived influence of the figure on one's identity or lifestyle (Boon & Lomore, 2001; Tian & Hoffner, 2010), as well as whether respondents had ever tried to change aspects of themselves in an attempt to be more like the figure (Boon & Lomore, 2001). This collective research has focused primarily on adolescent and young adult media users, most of whom are in the critical stages of identity construction. However, these findings could also apply to individuals who are receptive to growth and change during later stages of life.

There is evidence that parasocial relationships are particularly important for the exploration of sexual roles and identities (Adams-Price & Greene, 1990; Erickson & Dal Cin, 2018). Researchers have found that individuals can develop romantic attachments to media figures (also known as “parasocial romances”; Adam & Sizemore, 2013; Tukachinsky, 2010). Adolescents are especially likely to be attracted to opposite-sex celebrities and to use these celebrities to explore traditional gender roles (Adams-Price & Greene, 1990; Greene & Adams-Price, 1990). Fantasizing about romances with distant celebrities may allow adolescents to experiment with the unfamiliar and potentially embarrassing sexual aspects of identity without fear of rejection, ridicule, or other type of harm. In support of this notion, a study from Adam and Sizemore (2013) indicated that parasocial romances provide similar types of benefits as real-life romances with fewer overall costs to the individual.

Unfortunately, the sexual or romantic guidance that people derive from their parasocial relationships can sometimes be detrimental, particularly if the media figure appears in romantic media. Research has shown that parasocial relationships with characters from romantic television shows (Jin & Kim, 2015), romantic movies (Driesmans, Vandenbosch, & Eggermont, 2016), and romance-based video games (Song & Fox, 2016) are associated with idealized and unrealistic romantic beliefs. Jin and Kim (2015) speculated that relationships with characters in romantic media may increase the accessibility of romantic concepts in the minds of media users, thus prompting those users to develop unrealistic expectations about real-life romantic relationships or relationship partners. Moreover, these effects may result in long-term difficulties for media users. Erickson and Dal Cin (2018) found that romantic attachment to a media

figure in adolescence predicted endorsement of traditional gender roles, a greater reliance on romantic relationships for feelings of self-worth, and more negative evaluations of sexual experience (shame, insecurity, etc.) in adulthood. Similarly, Tukachinsky and Dorros (2018) found that more intense emotional involvement with a media figure during adolescence was associated with lower relationship satisfaction and less favorable perceptions of a current romantic partner in college.

All of the studies reviewed so far have been conducted on adults and adolescents. However, some research has shown that parasocial relationships also have consequences for children. For instance, several studies have assessed the impact of parasocial relationships on learning. Calvert, Richards, and Kent (2014), Lauricella, Gola, and Calvert (2011), and Gola, Richards, Lauricella, and Calvert (2013) found that toddlers who saw a familiar character perform a cognitive task subsequently performed better on the task than those who saw an unfamiliar character perform the task or those who saw no demonstration of the task at all. Moreover, children who had a strong emotional bond with the character in question tended to perform better on the task than children with a weaker bond (Calvert et al., 2014; Gola et al., 2013). The authors of these latter studies suggested that parasocial relationships with a television character facilitate learning by increasing a child's engagement with the media content. Thus, behaviors that encourage parasocial relationships in children, such as co-viewing with a parent and playing with a toy of a favorite character, may have the potential to increase learning effects (Bond & Calvert, 2014a).

In other research, Rosaen et al. (2011) found some evidence that parasocial relationships can provide emotional regulation to maltreated children. The authors in

question reported no differences among maltreated and nonmaltreated children in terms of the strength of their parasocial relationships with television characters. However, there were differences in the focus of these relationships. Maltreated children tended to pick live-action human characters as their favorite television characters more so than nonmaltreated children. Furthermore, most of these live-action human characters were female. The authors of the study suggested that maltreated children may be drawn to female characters because of the caring and nurturing behaviors that are often exhibited by female characters. Alternatively, maltreated children might enjoy the friendships that are often depicted in programs with female characters. In either case, parasocial relationships likely benefit these children by providing them with a degree of emotional security that they are not otherwise receiving in their daily lives. This notion is supported by research from Richards and Calvert (2016, 2017), who found that feelings of safety and comfort are important components of children's parasocial relationships.

As one might expect given the volume of research covered in the past several sections, the bulk of the parasocial relationship literature has focused on predictors and consequences of these relationships. These topics are undoubtedly important, although they provide a somewhat limited view of parasocial relationships. In recent years, scholars have started to turn their attention toward additional areas that might be of interest. For instance, a growing number of researchers have examined how parasocial relationships relate to other types of media processes. These processes are the focus of the next section.

Other Types of Media Involvement

Brown (2015) defined media involvement as the “psychological response of a person to a mediated message or persona” (p. 260). Parasocial interaction and parasocial relationships are two important components of media involvement, although a number of closely related processes have also been described by researchers. The processes that are most commonly discussed in the literature are identification, wishful identification, worship, and transportation. The current section will briefly outline these processes and how they relate to the parasocial components of media involvement, particularly parasocial relationships.

Identification: Identification refers to the temporary merging of one’s personal identity with the identity of a media figure (Brown, 2015; Cohen, 2001, 2009; Moyer-Gusé, 2008). When individuals engage with media content, they often become captivated with or absorbed in this content. This phenomenon may become so pronounced that an individual loses self-awareness and adopts the consciousness or personality of the observed media figure, at least to a certain degree. Cohen (2001) specified four dimensions to identification: a *cognitive* dimension that involves understanding and sharing the perspective of the media figure; an *affective* dimension that involves empathy or sharing the feelings of the figure; a *motivational* dimension that involves internalizing and sharing the goals of the figure; and an *absorption* dimension that reflects the degree to which self-awareness is lost.

Identification is qualitatively distinct from the parasocial processes discussed in previous sections. With parasocial interaction and parasocial relationships, there is a clear separation between the media user and the media figure. Media users need to retain their

identity in order to interact with or bond with the media figure. By comparison, identification involves an erasure of the boundary between oneself and the media figure (Cohen, 2001). Rather than seeing the media figure as an interaction partner, the media user “becomes” the media figure in a certain sense. Therefore, identification likely does not occur at the same time that one is actively engaged in parasocial processes. However, an individual may shift between these types of involvement periodically when exposed to media content (Moyer-Gusé, 2015).

There has been some debate over whether parasocial relationships are a cause or a consequence of identification. Brown (2015) proposed that parasocial relationships are a prerequisite for identification, as media users likely need to know a media figure fairly well before they can adopt the media figure’s cognitions or emotions. On the other hand, Moyer-Gusé (2015) noted that audiences often identify with novel or unfamiliar media figures, with whom they would have no ongoing relationship. According to this view, temporary identification with a media figure contributes to the formation of a bond that persists beyond the media exposure (Tian & Hoffner, 2010). A third and more realistic possibility is that these two forms of media involvement evolve simultaneously and facilitate the development of one another. Regardless of the causal direction, studies have consistently shown that identification is strongly related to parasocial relationship strength ($r = .56$ to $.76$; Dibble et al., 2016; Dibble & Rosaen, 2011; Eyal & Dailey, 2012; Moyer-Gusé & Nabi, 2010; Song & Fox, 2016; Tian & Hoffner, 2010; van Monsjou & Mar, 2019). Studies have also shown that identification is moderately related to parasocial interaction ($r = .33$ to $.40$; Dibble et al., 2016; Dibble & Rosaen, 2011).

Wishful identification: Wishful identification refers to the desire to imitate or emulate a media figure (Hoffner, 1996). Unlike identification, which is generally considered to be a temporary process that occurs during exposure to media content, wishful identification is conceptualized as an enduring desire that persists beyond the media exposure (Cohen, 2001; Hoffner & Buchanan, 2005; Moyer-Gusé, 2008, 2015; Ramasubramanian & Kornfield, 2012). For many individuals, wishful identification results in subtle forms of imitation or emulation that have few outward manifestations. For others, imitation may be more explicit and pronounced. For instance, individuals who impersonate a famous celebrity such as Elvis Presley exhibit high levels of wishful identification (Fraser & Brown, 2002).

From a conceptual standpoint, one would expect wishful identification to occur when an individual experiences a strong affective bond with a media figure. It is unlikely that someone would wish to emulate a media figure that is disliked or seen in an ambivalent or indifferent manner. Furthermore, emulating a media figure might itself reinforce and strengthen the bonds that form between the media user and the object of imitation. Consequently, there should be a direct correlation between the degree of people's wishful identification and the strength of their parasocial relationships. Consistent with this idea, studies have shown that wishful identification is moderately to strongly related to parasocial relationship strength ($r = .36$ to $.65$; Chory-Assad & Yanen, 2005; Dibble et al., 2016; Dibble & Rosaen, 2011; Ramasubramanian & Kornfield, 2012). Studies have also shown that wishful identification is moderately to strongly related to parasocial interaction ($r = .31$ to $.50$; Dibble et al., 2016; Dibble & Rosaen, 2011).

Worship (or celebrity worship): Worship refers to an intense psychological attachment to a media figure that is characterized by a considerable expenditure of time and resources on the part of the media user (Brown, 2015). Worship is similar to parasocial relationships in that the media user views the relevant media figure as a relational partner that is distinct from the self (Moyer-Gusé, 2015). In other words, this type of involvement does not involve the loss of self-awareness and erasure of the self-other boundary that define identification. However, worship is considered to be a stronger and less common form of media involvement than parasocial relationships, as the object of worship is placed “on a pedestal” and is subject to the intense admiration of the media user (Brown, 2015).

Scholars have described three types or levels of worship, which they typically apply to the study of celebrity attachments (Ashe & McCutcheon, 2001; Maltby, McCutcheon, Ashe, & Houran, 2001; Maltby, Giles, Barber, & McCutcheon, 2005). Low levels of worship (*Entertainment-Social*) involve watching, listening to, learning about, and following a celebrity for entertainment purposes. Individuals exhibiting low levels of worship may also talk about the celebrity with friends and other fans. Moderate levels of worship (*Intense-Personal*) involve intense personal thoughts and feelings about a celebrity, such as thinking of the celebrity as a soul mate or having frequent uncontrollable thoughts about the celebrity. High levels of worship (*Borderline-Pathological*) are considered to be more abnormal and involve extreme thoughts and feelings about a celebrity, such as a willingness to do something illegal at the celebrity’s request. Although moderate and high levels of worship appear to be the most problematic forms of celebrity worship based on their descriptions, all three levels of worship have

been linked to negative mental health outcomes (Maltby et al., 2001, 2005). To date, the association between worship and parasocial relationships has received little attention from researchers, likely due to the conceptual overlap between these two forms of media involvement. However, a recent study from van Monsjou and Mar (2019) did indicate a strong correlation between the two constructs ($r = .59$).

Transportation: Transportation refers to intense absorption in a media narrative. Like identification, it involves a narrowing of attention and a loss of self-awareness within the media user (Green & Brock, 2000). However, transportation differs from identification in that it entails cognitive and emotional absorption in the story events that are depicted in media content rather than the characters or personalities that appear in this content. Despite this distinction, media figures are typically important elements within a story or narrative. Therefore, it is not surprising that researchers have reported a strong relationship between identification and transportation in the literature (Moyer-Gusé & Nabi, 2010).

From a theoretical standpoint, it is likely that those individuals who become immersed in a narrative will proceed to form strong relationships with the characters or personalities within that narrative (Brown, 2015; Greenwood, 2008; Greenwood & Long, 2009). In a similar manner, strong relationships with specific characters or personalities could increase one's investment in a story and thereby promote transportation into the narrative (Brown, 2015). Consequently, one would expect a direct correlation between the degree of people's transportation and the strength of their parasocial relationships. Consistent with this idea, studies have shown that transportation is strongly related to parasocial relationship strength ($r = .49$ to $.59$; Greenwood, 2008; Greenwood & Long,

2009; Moyer-Gusé & Nabi, 2010; van Monsjou & Mar, 2019). Although they did not address parasocial relationships specifically, Green and Brock (2000) also found that highly transported individuals tend to report more positive evaluations of story protagonists.

Together with parasocial interaction and parasocial relationships, these various media processes provide a fairly comprehensive view of people's media involvement. It should be noted that not everyone will experience all of these processes when engaging with media content, at least not all of the time. The occurrence of these processes will vary according to the nature of the media content and the individual, as well as other contextual features (Moyer-Gusé, 2015). Thus, media involvement can take on a very diverse character from one situation to another. The next section will describe a different type of media process that is more closely related to parasocial relationships: parasocial breakup.

Parasocial Breakup

A parasocial breakup occurs when an individual's contact with a favorite media figure is temporarily or permanently terminated (Cohen, 2003, 2004). Sometimes breakups are voluntary and initiated by the media user. For instance, people may stop liking and following a particular celebrity after the celebrity becomes involved in a scandal (Hu, 2016). Similarly, young children often break up with their favorite television characters after outgrowing the characters and finding more age-appropriate figures to watch (Bond & Calvert, 2014b). More commonly, parasocial breakups are conceptualized as involuntary breakups that are initiated against the wishes of the media user. For instance, one would experience a parasocial breakup with a favorite television

character or personality if the associated television program were to come to an end. One would experience a parasocial breakup with a favorite celebrity if the celebrity were to die or retire from public life. The feeling of sadness or grief that a media user experiences after undergoing a parasocial breakup is termed parasocial breakup distress.

Researchers have studied parasocial breakup distress using several different methodologies. Early studies from Cohen (2003, 2004) asked participants to imagine a hypothetical breakup with a favorite television character or personality. Lather and Moyer-Gusé (2011) surveyed viewers during a temporary television writers' strike, whereas Eyal and Cohen (2006) assessed viewers shortly after the end of a well-known television program. DeGroot and Leith (2018) analyzed reactions to the fictional death of a well-liked television character. Still other researchers have evaluated people's reactions to the death of a beloved celebrity or public figure (Bae et al., 2011; Brown, 2009, 2010; Brown et al., 2003b; Courbet & Fourquet-Courbet, 2014; Gach, Fiesler, & Brubaker, 2017; Gil-Egui, Kern-Stone, & Forman, 2017; Radford & Bloch, 2012; Sanderson & Cheong, 2010; Van den Bulck & Larsson, 2019). Finally, in a more novel study, Bostwick and Lookadoo (2017) asked individuals about their parasocial breakup distress after a popular celebrity athlete left their local sports team.

Taken together, these methodologically diverse studies have provided insight into some of the factors that affect parasocial breakup distress. To start with, several media-related factors have been linked to high levels of distress following a parasocial breakup. For instance, the strength of people's parasocial relationships is strongly associated with the intensity of their distress ($r = .45$ to $.68$; Cohen, 2003, 2004; Eyal & Cohen, 2006; Hu, 2016). Parasocial relationship strength is also related to general feelings of grief after

a parasocial breakup (Cohen & Hoffner, 2016). These results make intuitive sense, as individuals who are strongly invested in or attached to a media figure would have the most to lose if this relationship were terminated. Other media-related factors have been linked to parasocial breakup distress in a television setting specifically. Hours of television viewing, affinity toward television, affinity toward the television show, commitment to the television show, and perceived popularity of the television character or personality are all associated with parasocial breakup distress (Cohen, 2004; Eyal & Cohen, 2006; Lather & Moyer-Gusé, 2011). In other words, one can expect high levels of parasocial breakup distress among individuals who are highly engaged with television in general.

Several media user characteristics have also been linked to parasocial breakup distress. There is some evidence that parasocial breakup distress varies by the age of the media user. Cohen (2003) found that teenagers experienced greater distress than adults after imagining a hypothetical breakup with a favorite television character or personality. The author attributed this outcome to the fact that teenagers are more emotionally vulnerable than adults and therefore more likely to have an affective reaction after losing contact with a favorite media figure. They also tend to use their favorite media figures for the purposes of social comparison, role modeling, and identity exploration, and so losing contact with these figures may have greater practical implications for them than it would for older adults. Thus, parasocial breakups may be particularly problematic for this specific age group. In a similar manner, parasocial breakup distress tends to be greater among individuals with high levels of attachment anxiety (Cohen, 2004) and those who experience high levels of loneliness (Eyal & Cohen, 2006). As noted in an earlier section

of this paper, there is mixed evidence on whether individuals with elevated interpersonal needs have stronger parasocial relationships than other people. Regardless, these individuals do appear to be more dependent on their favorite media figures and feel more distress upon losing these figures than others.

One media user characteristic that does not seem to be related to parasocial breakup distress is gender. Given the fact that females often report stronger parasocial relationships than males, one might expect females to also report more distress than males after a parasocial breakup. However, researchers have failed to find gender differences in media users who undergo either a hypothetical, imaginary parasocial breakup (Cohen 2003, 2004) or an actual parasocial breakup (Hu, 2016; Lather & Moyer-Gusé, 2011). This outcome may be linked to the methods of coping that males and females use after experiencing a breakup with a media figure. Lather and Moyer-Gusé (2011) found that women tend to compensate for a parasocial breakup with social activities more so than men, who themselves tend to favor video games or sports as a coping strategy. In other words, women tend to cope with the loss of a parasocial partner by relying to a greater degree on their social partners, thereby compensating for their loss in a more appropriate or effective manner than men. Therefore, their stronger parasocial relationships do not necessarily translate into greater feelings of distress after a breakup.

Whereas some researchers have studied factors that influence or predict parasocial breakup distress, other researchers have evaluated people's behaviors after they experience a parasocial breakup. Most of these latter researchers have focused on people's reactions to the death of a celebrity or public figure, perhaps because feelings of grief and loss seem to be particularly pronounced after this type of breakup (Cohen &

Hoffner, 2016; Radford & Bloch, 2012; Sanderson & Cheong, 2010). This research has shown that higher levels of involvement with a recently deceased celebrity are associated with greater consumption of media content relating to the celebrity's death and subsequent funeral (Bae et al., 2011; Brown, 2009, 2010; Brown et al., 2003b). Highly involved individuals also discuss the death with a greater number of people (Brown, 2010). Individuals often seek comfort after the death of a celebrity by connecting with others who are experiencing the same feelings or emotions (Courbet & Fourquet-Courbet, 2014; Gach et al., 2017; Gil-Egui et al., 2017; Radford & Bloch, 2012; Sanderson & Cheong, 2010; Van den Bulck & Larsson, 2019). They may also purchase memorabilia or similar objects as a means of keeping their memory of the celebrity alive (Bae et al., 2011; Brown, 2009; Radford & Bloch, 2012). Thus, parasocial breakups are important events with very real consequences for many media users.

The Present Research

Despite the extensive amount of research that has been conducted on parasocial relationships, very little is known about the developmental course of these relationships. Although it might seem like a trivial matter, knowledge about how these relationships change over time could prove useful for a number of reasons. For instance, consider the manner in which parasocial relationships form in the period after one's introduction to a media figure. Knowledge of this process would provide potentially valuable insight into the persuasive influence of these relationships on people's daily lives. As discussed, a large body of research has shown that parasocial relationships can influence media users' attitudes and behaviors in a variety of domains. However, the implications of these findings would vary depending on whether these relationships form rapidly or over a

much longer timeframe. In theory, the persuasive influence that these relationships have on media users would manifest earlier in the former situation than the latter. Knowledge about the formation of parasocial relationships might also further our understanding of media users' norms or expectations with respect to the manner in which these relationships develop. Over time, people likely internalize the patterns of parasocial relationship formation that they experience during their daily media use. Relationships that fail to grow at a typical or characteristic rate may be deemed undesirable and subsequently abandoned by media users.

Unfortunately, it is currently unclear how parasocial relationships form in the period after one's introduction to a media figure. Drawing from the literature on interpersonal relationships, Rubin and McHugh (1987) suggested that the formation of parasocial relationships may be a gradual process that is facilitated by uncertainty reduction. To illustrate, consider relationships with television characters or personalities. Due to the episodic nature of television programming, viewers are often exposed to specific television figures over an extensive period of time. It is not uncommon for viewers to watch a beloved television character or personality for many years or even decades. Over time, self-disclosure from the media figure may lead viewers to believe that they "know" the figure, a perception that would contribute to feelings of closeness and intimacy (Isotalus, 1995; Perse & Rubin, 1989; Rubin et al., 1985). Thus, one might expect the strength of a parasocial relationship to increase in a gradual manner as time goes on, a pattern of relationship formation that would be quite similar to the manner in which social relationships form (e.g., J.A. Hall, 2019; Hays, 1984, 1985).

Although the notion of gradual and continuous parasocial relationship formation makes intuitive sense, research has provided little support for this idea. Some researchers have found a significant association between parasocial relationship strength and duration of watching a television character or personality, but correlations have been quite small ($r = .12$ to $.18$; Rubin & McHugh, 1987; Turner, 1993). Similarly, Branch et al. (2013) reported that the duration of watching a television show was weakly associated with commitment to one's parasocial relationship, satisfaction with the relationship, and investment in the relationship. Other researchers have failed to find a significant association between parasocial relationship strength and duration of viewing (e.g., Eyal & Cohen, 2006; Eyal & Dailey, 2012; Rubin et al., 1985). Taken together, these results indicate that the parasocial relationships that viewers form and maintain over many years are not appreciably stronger than the newer relationships that they have had for a much shorter period of time.

Some researchers have speculated about the weak or nonexistent association between parasocial relationship strength and duration of viewing. Rubin and McHugh (1987) suggested that producers of television content try to increase viewers' knowledge and understanding of characters or personalities early in the life of a television series. They could do this through several different means, such as by maximizing the television figure's self-disclosure or by drawing on standard tropes that would be familiar to viewers through their past television experience. The reduced uncertainty that viewers experience after their introduction to a television figure would go on to stimulate the rapid formation of parasocial relationships. Needless to say, such outcomes would be beneficial to producers of television content. By promoting the quick formation of

emotional bonds with television figures, producers would increase the chances of a program's success. Thus, there is some basis for the notion that parasocial relationships become quite strong shortly after one's exposure to a media figure. If this is the case, then the strength of these relationships would likely reach a high level or plateau fairly quickly such that further increases in relationship strength are negligible. This pattern of relationship formation would explain the weak or nonexistent correlations between parasocial relationship strength and duration of viewing that are commonly seen in the literature.

One of the primary aims of the current study was to determine whether parasocial relationships follow this proposed trajectory of relationship formation. Participants in this study were given a season of a television series to watch and their parasocial relationships with the lead character in the program were tracked over several weeks. Based on theory and past research, it was expected that the strength of participants' parasocial relationships would approach a peak or maximum level upon initial exposure to the character, such that increases in parasocial relationship strength in subsequent weeks would be small and would tail off rather quickly.

Hypothesis 1: Parasocial relationship strength will approach a peak level when participants view the initial episodes of the program. Subsequent increases in relationship strength will be small and will tail off by the end of the viewing period.

Regardless of the precise manner in which parasocial relationships form in the weeks after one's introduction to a media figure, the strength of these relationships will

almost certainly vary among individuals. As discussed, parasocial relationships tend to be stronger among individuals who report certain perceptions or attitudes, such as perceived similarity and attraction to a media figure. Relationships also tend to be stronger among those who report specific media processes, such as parasocial interaction with a media figure, identification with a media figure, wishful identification with a media figure, and transportation into a narrative. In terms of the current study, it was expected that parasocial relationships would be stronger over the viewing period for participants who reported higher versus lower levels of these variables.

Hypothesis 2: Participants reporting higher levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation will report stronger parasocial relationships over the duration of the viewing period than those reporting lower levels of these variables.

One important question is whether patterns of parasocial relationship formation vary across individuals. To best appreciate this issue, consider those who experience higher versus lower levels of the aforementioned variables (perceived similarity, attraction, etc.). On one hand, it is possible that both types of individuals show similar patterns of relationship formation. In other words, relationship strength might reach peak levels fairly quickly regardless of individuals' reactions toward a media figure. The only difference between individuals would be the relative strength of their relationships. On the other hand, perhaps those who experience higher and lower levels of the variables in question show contrasting patterns of relationship formation. For instance, those

reporting higher levels of these variables may have relationships that peak early due to a ceiling effect. However, those reporting lower levels of these variables may report more gradual or incremental relationship growth that takes longer to reach peak levels of intensity. In this case, relationship formation would follow a more linear pattern such that these relationships grow stronger by perceptible amounts after every exposure to a media figure. In fact, given their somewhat negative or indifferent reactions toward the media figure, these latter individuals may not show any increases in relationship strength at all. The current study was designed to provide insight into this topic.

Research Question 1: Does the formation of parasocial relationships vary according to levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, or (f) transportation?

Another ongoing question in this area is how parasocial relationships change in the weeks following a parasocial breakup. It is currently unclear whether relationships with media figures persist following a parasocial breakup, or whether they quickly dissolve as media users shift their attention toward other media figures. This topic has implications for the mental health and wellbeing of media users, particularly given the strong association between parasocial relationship strength and parasocial breakup distress reported in the literature. If relationship strength remains strong in the weeks after a parasocial breakup, then any breakup distress that people experience is likely to persist and have a disruptive influence on their lives. However, if relationship strength

declines rapidly after a parasocial breakup, then breakup distress would probably be short-lived and much more manageable.

To date, most of the research on parasocial breakup has focused on predictors and consequences of parasocial breakup distress. Little attention has been directed toward the persistence of either parasocial relationships or parasocial breakup distress in the period following the breakup. Despite the lack of explicit research on this subject, Radford and Bloch (2012) did present some findings that could be indirectly informative. Their study showed that the death of a celebrity athlete generated a great deal of online discussion in the days immediately following the death. However, discussion about the death declined rapidly after that point, and the discussion itself became less emotionally intense. In other words, individuals seemed to move on quickly following the death of the celebrity. These results suggest that parasocial relationship strength and parasocial breakup distress decline perceptibly in the days and weeks following a breakup. To assess this possibility, participants in the current study were asked to report their parasocial relationship strength and parasocial breakup distress for two weeks after they completed their viewing of the television program.

Hypothesis 3: Participants' parasocial relationship strength and parasocial breakup distress will decline in the weeks following viewing.

Regardless of the precise manner in which parasocial relationship strength and parasocial breakup distress change in the weeks following a breakup, specific levels of relationship strength and breakup distress will almost certainly vary among individuals.

As discussed, parasocial relationships tend to be stronger among individuals who report higher levels of perceived similarity and attraction to a media figure, as well as greater parasocial interaction, identification, wishful identification, and transportation. Given the strong association between parasocial relationship strength and parasocial breakup distress reported in the literature, one might also expect breakup distress to be greater among individuals reporting higher levels of the aforementioned variables. Taken together, these findings have implications for the current study. More specifically, it was expected that parasocial relationship strength and parasocial breakup distress would be stronger in the weeks following viewing for participants who reported higher versus lower levels of the variables in question.

Hypothesis 4: Participants reporting higher levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation will report stronger parasocial relationships and greater parasocial breakup distress in the weeks following viewing than those reporting lower levels of these variables.

It is unclear whether changes in parasocial relationship strength and parasocial breakup distress in the weeks following a breakup vary among individuals. To best appreciate this issue, consider those who experience higher versus lower levels of the aforementioned variables (perceived similarity, attraction, etc.). On one hand, it is possible that both types of individuals show similar declines in parasocial relationship strength and parasocial breakup distress in the weeks following a breakup. The only

difference between individuals would be the intensity of their relationship strength and breakup distress. On the other hand, perhaps those who experience higher and lower levels of the variables in question show contrasting patterns in terms of how relationship strength and breakup distress change over time. For instance, those reporting higher levels of these variables may report more sustained relationship strength and breakup distress due to their positive reactions toward the media figure. By comparison, those reporting lower levels of these variables may report rapid declines in relationship strength and breakup distress due to their more negative or indifferent reactions toward the figure. Of course, any declines among these latter individuals would require that they form at least moderately strong relationships with the media figure prior to the breakup. If their relationships are quite weak at the time of breakup, then relationship strength and breakup distress would likely persist at a consistently low level afterward. The current study was designed to provide insight into this topic.

Research Question 2: Do changes in parasocial relationship strength and parasocial breakup distress in the weeks following viewing vary according to levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation?

Prior to conducting the current study, it was necessary to perform a pilot study to test the suitability of the intended study materials. The following sections describe the pilot study in greater detail.

PILOT STUDY

Broadly speaking, the purpose of the current research was to gain insight into the developmental course of parasocial relationships. As discussed in the previous section, participants in the main study were given a television program to watch and their parasocial relationships with the lead character in the program were tracked over the following weeks. It was expected that their parasocial relationships would grow stronger with greater exposure to the character, and that relationship strength would decline when participants stopped watching the character. One limitation with this research design is that, while the strength of an individual's parasocial relationship may increase over the viewing period, the reason for this increase will be unclear. One might expect that an increase would be due to greater exposure to the character, although it is possible that relationships could grow stronger due to a confounding factor, most notably the content of the specific episodes. For instance, later episodes may portray the character in a more positive manner than earlier episodes, and these differences could cause an increase in relationship strength over the viewing period. In a similar manner, relationship strength could increase if later episodes are found to be more absorbing or engaging from a narrative standpoint than earlier episodes.

The purpose of the pilot study was to test the viewing materials intended for use in the main study to ensure that the program content was similar across the various episodes. Participants in the pilot study were randomly assigned to one of four groups, with each group watching two different episodes of the television program in question. Afterward, participants filled out a questionnaire that assessed the strength of their parasocial relationship with the lead character in the program. They also filled out

questionnaires that assessed perceived similarity to the character, attraction to the character, parasocial interaction with the character, identification with the character, wishful identification with the character, and transportation into the narrative. Taken together, these measures provided an indirect assessment of the program content by evaluating the cognitive and emotional reactions that this content elicited in viewers. Although each measure was expected to be informative, the parasocial relationships that viewers formed with the lead character were of particular interest. If scores on the parasocial relationship questionnaire were similar across the four groups, then it would suggest that the viewing materials were suitable for use in the main study, in which changes in parasocial relationship strength were tracked as participants watched the entire complement of episodes over several weeks.

Method

Participants

A total of 128 participants were recruited from undergraduate psychology classes. One participant was excluded from the analysis as she had seen the television program prior to the study. An additional seven participants were removed from the analysis as statistical outliers. The final sample consisted of 120 participants (101 females, 19 males). The mean participant age was 19.89 years ($SD = 3.59$). The sample was largely Caucasian (87.4%), with various ethnicities making up the rest of the sample.

Participant recruitment occurred through class announcements and postings on the Department of Psychology announcement board. Participants signed up for the study using the Department of Psychology's online sign-up system, Sona. Two bonus points were offered to students for their participation in the study, with each bonus point

equivalent to a single percentage on their final mark for a qualifying undergraduate course. In accordance with the Tri-Council Policy Statement, informed consent forms were provided to all participants (Appendix A).

Measures

A demographic questionnaire included questions regarding participant age, gender, ethnicity, and familiarity with the television program in question (Appendix B). The latter question was included so that participants who had seen the program prior to the study could be identified and removed from the analysis (see the Participants section). Additional questionnaires are described below. All items on these questionnaires were rated on a 5-point scale, with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Responses to the items on each questionnaire were averaged to obtain composite scores.

Parasocial relationships. Parasocial relationships with the target character were assessed with a 10-item questionnaire adapted from Hartmann et al. (2008; Appendix C). The full version of this questionnaire consists of 13 items, but three items were dropped from the pilot study as they were applicable to repeat viewing situations (items 3, 4, and 13). Sample items from this questionnaire include “I think (the character) is like an old friend” and “I feel that I know (the character) very well.” This questionnaire was developed from theory to address weaknesses with other instruments in this area. To date, there is little published information on its convergent and divergent validity. However, some research has shown that scores on this questionnaire are correlated with scores on other theoretically-derived parasocial relationship questionnaires (Rosaen & Dibble, 2017). In addition, scores on this questionnaire tend to be higher with liked media figures

than they are with disliked media figures (Rosaen & Dibble, 2016, 2017), which is consistent with theory. The full questionnaire has shown high internal consistency in past research, with Cronbach alphas ranging from .82 to .93 (Hartmann et al., 2008; Rosaen & Dibble, 2016). Cronbach's alpha for the current pilot study was .80.

Perceived similarity. Perceived similarity to the target character was assessed with a 5-item questionnaire adapted from Auter and Palmgreen (2000; Appendix D). The original version of this questionnaire consists of six items, but one item was dropped from the current study due to conceptual overlap with the construct of identification. Sample items from this questionnaire include "(The character) reminds me of myself" and "I have the same qualities as (the character)." Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire tend to be higher when media figures are physically similar to the media user than when media figures are physically dissimilar to the media user (Chory, 2013; Chory-Assad & Cicchirillo, 2005). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, identification, and wishful identification (Chory, 2013; Chory-Assad & Cicchirillo, 2005; Chory-Assad & Yanen, 2005). The full questionnaire has shown high internal consistency in past research, with Cronbach alphas ranging from .87 to .91 (Auter & Palmgreen, 2000; Chory-Assad & Cicchirillo, 2005; Dibble et al., 2016). Shorter versions of this questionnaire have shown acceptable internal consistency in past research, with Cronbach alphas ranging from .79 to .87 (Chory, 2013; Chory-Assad & Yanen, 2005; Tian & Hoffner, 2010). Cronbach's alpha for the current pilot study was .84.

Attraction. Attraction to the target character was assessed with a 15-item questionnaire adapted from McCroskey and McCain (1974; Appendix E). This questionnaire consists of social attraction, physical attraction, and task attraction subscales, with five items representing each subscale. Sample items from this questionnaire include “I think (the character) could be a friend of mine” for the social attraction subscale, “I think (the character) is quite handsome” for the physical attraction subscale, and “I have confidence in (the character’s) ability to get the job done” for the task attraction subscale. Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire are related in predictable ways to a wide variety of interpersonal attitudes and behaviors (see McCroskey, McCroskey, & Richmond, 2006 for an extensive review). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, perceived similarity, identification, and wishful identification (Chory, 2013; Rubin & McHugh, 1987; Rubin & Step, 2000). The questionnaire’s three subscales have shown adequate to high internal consistency in past research, with Cronbach alphas ranging from .69 to .84 for the social attraction subscale (Chory, 2013; McCroskey & McCain, 1974; Rubin & McHugh, 1987; Rubin & Step, 2000), .86 to .96 for the physical attraction subscale (Chory, 2013; McCroskey & McCain, 1974; Rubin & McHugh, 1987), and .75 to .81 for the task attraction subscale (Chory, 2013; McCroskey & McCain, 1974; Rubin & McHugh, 1987; Rubin & Step, 2000). Cronbach’s alpha for the current pilot study was .81 for the social attraction subscale, .90 for the physical attraction subscale, and .79 for the task attraction subscale.

Parasocial interaction. Parasocial interaction with the target character was assessed with a 6-item questionnaire adapted from Hartmann and Goldhoorn (2011; Appendix F). Sample items from this questionnaire include “While watching the show, I had the feeling that (the character) was aware of me” and “While watching the show, I had the feeling that (the character) reacted to what I said or did.” Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire tend to be higher when a media figure addresses the viewer directly through body positioning or speech (Beege et al., 2017; Cummins & Cui, 2014; Dibble et al., 2016; Hartmann & Goldhoorn, 2011; Tukachinsky & Sangalang, 2016). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, perceived similarity, identification, wishful identification, and transportation (Dibble et al., 2016; Dibble & Rosaen, 2011; Hartmann & Goldhoorn, 2011; Semmler et al., 2015; Vinney & Vinney, 2017). The full questionnaire has shown high internal consistency in past research, with Cronbach alphas ranging from .87 to .97 (Cohen & Tyler, 2016; Cummins & Cui, 2014; Dibble et al., 2016; Dibble & Rosaen, 2011; Hartmann & Goldhoorn, 2011; Quintero Johnson & Patnoe-Woodley, 2016; Semmler et al., 2015; Tukachinsky & Sangalang, 2016; Vinney & Vinney, 2017). A shorter version of this questionnaire has shown acceptable internal consistency in past research, with Cronbach alphas ranging from .76 to .80 (Hu, Zhang, & Wang, 2017). Cronbach’s alpha for the current pilot study was .92.

Identification. Identification with the target character was assessed with an 8-item questionnaire adapted from Cohen (2001; Appendix G). The original version of this

questionnaire consists of 10 items, but two items were dropped from the current study due to conceptual overlap with the construct of transportation. Sample items from this questionnaire include “While viewing the show, I could feel the emotions (the character) portrayed” and “At key moments in the show, I felt I knew exactly what (the character) was going through.” Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire are higher when media users experience greater perspective-taking and empathic concern with respect to a media figure (Chory-Assad & Cicchirillo, 2005) and when they report greater cognitive overlap with a media figure (i.e., inclusion of the media figure into the self; Shedlosky-Shoemaker et al., 2014). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, perceived similarity, parasocial interaction, wishful identification, and transportation (Chory, 2013; Chory-Assad & Cicchirillo, 2005; Earnhardt & Haridakis, 2009; Moyer-Gusé & Nabi, 2010; Semmler et al., 2015; Shedlosky-Shoemaker et al., 2014; Tian & Hoffner, 2010). The full questionnaire has shown high internal consistency in past research, with Cronbach alphas ranging from .80 to .95 (Behm-Morawitz et al., 2019; Chory, 2013; Chory-Assad & Cicchirillo, 2005; Earnhardt & Haridakis, 2009; Phua, 2014, 2016; Semmler et al., 2015; Shedlosky-Shoemaker et al., 2014; van Monsjou & Mar, 2019). Shorter versions of this questionnaire have also shown high internal consistency in past research, with Cronbach alphas ranging from .87 to .93 (Cohen & Hershman-Shitrit, 2017; A.E. Hall, 2019; Moyer-Gusé, Chung, & Jain, 2011; Moyer-Gusé & Nabi, 2010; Ryu, Kline, & Kim, 2007; Tian & Hoffner, 2010). Cronbach’s alpha for the current pilot study was .87.

Wishful identification. Wishful identification with the target character was assessed with a 5-item questionnaire adapted from Hoffner (1996) and Hoffner and Buchanan (2005; Appendix H). Sample items from this questionnaire include “Sometimes I wish I could be more like (the character)” and “(The character) is someone I would like to emulate.” Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire tend to be higher when media users perceive that a media figure is successful and admired (Hoffner & Buchanan, 2005) and when they report greater liking of a media figure (Chory, 2013; Dibble & Rosaen, 2011). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, perceived similarity, attraction, parasocial interaction, and identification (Chory, 2013; Chory-Assad & Yanen, 2005; Dibble et al., 2016; Dibble & Rosaen, 2011; Hoffner & Buchanan, 2005). The full questionnaire has shown acceptable internal consistency in past research, with Cronbach alphas ranging from .80 to .86 (Bond & Drogos, 2014; Dibble et al., 2016; Hoffner & Buchanan, 2005). A shorter version of this questionnaire has also shown acceptable internal consistency in past research, with Cronbach alphas ranging from .78 to .87 (Chory, 2013; Chory-Assad & Yanen, 2005; Dibble & Rosaen, 2011; Hoffner, 1996). Cronbach’s alpha for the current pilot study was .86.

Transportation. Transportation into the narrative was assessed with a 10-item questionnaire adapted from Green and Brock (2000; Appendix I). The original version of this questionnaire consists of 11 items, but one item was dropped from the current study as it was not relevant for television content. Sample items from this questionnaire include

“I was mentally involved in the show while watching it” and “I could picture myself in the scenes that I watched.” Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, higher scores on this questionnaire are related to stronger emotional reactions to a narrative (Murphy, Frank, Moran, & Patnoe-Woodley, 2011) and finding fewer “false notes” in a narrative (i.e., contradictions or inconsistencies; Green & Brock, 2000). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess related media concepts such as parasocial relationships, parasocial interaction, and identification (Moyer-Gusé & Nabi, 2010; Nabi et al., 2006; Semmler et al., 2015; Wong, Lookadoo, & Nisbett, 2017). Reliability information for the full version of this questionnaire is limited, as the questionnaire was developed for use with written stories and one or more items are typically dropped when adapting the instrument to other types of media. However, shorter versions of this questionnaire have shown acceptable internal consistency in past research, with Cronbach alphas ranging from .72 to .87 (Moyer-Gusé & Nabi, 2010; Murphy et al., 2011; Nabi et al., 2006; Semmler et al., 2015; Wong et al., 2017). Cronbach’s alpha for the current pilot study was .77.

Viewing Materials

Each participant in the pilot study watched two episodes of the television program *Pushing Daisies*, the same program that was later used in the main study. *Pushing Daisies* aired on the American Broadcasting Company (ABC) television network from 2007 to 2009. The show focused on a character named Ned, a piemaker with the ability to bring dead people back to life by touching them. Over the course of the television series, he used this ability to solve various murder mysteries with his companions.

Pushing Daisies was selected for use in this study for several reasons. First of all, the program is old enough that most undergraduate students would be unfamiliar with it. However, it is not so old that participants would feel out of touch with the characters or the setting. Secondly, the cast of the show received particularly good reviews from critics during the original broadcast of the program. For instance, the actor portraying Ned was described as “endearing” (Stanley, 2007, para. 12) and “very likable” (Goodman, 2007, para. 6). Therefore, this character was considered to be a suitable target for a parasocial relationship study. Finally, each episode of the program consisted of a self-contained mystery that was introduced, investigated, and resolved over the duration of the episode. Given that the format and presentation of each episode was similar, it was expected that the presentation of the lead character would also be similar across these episodes (i.e., compared to a serialized program in which the lead character is engaged in an ongoing narrative and may change dramatically over a series of episodes).

Procedure

Testing occurred in an audio/video equipped classroom with up to 20 participants per session. Participants began by filling out informed consent forms and demographic questionnaires. Afterward, they watched two episodes of the television program *Pushing Daisies*. The specific episodes that were viewed varied randomly by testing session. A total of 30 participants watched episodes two and three; 30 participants watched episodes four and five; 30 participants watched episodes six and seven; and 30 participants watched episodes eight and nine. Thus, there were four groups of participants altogether. Note that the first episode of the program was excluded from the study as it served as an introduction to the characters and followed a different format compared to the other

episodes. Each episode was approximately 40 to 45 minutes in length, meaning that participants spent 80 to 90 minutes viewing the designated episodes. Immediately after viewing the episodes, participants filled out the various questionnaires.

Data Analysis

Traditional null hypothesis significance testing (NHST) is generally inappropriate for establishing equivalence between groups. When comparing groups statistically, a significant result indicates that there are differences between the groups and that the null hypothesis should be rejected. However, a nonsignificant result does not indicate that the groups are equal (i.e., that the null hypothesis is true), merely that there is not enough evidence to establish group differences and reject the null hypothesis. For this reason, equivalence between groups within the pilot study was assessed using a multi-group confidence interval approach discussed in Rusticus and Lovato (2011), adapted from a similar two-group approach presented elsewhere (Kirkwood & Westlake, 1981; Rogers, Howard, & Vessey, 1993; Schuirmann, 1987; Westlake, 1976).

Generally speaking, the equivalence analysis involves two steps. First, the criteria for equivalence are established. The researcher must determine the maximum difference between two group means wherein the groups might still be considered equivalent (Rogers et al., 1993). Note that the specific difference could be in either a positive or a negative direction, depending on which of the two groups enters the statistical equation first. These positive and negative values form an equivalence interval. There are no set guidelines for equivalence intervals in the social sciences; the values are subjective and at the discretion of the researcher. Following the example of Rusticus and Lovato (2011) and others (e.g., Miller, Bourrasseau, Williams, & Molet, 2014), the equivalence interval

in the pilot study was defined as a difference between groups equal to ± 1 point on the 5-point rating scale.

For the second part of the analysis, the researcher must calculate a confidence interval around the mean difference between two groups. If the confidence interval falls within the equivalence interval, then the groups are considered to be equivalent. If the confidence interval extends beyond the equivalence interval, then there is not enough evidence to say that the groups are equivalent. For instance, a confidence interval extending from -0.50 to 0.50 would fall within the equivalence interval of ± 1 and the two groups would be considered equivalent. A confidence interval extending from -1.25 to 0.25 would fall outside the equivalence interval of ± 1 and one would not be able to say that the groups are equivalent. A 90% confidence interval is commonly used in these analyses, as this approach is comparable to doing two one-sided statistical tests: one test to assess whether the mean difference is below the upper equivalence value, and one test to assess whether the mean difference is above the lower equivalence value (see Rogers et al., 1993 for more details).

In terms of the pilot study, equivalence testing was used to evaluate the equivalence of the four video groups on each of the variables of interest: parasocial relationship strength, perceived similarity, attraction (social, physical, and task attraction), parasocial interaction, identification, wishful identification, and transportation. Data were entered into SPSS version 25.0 (IBM Corp., Armonk, NY, USA) for statistical analysis. For each variable of interest, 90% confidence intervals on the pairwise group differences were determined using a one-way analysis of variance (ANOVA) with Tukey Honestly Significant Difference (HSD) post hoc tests. Typically,

the difference between the highest and lowest scoring groups is assessed first. If these groups are found to be equivalent, then one can infer that all groups are equivalent and the remaining pairwise comparisons are not necessary. If there is not enough evidence to show that these groups are equivalent, then one continues by comparing the two groups with the second largest mean difference, and so on. This procedure reduces the number of pairwise comparisons that need to be performed. For the sake of comprehensiveness, and consistent with past studies using this statistical analysis (Rusticus & Lovato, 2011; Rogers et al., 1993), the results of all pairwise comparisons are reported for this pilot study. The results from the one-way ANOVAs are also reported. Although one-way ANOVAs are typically used to test for group differences and are not appropriate for assessing equivalence of groups, they may be indirectly informative and could be useful for comparison purposes. Finally, associations between parasocial relationship strength and the other variables of interest were assessed in an exploratory analysis using Pearson correlations. This latter analysis was performed in order to gain more insight into the relationships between the variables for the main study.

Results

Equivalency testing indicated that the four video groups were statistically equivalent in terms of all of the variables of interest: parasocial relationship strength, perceived similarity, social attraction, physical attraction, task attraction, parasocial interaction, identification, wishful identification, and transportation. See Table 1 for means and standard deviations. See Table 2 for the confidence intervals for the pairwise group differences. In terms of the one-way ANOVAs, no significant group differences were found for any of the variables of interest: parasocial relationship strength, $F(3, 116)$

= 0.29, $p = .836$, $\eta_p^2 = .01$; perceived similarity, $F(3, 116) = 0.40$, $p = .750$, $\eta_p^2 = .01$; social attraction, $F(3, 116) = 1.43$, $p = .239$, $\eta_p^2 = .04$; physical attraction, $F(3, 116) = 1.32$, $p = .271$, $\eta_p^2 = .03$; task attraction, $F(3, 116) = 1.97$, $p = .122$, $\eta_p^2 = .05$; parasocial interaction, $F(3, 116) = 1.47$, $p = .226$, $\eta_p^2 = .04$; identification, $F(3, 116) = 0.37$, $p = .778$, $\eta_p^2 = .01$; wishful identification, $F(3, 116) = 0.63$, $p = .597$, $\eta_p^2 = .02$; or transportation, $F(3, 116) = 0.78$, $p = .508$, $\eta_p^2 = .02$. Controlling for demographic variables such as gender and age did not affect outcomes.

The four video groups were combined for the correlation analysis. Across the entire sample, parasocial relationship strength was significantly related to each of the variables of interest: perceived similarity, $r(118) = .44$, $p < .001$; social attraction, $r(118) = .62$, $p < .001$; physical attraction, $r(118) = .42$, $p < .001$; task attraction, $r(118) = .42$, $p < .001$; parasocial interaction, $r(118) = .37$, $p < .001$; identification, $r(118) = .62$, $p < .001$; wishful identification, $r(118) = .62$, $p < .001$; and transportation, $r(118) = .46$, $p < .001$. Note that these associations were broadly similar when looking at the correlations within each of the four individual groups, although not all associations were significant due to the smaller sample sizes.

Discussion

The results of this pilot study suggest that the selected television episodes are equivalent in terms of the variables that were assessed. Of particular interest were the parasocial relationships that participants formed with the lead character in the program. As with the other variables included in the analysis, the strength of these relationships appeared to be similar regardless of the specific episodes that participants watched. Moreover, the effect size from the ANOVA analysis ($\eta_p^2 = .01$) indicates little or no

difference in relationship strength between the episodes. This finding has important implications for the main study. Among individuals who watch the entire complement of episodes, it is unlikely that increases in parasocial relationship strength over the viewing period are due to variations in the episodic content, as this content elicited similar parasocial relationships when the episodes were viewed in isolation. The most plausible explanation for an increase in parasocial relationship strength would be greater exposure to the character, although other potential explanations cannot be ruled out with certainty.

The results of this pilot study provide some additional support for the notion that both the viewing materials and the questionnaires are suitable for use in the main study. As shown in Table 1, mean parasocial relationship scores tended to fall just above the midpoint of the rating scale. This result indicates that, although parasocial relationships with the target character were reasonably strong after initial exposure to the character, there was sufficient room for these relationships to grow stronger. In other words, among participants in the main study who watch the entire complement of episodes over several weeks, there is little risk for changes in parasocial relationship strength to be obscured by a ceiling effect (at least among the sample as a whole). In addition, the other measures that were used in the pilot study showed a reasonable amount of variability in terms of participant scores. For instance, there were participants who scored quite high on the perceived similarity questionnaire, as well as participants who scored quite low on this questionnaire. Therefore, comparing changes in parasocial relationship strength among those who score higher and lower on these measures is a feasible objective for the main study. Finally, results showed that there were moderate to strong associations between parasocial relationship strength and each of the variables of interest. This outcome

replicates past research in this area (e.g., Dibble et al., 2016; Moyer-Gusé & Nabi, 2010) and indicates that similar relationships should also occur in the main study, as hypothesized.

MAIN STUDY

The purpose of the main study was to learn more about the developmental course of parasocial relationships. Participants were given a copy of the same television program that was used in the pilot study. The strength of their parasocial relationships with the lead character in the program were tracked as they watched the program over a number of weeks. Parasocial relationship strength was also tracked over the immediate postviewing period, as were feelings of parasocial breakup distress. The results of this study should provide insight into how parasocial relationships change or evolve over time, a topic that has received little attention in the literature to date.

Method

Participants

A total of 98 participants were recruited from undergraduate psychology classes. Five participants did not complete the study: one person experienced technical difficulties that prevented completion, one person misplaced the study questionnaires, and three people discontinued the study for unspecified reasons. Out of the 93 participants who completed the study, two people were removed due to missing data, two people were removed for nonadherence to the study instructions, one person was removed for failing an attention question, and eight people were removed as statistical outliers. This left a final sample of 80 participants (56 females, 24 males). The mean participant age was 21.94 years ($SD = 6.10$). The sample was largely White or Caucasian (81.2%), with the

remainder of the sample identifying as Asian or Pacific Islander (7.5%), mixed race or ethnicity (7.5%), or another race or ethnicity (3.8%).

Participant recruitment occurred through class announcements and postings on the Department of Psychology announcement board. Participants signed up for the study using the Department of Psychology's online sign-up system, Sona. Three bonus points were offered to students for their participation in the study, with each bonus point equivalent to a single percentage on their final mark for a qualifying undergraduate course. Moreover, a monetary incentive of \$20 was offered to all participants who successfully completed the study. In accordance with the Tri-Council Policy Statement, informed consent forms were provided to all participants (Appendix J). Note that individuals who had previously seen episodes of the television series used in the study were excluded from participation (including those who participated in the pilot study). This point was mentioned during recruitment, and individuals were also screened prior to the consent process.

Measures

A demographic questionnaire included questions regarding participant age, gender, and ethnicity (Appendix K). Several questionnaires that were introduced in the pilot study were also used:

- The full 13-item parasocial relationship questionnaire (Hartmann et al., 2008), which had Cronbach's alphas ranging from .89 (week 1) to .94 (weeks 5 and 6).
- The 5-item perceived similarity questionnaire (Auter & Palmgreen, 2000), which had Cronbach's alphas of .85 (week 1) and .88 (week 4).

- The 15-item attraction questionnaire (McCroskey & McCain, 1974), which had Cronbach's alphas of .77 (week 1) and .82 (week 4) for the social attraction subscale, .91 (week 1) and .92 (week 4) for the physical attraction subscale, and .86 (week 1) and .84 (week 4) for the task attraction subscale.
- The 6-item parasocial interaction questionnaire (Hartmann & Goldhoorn, 2011), which had Cronbach's alphas of .93 (week 1) and .98 (week 4).
- The 8-item identification questionnaire (Cohen, 2001), which had Cronbach's alphas of .90 (week 1) and .92 (week 4).
- The 5-item wishful identification questionnaire (Hoffner, 1996; Hoffner & Buchanan, 2005), which had Cronbach's alphas of .81 (week 1) and .85 (week 4).
- The 10-item transportation questionnaire (Green & Brock, 2000), which had Cronbach's alphas of .74 (week 1) and .87 (week 4).

All items on these questionnaires were rated on a 5-point scale, with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Responses to the items on each questionnaire were averaged to obtain composite scores. Additional questionnaires are described below.

Parasocial breakup distress. Parasocial breakup distress was assessed with a 12-item questionnaire adapted from Cohen (2003, 2004) and Eyal and Cohen (2006; Appendix L). The original version of this questionnaire consists of 13 items, but one item was dropped from the current study as it measured a viewing behavior that was prohibited by the study's instructions (i.e., the repeat viewing of previously seen episodes). Items in previous versions of the questionnaire started with the phrase "If my favorite character were to go off the air" and "Now that my favorite character is off the

air,” neither of which were appropriate for the current study in which participants watched episodes on physical media. Therefore, the phrase “Now that I am unable to watch (the character)” was used before items. Sample items from this questionnaire include “Now that I am unable to watch (the character), I tend to think of him often” and “Now that I am unable to watch (the character), I feel sad.” Note that items were rated using the same 5-point scale described previously, and composite scores were calculated. Research has supported the convergent and divergent validity of this questionnaire. In terms of convergent validity, scores on this questionnaire are higher when individuals have stronger parasocial relationships with a media figure (Cohen, 2003, 2004; Eyal & Cohen, 2006; Hu, 2016; Lather & Moyer-Gusé, 2011) and when individuals are heavier media users or have greater affinity for media (Cohen, 2004; Eyal & Cohen, 2006; Lather & Moyer-Gusé, 2011). In terms of divergent validity, the questionnaire has been linked to different patterns of empirical results than questionnaires designed to assess parasocial relationships, despite strong associations between scores on these instruments (Cohen, 2003; Eyal & Cohen, 2006). This questionnaire has shown acceptable internal consistency in past research, with Cronbach alphas ranging from .79 to .85 (Cohen, 2003, 2004; Eyal & Cohen, 2006). Cronbach’s alphas for the current study were .85 (week 4) and .88 (weeks 5 and 6).

Attention test. An attention test contained questions about the specific content of the assigned episodes (Appendix M). This test was administered to identify participants who did not watch the episodes as directed (i.e., those who did not watch the episodes at all, or those who played the episodes in the background while engaging in other activities). The test consisted of three questions, and participants were required to provide

correct responses to all three questions in order to be included in the final analysis. Each question focused on a different aspect of the episodic content, and the specific response options varied by question (see the relevant appendix for more details).

Poststudy questionnaire. A poststudy questionnaire contained questions about participants' familiarity with the actor who portrayed the target character, their viewing behaviors during the study, and their adherence to the study's instructions (Appendix N). The questionnaire consisted of four questions, as follows: (1) "Before participating in this study, how familiar were you with the actor who portrayed (the character)?" (2) "During the study, did you tend to watch these episodes alone or with others?" (3) "During the study, did you tend to watch the week's episodes together (back-to-back) or at different times (for instance, on different days)?" and (4) "How well did you follow the study's instructions?" The first question was accompanied by three categorical response options, whereas the remaining questions were accompanied by five categorical response options. The specific response options varied by question (see the relevant appendix for more details). The final question also included a prompt and space for participants to provide written feedback about how they failed to follow the study instructions, if applicable.

Task questionnaires. A series of six task questionnaires assessed which day or days participants completed the study tasks for each of the six weeks of the study (Appendix O). This information was tracked in order to establish that participants were completing their tasks at roughly weekly intervals. The task questionnaires for the viewing weeks asked participants to indicate which day or days they watched the episodes for that week (with the weekly questionnaires being filled out the same day as

the second episode). The questionnaires for the postviewing weeks asked participants to indicate which day they filled out the weekly questionnaires.

Procedure

Following recruitment, individual participants met with the researcher for a 20- to 30-minute orientation session. Participants filled out the informed consent form and the demographic questionnaire, and they provided their contact information for communication purposes. Next, the experimenter reviewed the study's procedure with participants in detail. Participants were given a take-home questionnaire package that contained abbreviated instructions on how to complete the study (Appendix P; Appendix Q), as well as all relevant questionnaires divided by week into six separate envelopes. Participants were also given a copy of the first season of *Pushing Daisies* on optical disc (DVD or Blu-ray).

Participants were asked to watch two episodes of the television program per week for four weeks. Episodes two and three were viewed in the first week; episodes four and five were viewed in the second week; episodes six and seven were viewed in the third week; and episodes eight and nine were viewed in the fourth week. This viewing schedule covered the entirety of the first season of the program with the exception of the first episode. As mentioned in the Pilot Study section, the first episode followed a slightly different format than the other episodes, and it was not used in the study for this reason.

Immediately after viewing the episodes for the first week, participants filled out the parasocial relationship, perceived similarity, attraction, parasocial interaction, identification, wishful identification, and transportation questionnaires. Participants also filled out the parasocial relationship questionnaire after watching the episodes for the

second and third weeks. After viewing the episodes for the fourth week (i.e., the point of parasocial breakup), participants filled out all of the questionnaires that they completed during the initial week of the study, as well as the parasocial breakup questionnaire. In the fifth and sixth weeks, participants filled out the parasocial relationship and parasocial breakup questionnaires. The final assessment in week six included the attention test and the poststudy questionnaire. Finally, participants filled out a brief task questionnaire each week to indicate when they completed their weekly tasks.

Participants were sent a maximum of four e-mails every week to remind them to watch the designated episodes and to fill out the appropriate questionnaires. The first reminder was sent at the beginning of the week in a bulk e-mail to the group of participants. The second and third reminders were sent on the following Friday and Saturday in bulk e-mails to the group of participants. The fourth and final reminder was sent on Sunday in a personal e-mail to individual participants. Participants did not receive reminders on Friday, Saturday, or Sunday if they completed their weekly tasks prior to the day in question. Participants were required to contact the principal investigator via e-mail to report their compliance once their weekly tasks were finished. After successfully completing the sixth week of the study, participants returned the questionnaires and discs for their monetary incentive. They received a short debriefing and were given a debriefing document that provided them with additional information about the study (Appendix R).

Data Analysis

Data were entered into SPSS version 25.0 (IBM Corp., Armonk, NY, USA) for statistical analysis. The analysis involved the combined use of repeated measures analysis

of variance (ANOVA) and repeated measures analysis of covariance (ANCOVA) statistical tests, which were applied in a manner suggested by Baguley (2012) and Schneider, Avivi-Reich, and Mozuraitis (2015). The following paragraphs describe the statistical analysis in greater detail. Within this description, the *formation analyses* refer to those tests that were conducted on data from the viewing period, whereas the *breakup analyses* refer to those tests that were conducted on data from the postviewing period.

Formation analyses (Hypothesis 1, Hypothesis 2, Research Question 1). The within-subjects effect (Hypothesis 1) was assessed with a repeated measures ANOVA. The within-subjects factor was time point (i.e., weeks 1 through 4). The dependent variable was parasocial relationship strength. Greenhouse-Geisser corrections were applied to account for violations of sphericity. Significant results were followed up with post hoc Bonferroni tests, which were used to account for multiple pairwise comparisons.

Between-subjects effects (Hypothesis 2) and interactions between the within-subjects factor and the between-subjects variables (Research Question 1) were assessed with a series of repeated measures ANCOVAs. The within-subjects factor was time point (i.e., weeks 1 through 4). The between-subjects variables were (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation. Note that week 1 scores for the between-subjects variables were used in these analyses. In addition, note that the between-subjects variables were entered as covariates in the SPSS menu; they functioned as continuous predictors within the various analyses. The dependent variable for these analyses was parasocial relationship strength. Once again, Greenhouse-Geisser corrections were applied to account for violations of sphericity.

Breakup analyses (Hypothesis 3, Hypothesis 4, Research Question 2). Within-subjects effects (Hypothesis 3) were assessed with a pair of repeated measures ANOVAs. The within-subjects factor was time point (i.e., weeks 4 through 6). The dependent variables were parasocial relationship strength and parasocial breakup distress. Greenhouse-Geisser corrections were applied to account for violations of sphericity. Significant results were followed up with post hoc Bonferroni tests, which were used to account for multiple pairwise comparisons.

Between-subjects effects (Hypothesis 4) and interactions between the within-subjects factor and the between-subjects variables (Research Question 2) were assessed with a series of repeated measures ANCOVAs. The within-subjects factor was time point (i.e., weeks 4 through 6). The between-subjects variables were (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation. Note that week 4 scores for the between-subjects variables were used in these analyses. In addition, note that the between-subjects variables were entered as covariates in the SPSS menu; they functioned as continuous predictors within the various analyses. The dependent variables for these analyses were parasocial relationship strength and parasocial breakup distress. Once again, Greenhouse-Geisser corrections were applied to account for violations of sphericity.

Alpha correction. An alpha correction was applied to all omnibus tests to avoid spurious results from the multiple significance tests. One widely used alpha correction technique is the Bonferroni method, which involves dividing the criterion significance level by the number of statistical tests performed within a family of analyses to achieve a new, more stringent significance level. One of the assumptions of the Bonferroni method

is that the individual statistical tests are independent of one another, which almost certainly was not the case in the current study given the strong relationships between the assessed variables. Therefore, the significance level used in the current study ($p = .05$) was adjusted using the Holm-Bonferroni method (Holm, 1979). Essentially, this method involves ranking the significance values that one obtains within a family of analyses from smallest to largest, and then comparing the values within this ranking to steadily less stringent significance criteria. This method provides protection against Type I errors, but it is not as conservative as a standard Bonferroni correction.

Results

Preliminary Analysis

The attention questionnaire was administered to ensure that participants paid attention during the viewing of the episodes. As mentioned in the Participants section, one individual who completed the study failed to answer all of the questions in the attention test correctly and was excluded from the analysis.

The poststudy questionnaire was administered to gain insight into participants' familiarity with the actor who portrayed the target character, as well as their behaviors during the study. Results from the questionnaire were as follows:

- In terms of their familiarity with the actor who portrayed the target character, most participants were unfamiliar with the actor prior to the study (93.8%). A smaller number of participants were somewhat familiar with the actor (5.0%) or very familiar with the actor (1.2%).
- In terms of co-viewing behaviors, most participants always watched the episodes alone (60.0%). A smaller number of participants mostly watched alone (15.0%), were

- fairly evenly split between watching alone and watching with others (16.2%), mostly watched with others (3.8%), or always watched with others (5.0%).
- In terms of how participants watched the two weekly episodes, most participants always watched the two episodes together (41.2%) or mostly watched the two episodes together (32.5%). A smaller number of participants were fairly evenly split between watching the two episodes together and at different times (15.0%), mostly watched the two episodes at different times (7.5%), or always watched the two episodes at different times (3.8%).
 - In terms of adherence to the study's instructions, most participants always followed the instructions perfectly (83.8%) and the rest of the participants usually followed the instructions perfectly (16.2%). These latter individuals were retained in the analysis as their violations were minor. Typically, there was one week in which they forgot to email the researcher after finishing their weekly tasks. As mentioned in the Participants section, two additional participants were excluded prior to data analysis due to nonadherence to the study instructions. These individuals performed more serious violations: one participant failed to watch two episodes within the designated timeframe, and the other participant filled out one set of questionnaires several days after watching the episodes for that week.

The task questionnaires were administered to ensure that participants completed their tasks at roughly weekly intervals. With respect to the viewing period, participants reported an average of 7.02 days ($SD = 1.94$) between finishing the week 1 and week 2 episodes, 7.09 days ($SD = 1.75$) between finishing the week 2 and week 3 episodes, and 7.26 days ($SD = 1.54$) between finishing the week 3 and week 4 episodes. With respect to

the postviewing period, participants reported an average of 7.14 days ($SD = 0.97$) between finishing the week 4 episodes and completing the week 5 questionnaires, and 6.81 days ($SD = 1.16$) between finishing the week 5 questionnaires and the week 6 questionnaires.

Main Analysis

The first hypothesis stated that parasocial relationship strength would approach a peak level when participants viewed the initial episodes of the program, such that subsequent increases in relationship strength would be small and would tail off by the end of the viewing period. This hypothesis was largely supported. In general, parasocial relationships were moderately strong after the initial viewing week, with the group mean slightly below the midpoint of the rating scale. There was a significant change in parasocial relationship strength over subsequent weeks, $F(1.83, 144.77) = 35.01, p < .001, \eta_p^2 = .31$. Relationship strength underwent an increase from the first to the second week ($p < .001$), another increase from the second to the third week ($p = .002$), and a further increase from the third to the fourth week ($p = .002$). However, these increases were incremental and tended to become smaller as time went on. Scores increased approximately 8.4% from week 1 to week 2, 5.7% from week 2 to week 3, and 3.8% from week 3 to week 4. See Table 3 for means and standard deviations.

The second hypothesis stated that participants reporting higher levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation would report stronger parasocial relationships over the duration of the viewing period than those reporting lower levels of these variables. This hypothesis was supported. There was a significant relationship

between parasocial relationship strength and the variables in question over the four viewing weeks: perceived similarity, $F(1, 78) = 34.28, p < .001, \eta_p^2 = .31$; social attraction, $F(1, 78) = 49.20, p < .001, \eta_p^2 = .39$; physical attraction, $F(1, 78) = 20.69, p < .001, \eta_p^2 = .21$; task attraction, $F(1, 78) = 18.69, p < .001, \eta_p^2 = .19$; parasocial interaction, $F(1, 78) = 11.56, p = .001, \eta_p^2 = .13$; identification, $F(1, 78) = 73.38, p < .001, \eta_p^2 = .48$; wishful identification, $F(1, 78) = 47.82, p < .001, \eta_p^2 = .38$; and transportation, $F(1, 78) = 60.01, p < .001, \eta_p^2 = .43$. In general, parasocial relationships were stronger among individuals who reported higher levels of these variables and weaker among individuals who reported lower levels of these variables. See Table 4 for correlations of between-subjects variables (week 1) and parasocial relationship scores (weeks 1 to 4).

The first research question asked whether the formation of parasocial relationships would vary according to levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation. There was no evidence that changes in parasocial relationship strength over the four viewing weeks varied according to any of the variables of interest: perceived similarity, $F(1.82, 141.62) = 0.54, p = .565, \eta_p^2 = .01$; social attraction, $F(1.83, 142.53) = 0.44, p = .627, \eta_p^2 = .01$; physical attraction, $F(1.83, 142.83) = 0.11, p = .883, \eta_p^2 = .00$; task attraction, $F(1.83, 142.44) = 0.18, p = .815, \eta_p^2 = .00$; parasocial interaction, $F(1.82, 142.28) = 0.23, p = .771, \eta_p^2 = .00$; identification, $F(1.83, 142.93) = 0.02, p = .970, \eta_p^2 = .00$; wishful identification, $F(1.82, 142.21) = 0.29, p = .726, \eta_p^2 = .00$; and transportation, $F(1.84, 143.16) = 0.29, p = .727, \eta_p^2 = .00$. In other words, participants did not show

significant variations in the manner in which parasocial relationship strength changed over the viewing period.

The third hypothesis stated that parasocial relationship strength and parasocial breakup distress would decline in the weeks following viewing. This hypothesis received partial support. In general, parasocial relationships were moderately strong at the point of parasocial breakup, with the group mean slightly above the midpoint of the rating scale. By comparison, parasocial breakup distress was fairly low among the sample as a whole. There was a significant change in parasocial relationship strength over the postviewing weeks, $F(1.62, 128.24) = 9.87, p < .001, \eta_p^2 = .11$. There was no evidence that scores changed from week 4 to week 5 ($p = .116$), but they did undergo a small decrease from week 5 to week 6 ($p = .012$). Similarly, there was a significant change in parasocial breakup distress over the postviewing weeks, $F(1.59, 125.73) = 7.83, p = .002, \eta_p^2 = .09$. There was no evidence that scores changed from week 4 to week 5 ($p = .307$), but they did undergo a small decrease from week 5 to week 6 ($p = .010$). See Table 3 for means and standard deviations.

The fourth hypothesis stated that participants reporting higher levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation would report stronger parasocial relationships and greater parasocial breakup distress in the weeks following viewing than those reporting lower levels of these variables. This hypothesis was supported. There was a significant relationship between parasocial relationship strength and the variables in question over the postviewing weeks: perceived similarity, $F(1, 78) = 69.72, p < .001, \eta_p^2 = .47$; social attraction, $F(1, 78) = 75.35, p < .001, \eta_p^2 = .49$; physical attraction, $F(1, 78)$

= 29.72, $p < .001$, $\eta_p^2 = .28$; task attraction, $F(1, 78) = 24.89$, $p < .001$, $\eta_p^2 = .24$; parasocial interaction, $F(1, 78) = 20.82$, $p < .001$, $\eta_p^2 = .21$; identification, $F(1, 78) = 130.54$, $p < .001$, $\eta_p^2 = .63$; wishful identification, $F(1, 78) = 59.48$, $p < .001$, $\eta_p^2 = .43$; and transportation, $F(1, 78) = 126.53$, $p < .001$, $\eta_p^2 = .62$. In general, parasocial relationships were stronger among individuals who reported higher levels of these variables and weaker among individuals who reported lower levels of these variables. See Table 5 for correlations of between-subjects variables (week 4) and parasocial relationship scores (weeks 4 to 6).

Similarly, there was a significant relationship between parasocial breakup distress and the variables of interest over the postviewing weeks: perceived similarity, $F(1, 78) = 30.53$, $p < .001$, $\eta_p^2 = .28$; social attraction, $F(1, 78) = 14.32$, $p < .001$, $\eta_p^2 = .16$; physical attraction, $F(1, 78) = 10.21$, $p = .002$, $\eta_p^2 = .12$; task attraction, $F(1, 78) = 7.74$, $p = .007$, $\eta_p^2 = .09$; parasocial interaction, $F(1, 78) = 29.48$, $p < .001$, $\eta_p^2 = .27$; identification, $F(1, 78) = 35.20$, $p < .001$, $\eta_p^2 = .31$; wishful identification, $F(1, 78) = 22.68$, $p < .001$, $\eta_p^2 = .23$; and transportation, $F(1, 78) = 76.67$, $p < .001$, $\eta_p^2 = .50$. In general, parasocial breakup distress was stronger among individuals who reported higher levels of these variables and weaker among individuals who reported lower levels of these variables. See Table 5 for correlations of between-subjects variables (week 4) and parasocial breakup distress scores (weeks 4 to 6).

The second research question asked whether changes in parasocial relationship strength and parasocial breakup distress in the weeks following viewing would vary according to levels of (a) perceived similarity, (b) attraction, (c) parasocial interaction, (d) identification, (e) wishful identification, and (f) transportation. There was no evidence

that changes in parasocial relationship strength over the postviewing weeks varied according to any of the variables of interest: perceived similarity, $F(1.62, 125.99) = 0.40$, $p = .625$, $\eta_p^2 = .01$; social attraction, $F(1.61, 125.79) = 0.44$, $p = .603$, $\eta_p^2 = .01$; physical attraction, $F(1.58, 123.58) = 1.90$, $p = .163$, $\eta_p^2 = .02$; task attraction, $F(1.62, 126.13) = 0.65$, $p = .494$, $\eta_p^2 = .01$; parasocial interaction, $F(1.61, 125.57) = 1.05$, $p = .341$, $\eta_p^2 = .01$; identification, $F(1.61, 125.96) = 0.35$, $p = .659$, $\eta_p^2 = .00$; wishful identification, $F(1.60, 124.75) = 1.01$, $p = .353$, $\eta_p^2 = .01$; and transportation, $F(1.62, 126.53) = 0.73$, $p = .456$, $\eta_p^2 = .01$. In other words, participants did not show significant variations in the manner in which parasocial relationship strength changed over the postviewing period.

Similarly, there was no evidence that changes in parasocial breakup distress over the postviewing weeks varied according to any of the variables of interest: perceived similarity, $F(1.57, 122.76) = 1.82$, $p = .173$, $\eta_p^2 = .02$; social attraction, $F(1.60, 124.93) = 1.35$, $p = .261$, $\eta_p^2 = .02$; physical attraction, $F(1.57, 122.79) = 1.60$, $p = .210$, $\eta_p^2 = .02$; task attraction, $F(1.60, 124.74) = 3.03$, $p = .063$, $\eta_p^2 = .04$; parasocial interaction, $F(1.59, 123.87) = 0.21$, $p = .759$, $\eta_p^2 = .00$; identification, $F(1.59, 124.41) = 2.37$, $p = .109$, $\eta_p^2 = .03$; wishful identification, $F(1.58, 123.07) = 1.13$, $p = .316$, $\eta_p^2 = .01$; and transportation, $F(1.60, 124.85) = 1.33$, $p = .265$, $\eta_p^2 = .02$. In other words, participants did not show significant variations in the manner in which parasocial breakup distress changed over the postviewing period.

Discussion

The results of the current study provide insight into the developmental course of people's parasocial relationships. These results will be discussed in greater detail over the remainder of this paper. First, the findings on parasocial relationship formation will be

summarized and connected to past theorization in this area. A similar procedure will also be performed on the findings from the postviewing period. Afterward, the practical or real-world implications of these collective results will be considered. Some of the major methodological limitations of this research will be reviewed, and the discussion will conclude with several suggestions for future research in this area.

Formation Analyses

In general, participants reported moderately strong parasocial relationships with the target character after the first week of viewing. The strength of these relationships increased in subsequent weeks, but these increases were small and tended to become less pronounced as time went on. By the fourth week of the study, for instance, relationship strength had only increased 3.8% over the previous week. In other words, the strength of participants' parasocial relationships seemed to approach a peak level shortly after their introduction to the character. Notably, no differences in this pattern of relationship formation were found based on participants' perceived similarity or attraction to the character, nor did their reported levels of parasocial interaction, identification, wishful identification, or transportation appear to have an impact. As one might expect, individuals who reported higher levels of these variables tended to experience stronger parasocial relationships over the viewing period than those who reported lower levels of these variables. However, in the weeks following participants' initial exposure to the character, relationships tended to grow in the same incremental manner regardless of the participant.

These findings have some important theoretical implications. Rubin and McHugh (1987) proposed that viewers' knowledge and understanding of a television figure

increases fairly quickly after their introduction to that figure. The reduced uncertainty that viewers experience in these situations should contribute to feelings of closeness and intimacy with the figure, with the result being rapid increases in parasocial relationship strength. The current results provide some empirical support for Rubin and McHugh's proposition. Across the sample, parasocial relationship strength seemed to approach peak or maximum levels after participants' initial exposure to the character. There were changes in relationship strength after that point, but these changes were relatively small and tailed off as time went on. Taking these results into consideration, one can understand why researchers have found little or no association between parasocial relationship strength and duration of viewing in past studies: the relationships that people have for many years are probably not appreciably stronger than newer relationships that are only a few weeks old. Of course, there were considerable differences in the overall strength of the relationships that participants formed in the current study. Participants reported varying levels of perceived similarity to the character, attraction toward the character, identification with the character, and so on, and these variables no doubt had an influence on the strength of the relationships that they formed with the character. However, regardless of the participant, the strength of these relationships was almost fully realized shortly after their introduction to the character.

Some additional findings on parasocial relationship formation are also of interest. As mentioned, participants in the current study tended to report increases in relationship strength in the weeks following their initial exposure to the character. However, these increases were quite small and tailed off as the study progressed. What is notable about this pattern of results is that it tended to occur among participants across the sample. In

other words, even those individuals who had negative or indifferent reactions toward the character reported small increases in relationship strength as the weeks progressed. This latter finding is somewhat surprising, as one might expect relationship strength to remain flat or unchanged among this specific group of individuals. This overall pattern of results suggests that there was a common mechanism driving relationship formation after initial exposure to the character. It is currently unclear what this mechanism might be, although a few possibilities seem likely. Perhaps learning additional information about the character, even if participants did not particularly like or identify with the character, increased relationship strength through the process of uncertainty reduction. Uncertainty reduction would also explain why these increases in relationship strength tailed off as the study progressed. After spending four weeks with the character, participants likely felt that they had a thorough or complete understanding of him. Another possibility is that mere exposure to the character played a role. Repeated exposure to the character would have increased familiarity with the character's physical appearance, especially his facial features. This is relevant because there is some indication that seeing familiar faces in the media can provide individuals with feelings of safety and security, much like seeing familiar faces in real life (Stever, 2011, 2017). Such feelings would almost certainly stimulate increases in the strength of people's parasocial relationships. Of course, these are just two of many factors that could have contributed to these results.

Breakup Analyses

Compared to the findings on parasocial relationship formation, the results concerning the parasocial breakup were more equivocal. No changes in parasocial relationship strength or parasocial breakup distress were found in the week following

viewing, and declines in the subsequent week were quite small. Two weeks after the parasocial breakup, relationship strength remained comparable to those levels seen in the final few weeks of the viewing period. By comparison, parasocial breakup distress was relatively mild over the duration of the postviewing period. Low levels of breakup distress are consistent with the research literature, which has shown that breakup distress in a television setting tends to be low even after prolonged periods of exposure to the figure (Eyal & Cohen, 2006; Lather & Moyer-Gusé, 2011). It was unclear at the outset of the study whether changes in relationship strength and breakup distress over the postviewing period would vary according to participants' perceived similarity or attraction to the character, or their reported levels of parasocial interaction, identification, wishful identification, or transportation. In the end, no significant variations in these patterns of change were found. Of course, participants reporting higher levels of the aforementioned variables tended to report higher levels of relationship strength and breakup distress in the postviewing weeks, as one would expect. These individuals felt more strongly about the character than others and were understandably more upset when their contact with the character came to an end. However, relationship strength and breakup distress seemed to be fairly sustained regardless of the degree of participants' involvement with the character.

These results concerning the parasocial breakup are somewhat inconsistent with previous findings from the literature. As discussed in the introduction, Radford and Bloch (2012) found some indirect evidence that parasocial relationship strength and parasocial breakup distress decline fairly quickly after a parasocial breakup, at least for most people. However, the results of the current study indicate that relationship strength and breakup

distress persist in subsequent weeks. The disparity in the results of these two studies can likely be attributed to methodological differences. Whereas the current study was a quantitative analysis of relationship strength and breakup distress after a relatively mild breakup with a television character, Radford and Bloch's study was a mostly qualitative analysis of people's responses to the death of a well-known celebrity athlete. Given these differences, disparities in the conclusions of these studies are understandable. In point of fact, the results of the current study are not inconsistent with past theorization from the parasocial relationship literature, which has tended to emphasize the similarities between social and parasocial relationships. Just as people have a lot invested in their social relationships with real people, they also seem to be quite invested in their parasocial relationships with media figures (Branch et al., 2013; Eyal & Dailey, 2012). It would only make sense that these relationships would persist in the weeks after a parasocial breakup and that individuals might experience some sustained feelings of distress over that same timeframe. Few people would argue that the loss of a favorite media figure is as consequential as the loss of a close friend or family member, but the current results do suggest that media figures continue to be important to individuals for some time after a breakup.

Practical Implications

Taken together, the results of the current study have a number of practical implications for media users. Recall that parasocial relationships with media figures can affect media users' attitudes and behaviors in various domains. These effects have been demonstrated with everything from consumer attitudes and behaviors (e.g., Cortese & Rubin, 2010; Park & Lennon, 2006) to health attitudes and behaviors (e.g., Tian & Yoo,

2015; Brown & de Matviuk, 2010). The fact that parasocial relationships tend to form relatively quickly suggests that their influence on these types of cognitive, affective, and behavioral outcomes manifests shortly after one's introduction to a media figure. In other words, one likely does not have to watch a media figure for many months or years for this influence to occur. This prospect could be either good or bad, depending on whether one is considering the positive consequences of these relationships (e.g., a greater willingness to engage in healthy behaviors) or the negative consequences of these relationships (e.g., a greater tendency to make financially irresponsible consumer decisions). Thus, parasocial relationships could be useful as an intervention tool in some situations, and they themselves could warrant some form of intervention in other situations. In this respect, they are quite similar to social relationships.

The results of the current study may have implications in terms of relationship expectations. If media users experience the rapid formation of parasocial relationships with some regularity, then they may come to internalize this pattern such that they expect rapid relationship formation from their media programming. In situations in which parasocial relationships form more slowly (e.g., a television character or personality does not engage in self-disclosure), viewers may become frustrated or bored and stop watching the associated program. This in itself may not be a particularly worrisome scenario from a psychological standpoint. However, internalizing this norm may go on to affect real-life social expectations and behaviors in a similar manner (Tal-Or & Hershman-Shitrit, 2015). In other words, certain individuals may become frustrated or bored when dealing with real social partners, as social relationships are more complex and likely form more slowly than the parasocial relationships that they have become accustomed to. These

individuals may then decide to rely on parasocial relationships rather than social relationships to satisfy their relational needs, a decision that could have negative consequences in terms of their mental health and wellbeing. Stated another way, parasocial relationships could become a sort of relationship “junk food” that provide individuals with immediate gratification at the risk of long-term psychosocial costs.

The results concerning parasocial breakup have some practical implications as well. Contrary to what one might expect, declines in parasocial relationship strength and parasocial breakup distress were quite small in the weeks following viewing. Viewers might move on in some sense after their contact with a media figure has been severed, but thoughts and feelings about the figure do appear to stay with the viewer for some time afterward. Although parasocial breakup distress was modest over the sample as a whole, it should be noted that each of the study’s 80 participants reported at least some distress on the parasocial breakup questionnaire. Moreover, those individuals with stronger connections to the character tended to experience higher levels of distress. Thus, concerns about an individual’s wellbeing following a parasocial breakup may be reasonable, especially for those individuals who experience a particularly strong connection to the media figure in question. One might be inclined to dismiss such concerns as trivial or unimportant, although the gravity of this issue can be underscored with an extreme example of parasocial breakup. Studies have shown that, following the suicide of a beloved celebrity or fictional character, there is sometimes an increase in imitative suicides in the public (Gould, 2001; Phillips, 1974), particularly among devoted fans or admirers (Pirkis, 2009). Such incidents are understandably rare, but they do emphasize the fact that parasocial breakups can be a serious matter for some people. The results of

the current study indicate that one might be able to use factors like attraction to a media figure or identification with a media figure to identify those individuals who are most at risk for negative feelings following a parasocial breakup, something that may be important for developing and implementing interventions in this area. Of course, such interventions would be unnecessary for the majority of media users, but they could help to reduce negative feelings in the weeks following a parasocial breakup among those who have inordinately strong bonds with a media figure.

Limitations

The results of the current study have some important limitations. Like many studies in this area, this study used a convenience sample of undergraduate psychology students. As one might expect, the demographic composition of such samples does not match that of the general population. For instance, the majority of the present sample identified as female. Participants also tended to be young on average, with 80% of the sample below the age of 25. These sample characteristics may limit the generalizability of the results to a certain degree. Generally speaking, student samples tend to provide more homogeneous responses than nonstudent samples, and the size and direction of reported effects can vary between these two types of samples (Peterson, 2001).

Therefore, it is possible that the results of the current study may have differed had a wider sample of participants been used. However, within the parasocial relationship literature specifically, there is some evidence that broad patterns of results tend to be fairly consistent between student and nonstudent samples (e.g., Dibble et al., 2016; Dibble & Rosaen, 2011; Moyer-Gusé & Nabi, 2010; Tian & Hoffner, 2010). This evidence suggests that the composition of the current sample may not be a serious

methodological concern, although it would be premature to say that results would have been the same or even relatively similar with a different group of participants.

A similar issue is the potential for volunteer bias. Volunteer bias occurs when the individuals who volunteer to participate in a research study have certain characteristics that set them apart from the rest of the population (Rosenthal & Rosnow, 1975; Rosnow & Rosenthal, 1997). For instance, given the time commitment required to complete the current study, it is possible that only highly motivated individuals volunteered to participate. In these situations, the people who volunteer for a study (i.e., those who have the distinct characteristics in question) may provide different responses than one would receive from the rest of the population. In other words, the study's results will lack generalizability. In an effort to reduce volunteer bias in the current study, a generous combination of academic and monetary incentives was offered to individuals for their participation. It was thought that these incentives would appeal to a wide variety of individuals, including those people who might not otherwise be inclined to participate in this research. Although a volunteer bias cannot be ruled out with certainty, there was reason to believe that such biases were minimized. For instance, participants voiced a wide range of opinions and feedback about the study during their debriefing session. Whereas some participants indicated that they enjoyed the study and looked forward to watching the television show every week, others stated that the study was "a pain" to complete and that they only followed through for the incentives. Still others did not seem to have a strong opinion on the study either way. Although this feedback was not measured empirically, it does provide some anecdotal evidence that the study managed to attract individuals with a variety of motivations and personality factors.

In a related manner, the artificiality of the viewing context should be mentioned. Participants in the current study were offered incentives to watch a specific television program that was selected by the researchers. Needless to say, this type of situation is not reflective of media use in a natural setting. As noted in theoretical perspectives such as uses and gratifications theory (Blumler, 1979; Katz, Blumler, & Gurevitch, 1974), viewers are active in their media use and they self-select media content to satisfy specific desires or needs. If the individuals who participated in the current study had encountered the television program in question during their daily viewing experience, it is likely that only a subset of them would have persisted in viewing the program and cultivating their parasocial relationships with the lead character (presumably, those same individuals who reported positive reactions toward the character). Other participants probably would have stopped watching the program after one or two episodes and their parasocial relationships would not have developed beyond that initial exposure. Capturing the reactions of these latter participants may not be an accurate reflection of real-life viewing experience, in which people start or stop watching a program as desired. Regardless, it is interesting that no variations in the developmental course of parasocial relationships were found across the study's participants, despite probable variations in terms of their investment in the program. This finding is itself important, as it suggests that there are likely common mechanisms that govern how these relationships evolve among media users in general. Thus, while it is accurate to say that the artificiality of the viewing context hinders the generalizability of current results to a certain degree, it has also provided certain insight into the developmental course of parasocial relationships that may not have been possible to attain using more naturalistic research methodologies.

Participants in the current study were asked to report on a single character from a specific television program. It is unclear whether the results of this study generalize to other television characters or personalities. Part of the reason variables such as attraction and identification were included in the study was to account for this fact. In theory, if a viewer is highly attracted to a television character, or if the viewer identifies strongly with that character, then the resulting pattern of parasocial relationship development should be consistent regardless of the specific character. Of course, this rationale best applies to characters that appear in episodic series, which consist of independent, self-contained episodes that essentially “reset” with every episode. There is little character development in these types of programs, such that character depictions tend to be fairly stable from episode to episode (Schlütz, 2015). In many situation comedies, for example, the distinguishing personality traits and behaviors of the characters are often the same several years into the program’s run as they were at the outset of the program. By comparison, serialized programs that contain an ongoing storyline may have less stability in their character depictions. For instance, a character that is likable in the early episodes of a program may become less so as the storyline progresses. If the character depictions in these latter types of programs change substantially over the course of months or even years, then parasocial relationships may be more volatile.

Participant viewing patterns also warrant some mention. Participants in the current study were asked to watch two episodes of a television program per week. This viewing schedule was intended to regulate viewing patterns so that results were comparable between participants. However, it may not represent typical viewing behaviors, which can vary widely depending on the individual’s viewing preferences and

the program's availability. For instance, traditional prime-time television programs tend to air once per week, whereas certain other types of television programs air multiple times over the same period (e.g., soap operas, talk shows, and shows in syndication). These scheduling differences would have a large impact on a viewer's exposure to a specific television figure, and for this reason differences in the formation of parasocial relationships are possible. Furthermore, the availability of television content on physical media and streaming platforms has led to a recent increase in marathon or "binge" viewing, which refers to the act of watching a large amount of television content over a short timeframe. Tukachinsky and Eyal (2018) found that parasocial relationships are stronger after marathon viewing than they are after more traditional viewing in which viewers watch episodes on a weekly basis. In other words, a viewer who watches a series of episodes over a short timeframe will generally have stronger relationships with the characters or personalities in those episodes than a viewer who watches the same episodes over a longer timeframe. This outcome suggests that viewing patterns can influence parasocial relationship formation. Therefore, the results of the current study may have limited applicability outside of the utilized viewing schedule.

Finally, one might wonder whether these results generalize outside of a television setting. Each form of media is defined by its own unique set of features or characteristics, and these features or characteristics are likely to have an influence on the parasocial relationships that occur through that media. For instance, many of the characters and personalities that viewers encounter on prime-time television are seen on a weekly basis for up to an hour at a time. On the other hand, personalities on social media may be seen multiple times per day for very brief periods, sometimes just a few seconds. These types

of differences would almost certainly affect the developmental course of parasocial relationships. This issue would be further complicated by media figures that appear in multiple types of media. For instance, consider media figures that are viewed on both television and social media versus those that are seen on either type of media alone. Parasocial relationships would likely grow faster in the former case than the latter case due to the mutually reinforcing nature of this dual exposure. Trying to untangle and isolate the effects of each type of media in these situations would be difficult, if not outright impossible. In any case, it should be acknowledged that the current results may not apply to media figures that are encountered outside of a television viewing situation.

Future Directions

Future research on parasocial relationships should expand on the current study to provide greater insight into the developmental course of these relationships. For example, researchers should try to replicate these results using a broad sample of participants that are drawn from the general population. It would be particularly interesting to see if the same patterns of results emerge with older adults, who have been exposed to mass media much longer than a typical undergraduate student. Older adults would presumably have a greater amount of experience with parasocial relationships than younger individuals, and it is possible that their past experience could affect the formation of new relationships with media figures. It seems plausible that past relationships would act as an impediment to the formation of new relationships in these situations. Most older adults would have a larger repertoire of past parasocial relationships than younger individuals, and they may not be particularly keen or motivated to add to their collection. Although this idea is speculative, it does echo past findings indicating that people have a similar saturation

point with their social relationships (Baumeister & Leary, 1995). The past experience of older adults could numb them to the negative effects of parasocial breakups as well. In other words, if older adults have experienced a large number of parasocial breakups over a period of many decades, then additional breakups could be an expected consequence of media use that have little psychological impact (something of a “been there, done that” effect). Looking at these types of issues in a broad sample of media users could be quite insightful.

Future research should also account for differences in individuals’ media use behaviors. For instance, modern viewers of television content are able to access this content in several different ways: broadcast television, cable television, streaming platforms, and physical media. As a result, there tends to be a great deal of variability in terms of how often viewers see a television program and its associated characters or personalities. Individuals who watch a broadcast or cable television program might only see a specific character or personality once per week, with the date and time determined by the television channel’s schedule. By comparison, individuals who watch a television program via streaming platforms or physical media have a greater amount of leverage in terms of their viewing behaviors, and they often experience a large amount of exposure to a character or personality over a very short timeframe. As mentioned in the Limitations section, these different viewing patterns appear to have an impact on the strength of people’s parasocial relationships (Tukachinsky & Eyal, 2018), which itself suggests that there may be variations in the formation of these relationships across these viewing situations. Researchers should look into this topic further. In a similar manner, they may also want to study how viewing patterns affect parasocial breakups. Consider marathon

viewing. On one hand, one might expect relationship strength and breakup distress to be prolonged after marathon viewing due to the strong relationships that individuals typically form in these viewing situations. On the other hand, the short window of viewing could mean that relationship strength and breakup distress are unlikely to persist for an extended period of time after the breakup. In other words, someone who watches a season of a television program over a period of a few days may be quicker to move on afterward than someone who watches the same season over several months (i.e., due to the shorter period of time that they spent with the characters). Such possibilities should be investigated.

Researchers may also want to see if the results from the current study generalize to other types of media. Books, film, and radio are each characterized by unique qualities that may affect the developmental course of parasocial relationships within these contexts. However, a more recent type of media that may be particularly relevant for today's society is social media. As mentioned in the introduction, researchers have started to look at the topic of parasocial relationships in a social media setting (Baek et al., 2013; Frederick et al., 2012; Lee, 2013; Lee & Jang, 2013; Stever & Lawson, 2013; Tsiotsou, 2015). In many cases, people use social media to follow celebrities who they are familiar with from other types of media. For instance, a viewer may use social media to follow a specific personality who they regularly see on a television program. In these situations, the brief exposures that occur through social media might facilitate the parasocial relationship formation that otherwise occurs through more traditional exposure to the celebrity. These brief exposures may also provide some kind of stopgap that sustains the relationship if a parasocial breakup has taken place. Of course, many of the people that

media users see on social media are not popular or glamorous celebrities. Instead, they are ordinary people much like the media users themselves. These ordinary people would likely include friends, family members, and coworkers who the media users know in their social lives. However, individuals will almost certainly come across some unfamiliar faces on social media sites as well, and they could potentially form parasocial relationships with these unfamiliar people. It would be interesting to see how the developmental course of these relationships differs from that of relationships with more traditional media figures, especially since the people in question lack the popularity and glamor of those celebrities who most would consider to be highly desirable relationship partners.

Looking past methodological issues, future researchers may want to direct some attention toward the practical implications of these findings. As discussed, parasocial relationships can affect media users' attitudes and behaviors in a number of different areas. Much of the research on the influence of parasocial relationships has focused on the effects of more established, long-term relationships, likely because these relationships were thought to be much stronger than newer relationships and therefore more likely to affect media users. However, the current study has shown that relationship strength can approach peak or maximum levels shortly after one's introduction to a media figure. Given the rapid formation of parasocial relationships, one would expect the influence of these relationships to manifest shortly after one's initial exposure to a media figure. In fact, there is some limited research indicating that relatively new parasocial relationships can have an influence on media users. For instance, Aubrey et al. (2014) exposed teenage girls to a television program about teen pregnancy and motherhood. They found that

stronger relationships with the teen mothers from these programs were related to more favorable attitudes toward teen pregnancy and fewer intentions to avoid teen pregnancy, among other outcomes. Researchers have also found that newly formed parasocial relationships can influence product attitudes (e.g., Dias et al., 2017) and voting intentions (e.g., McGregor, 2018) in a similar manner. Scholars should continue to pursue this line of research in the coming years in order to gain a finer understanding of how this influence develops. In addition, researchers may want to evaluate whether this influence is sustained after a parasocial breakup. Although one might assume that the influence of a media figure ends once contact with that figure is terminated, the fact that parasocial relationships tend to persist following a parasocial breakup suggests that this might not be the case.

Researchers should try to determine whether people internalize the pattern of rapid parasocial relationship formation described in the current study, and what consequences might occur if they do so. It is surprising that few if any researchers have examined people's thoughts and expectations regarding the formation of parasocial relationships, particularly since this information could provide considerable insight into people's reactions toward specific media content. Researchers could approach this topic in a few different ways, such as by assessing self-reported thoughts and expectations about relationship formation or by evaluating reactions toward different types of media figures, including figures with whom it would be easy or difficult to form a relationship. In a related manner, it could be useful to determine which types of individuals would be most likely to internalize this pattern of rapid relationship formation. For instance, one would expect heavier users of media content to be more likely to internalize this pattern

than lighter users, simply because they have been exposed to more of this content. Such outcomes could be problematic. If heavy media users become accustomed to the rapid manner in which parasocial relationships form, then they might become less satisfied with their more complex and slower-forming social relationships and subsequently shun real-life social contacts. Some research has linked heavier media use to feelings of loneliness, with the typical explanation being that lonely individuals are using large amounts of media to compensate for their unmet social needs (Derrick et al., 2009; Nordlund, 1978; Perse & Rubin, 1990; Rubin et al., 1985). However, it would be interesting to find out if skewed social expectations brought about by heavy media use are in fact contributing to loneliness by increasing social isolation. This notion presents an interesting avenue for future research.

Additional research on the consequences of parasocial breakups is also warranted. Past research has shown that people experience distress after a parasocial breakup (e.g., Eyal & Cohen, 2006; Lather & Moyer-Gusé, 2011), and the current results suggest that these negative feelings persist for some time after the breakup. One might wonder how parasocial breakup distress relates to other aspects of mental health and wellbeing. For instance, do individuals also experience increases in depression, anxiety, or stress in the period after a parasocial breakup? The previously mentioned research on imitative suicides suggests that this might be the case (Gould, 2001; Phillips, 1974; Pirkis, 2009), although that research has a rather narrow focus and may not be illustrative of typical breakup situations. One might also wonder if certain people are less susceptible to persistent negative feelings following a parasocial breakup than others. For instance, individuals with a resilient personality and a strong social network might experience few

if any negative effects in the weeks following a parasocial breakup, regardless of the degree of their attachment to the media figure. Even if these individuals experience some negative feelings in the period immediately following the breakup, such feelings might decline relatively quickly. The specific type of media figure could have an influence on these outcomes as well. A quick survey of the literature suggests that people experience greater distress after the death of a beloved celebrity than they do after, for instance, a favorite television character goes off the air (likely due to the factual reality of the celebrity). One can easily imagine more persistent negative feelings in the former situation than the latter, although the results of Radford and Bloch's (2012) study suggest that this may not necessarily be the case. Future researchers should look into this topic further.

One final issue that could be of interest for future research is what happens when people reestablish a parasocial relationship with a media figure from their past. There has been a recent trend in television to revive old programs several years after they have gone off the air (e.g., *The X-Files*, *Will & Grace*, *Gilmore Girls*). These revivals appear to be a low-risk venture for television producers, as they are assured of at least a moderate audience due to the past bonds that people had with the characters on these programs. One sees a similar phenomenon with musical groups that decide to reunite after a period of many years, as well as with the steady stream of sequels and reboots emerging from movie studios. It would be interesting to evaluate how parasocial relationships reestablish themselves in these types of situations, especially since individuals would have endured a parasocial breakup with the figures in question at some point in their past. Would the strength of these relationships quickly reach their former levels, or would people be more

guarded due to the past breakup that they endured? People's personal thoughts and feelings about these reunions would also be of interest. On one hand, people might relish the chance to catch up with an old "media friend" that they have not seen in quite some time. On the other hand, these reunions could trigger some negative or bittersweet feelings if the relationship fails to live up to one's memories. A qualitative study from Sanderson (2009) indicates that most people respond favorably to these reunions, at least within a musical context. However, the existing research on this topic is almost nonexistent and further study is required.

CONCLUSION

The current research has contributed to the sparse literature surrounding the developmental course of parasocial relationships. Results indicate that the strength of these relationships increases quickly after initial exposure to a media figure, and that these relationships remain relatively strong in the weeks following a parasocial breakup. Despite variations in the overall strength of people's parasocial relationships, there is reason to believe that the developmental course of these relationships is fairly consistent across individuals. Hopefully, the current study has provided some insight and guidance for future researchers who decide to study this topic. Although some people might be tempted to dismiss parasocial relationships as trivial concerns, these relationships are prevalent and influential among the general public. For this reason, they are a phenomena worthy of further study.

TABLES

Table 1.

Mean Composite Scores for Pilot Study Questionnaires

	Group 1 (Eps. 2, 3) <i>M (SD)</i>	Group 2 (Eps. 4, 5) <i>M (SD)</i>	Group 3 (Eps. 6, 7) <i>M (SD)</i>	Group 4 (Eps. 8, 9) <i>M (SD)</i>
Parasocial Relationship	3.17 (0.56)	3.11 (0.77)	3.05 (0.60)	3.18 (0.58)
Perceived Similarity	2.12 (0.62)	2.03 (0.76)	2.06 (0.88)	1.91 (0.71)
Social Attraction	3.54 (0.75)	3.61 (0.81)	3.32 (0.79)	3.25 (0.81)
Physical Attraction	3.17 (0.79)	3.22 (0.81)	2.85 (0.98)	3.25 (0.97)
Task Attraction	3.60 (0.66)	3.96 (0.65)	3.74 (0.53)	3.63 (0.70)
Parasocial Interaction	1.68 (0.84)	1.53 (0.64)	1.80 (0.83)	1.43 (0.61)
Identification	3.55 (0.80)	3.56 (0.66)	3.54 (0.48)	3.40 (0.83)
Wishful Identification	2.27 (0.74)	2.47 (0.95)	2.47 (0.74)	2.25 (0.85)
Transportation	2.82 (0.58)	2.77 (0.46)	2.67 (0.64)	2.61 (0.71)

Table 2.

Confidence Intervals for Pairwise Group Differences from Pilot Study

	Groups 1 – 2		Groups 1 – 3		Groups 1 – 4	
	Lower	Upper	Lower	Upper	Lower	Upper
Parasocial Relationship	-0.31	0.44	-0.25	0.50	-0.38	0.37
Perceived Similarity	-0.35	0.54	-0.39	0.51	-0.24	0.65
Social Attraction	-0.55	0.40	-0.25	0.69	-0.19	0.76
Physical Attraction	-0.59	0.48	-0.21	0.85	-0.62	0.45
Task Attraction	-0.74	0.02	-0.52	0.24	-0.41	0.36
Parasocial Interaction	-0.29	0.59	-0.56	0.33	-0.19	0.70
Identification	-0.43	0.42	-0.41	0.44	-0.26	0.58
Wishful Identification	-0.69	0.30	-0.69	0.29	-0.47	0.51
Transportation	-0.32	0.41	-0.21	0.52	-0.15	0.58

Note. Equivalence interval = ± 1.00 . Groups are considered to be equivalent if the confidence interval falls within the equivalence interval.

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Table 2.

Confidence Intervals for Pairwise Group Differences from Pilot Study

	Groups 2 – 3		Groups 2 – 4		Groups 3 – 4	
	Lower	Upper	Lower	Upper	Lower	Upper
Parasocial Relationship	-0.31	0.44	-0.44	0.31	-0.51	0.25
Perceived Similarity	-0.48	0.41	-0.33	0.56	-0.30	0.59
Social Attraction	-0.18	0.77	-0.11	0.83	-0.41	0.54
Physical Attraction	-0.16	0.91	-0.57	0.50	-0.94	0.13
Task Attraction	-0.16	0.60	-0.05	0.72	-0.27	0.50
Parasocial Interaction	-0.71	0.18	-0.34	0.55	-0.07	0.82
Identification	-0.41	0.44	-0.26	0.59	-0.28	0.57
Wishful Identification	-0.50	0.49	-0.28	0.71	-0.27	0.71
Transportation	-0.26	0.47	-0.20	0.53	-0.30	0.42

Note. Equivalence interval = ± 1.00 . Groups are considered to be equivalent if the confidence interval falls within the equivalence interval.

Table 3.

Parasocial Relationship Strength and Parasocial Breakup Distress by Week

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Parasocial Relationship	2.75 (0.72)	2.98 (0.73)	3.15 (0.85)	3.27 (0.87)	3.20 (0.94)	3.10 (0.95)
Parasocial Breakup	NA	NA	NA	2.12 (0.65)	2.04 (0.69)	1.92 (0.71)

Table 4.

Correlations of Between-Subjects Variables (Week 1) and Parasocial Relationship Strength (Weeks 1 to 4)

	<i>M (SD)</i>	Correlations			
		Week 1 PSR	Week 2 PSR	Week 3 PSR	Week 4 PSR
Perceived Similarity	2.12 (0.80)	.60	.52	.51	.45
Social Attraction	3.43 (0.78)	.63	.58	.56	.56
Physical Attraction	3.08 (1.00)	.49	.46	.40	.37
Task Attraction	3.55 (0.84)	.44	.46	.36	.39
Parasocial Interaction	1.32 (0.48)	.38	.36	.34	.28
Identification	3.37 (0.81)	.71	.70	.61	.60
Wishful Identification	2.46 (0.85)	.66	.59	.56	.51
Transportation	2.60 (0.58)	.71	.68	.56	.53

Note. PSR = Parasocial Relationship. All correlations are significant at the $p < .05$ level.

Table 5.

Correlations of Between-Subjects Variables (Week 4) and Parasocial Relationship Strength and Parasocial Breakup Distress (Weeks 4 to 6)

	<i>M (SD)</i>	Correlations					
		Week 4		Week 5		Week 6	
		PSR	PSB	PSR	PSB	PSR	PSB
Perceived Similarity	2.45 (0.91)	.71	.55	.68	.53	.63	.39
Social Attraction	3.71 (0.80)	.71	.45	.69	.35	.65	.30
Physical Attraction	3.36 (1.05)	.50	.36	.54	.36	.49	.23
Task Attraction	3.84 (0.74)	.51	.38	.49	.29	.44	.17
Parasocial Interaction	1.56 (0.84)	.48	.52	.47	.50	.40	.44
Identification	3.63 (0.86)	.81	.61	.78	.53	.74	.41
Wishful Identification	2.68 (0.94)	.67	.49	.66	.47	.60	.36
Transportation	2.96 (0.80)	.78	.75	.77	.64	.76	.57

Note. PSR = Parasocial Relationship. PSB = Parasocial Breakup. All correlations are significant at the $p < .05$ level except for the correlation between task attraction and parasocial breakup distress in week 6 ($p = .127$).

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APPENDIX A**Informed Consent Form (Pilot Study)**

Principal Investigator: A. Luke MacNeill
e-mail: luke.macneill@unb.ca

Supervisor: Dr. Enrico DiTommaso, Professor, UNB Saint John
e-mail: rico@unb.ca telephone: 506-648-5636

You are invited to participate in a study on relationships with television characters. The purpose of this study is to evaluate the development of emotional bonds with television characters. You will be asked to watch two episodes of a television series. The television series does not contain any graphic violence or nudity, nor does it contain strong profanity. However, it may have some morbid content (e.g., dead bodies in a morgue) and some mild profanity. Afterward, you will fill out several questionnaires that will assess your feelings toward the main character from the television series. The entire study should take approximately 1 hour and 45 minutes to complete: about 1 hour and 30 minutes to view the episodes, and an additional 10 to 20 minutes to fill out the questionnaires. More detailed instructions will be provided once the study has begun.

Participation in this study is entirely voluntary. You may withdraw your participation without penalty at any time. In addition, you may decline to answer specific questions during testing. For your participation, you will receive two bonus points for a qualifying undergraduate psychology course. If you withdraw after testing has begun, you will still receive your bonus points. Participation in this study is anonymous – your name will not be attached to the information that you provide. This consent form will be stored in a separate location from the data collected for the study. Other than the researchers in this study, no one will have access to your information. In addition, the collected data will be password-protected and stored in a locked room in the Department of Psychology for approximately five years, at which point it will be destroyed.

This project has been reviewed by the University of New Brunswick – Saint John's Research Ethics Board (*REB File # 033-2017*). If you have any questions or concerns about this study, or you are interested in obtaining the final results of the study, please contact one of the following researchers at the University of New Brunswick: Luke MacNeill (e-mail: luke.macneill@unb.ca) or Dr. Enrico DiTommaso (e-mail: rico@unb.ca; telephone: 506-648-5636). If you wish to communicate with someone who is not directly involved in the research, please contact Dr. Lisa Best, Chair, Research Ethics Board, University of New Brunswick – Saint John (e-mail: reb@unb.ca; telephone: 506-648-5908).

I agree to participate. My signature indicates that I, _____, have read and understood the above information and wish to voluntarily participate. I am also satisfied that the researchers have answered my questions.

Signature: _____ Date: _____

Student Number: _____ E-mail: _____

Please check this box if you would like to receive a summary of the study results via e-mail.

APPENDIX B**Demographic Questionnaire (Pilot Study)**

Participant Number: _____

Date: _____

- What is your age? _____

- What is your gender? Male
 Female
 Other _____

- Are you currently in a romantic relationship? Yes
 No

- If you answered yes, how long have you been in this relationship? _____

- What is your race or ethnicity? (check all that apply) White / Caucasian
 Black / African Canadian
 Indigenous / First Nations
 Hispanic / Latino
 Asian / Pacific Islander
 Middle Eastern
 Other _____

- What is your first language?
 - English
 - French
 - Mandarin
 - Other _____

- What is your second language?
 - English
 - French
 - Mandarin
 - Other _____

- On average, how many hours of television do you watch per day? _____

- Before participating in this study, how familiar were you with the television show *Pushing Daisies*?
 - I had seen many episodes
 - I had seen one or two episodes
 - I had never seen an episode

- Before participating in this study, how familiar were you with the actor who portrayed Ned?
 - I was very familiar with the actor
 - I was somewhat familiar with the actor
 - I was not familiar with the actor

APPENDIX C

Parasocial Relationship Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree				Strongly Agree
1. I think Ned is like an old friend.	1	2	3	4	5
2. Ned makes me feel as comfortable as when I am with friends.	1	2	3	4	5
3. I think about Ned even when he is not on TV.	1	2	3	4	5
4. I miss Ned if I do not see him on TV for a long time.	1	2	3	4	5
5. I feel that I know Ned very well.	1	2	3	4	5
6. I try to imagine what Ned thinks about.	1	2	3	4	5
7. The TV coverage shows me what Ned is like.	1	2	3	4	5
8. I find Ned to be likeable.	1	2	3	4	5
9. I mostly agree with the actions of Ned.	1	2	3	4	5
10. If there were a story about Ned in a newspaper or on TV, I would read or watch it.	1	2	3	4	5
11. I would like to meet Ned in person.	1	2	3	4	5
12. I admire Ned for his achievements.	1	2	3	4	5
13. I look forward to watching Ned on TV.	1	2	3	4	5

APPENDIX D

Perceived Similarity Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree					Strongly Agree
1. Ned reminds me of myself.	1	2	3	4	5	
2. I have the same qualities as Ned.	1	2	3	4	5	
3. I seem to have the same beliefs or attitudes as Ned.	1	2	3	4	5	
4. I have the same problems as Ned.	1	2	3	4	5	
5. I can imagine myself as Ned.	1	2	3	4	5	

APPENDIX E

Attraction Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree					Strongly Agree
1. I think Ned could be a friend of mine.	1	2	3	4	5	
2. It would be difficult to meet and talk with Ned. (R)	1	2	3	4	5	
3. Ned just wouldn't fit into my circle of friends. (R)	1	2	3	4	5	
4. Ned and I could never establish a personal friendship with each other. (R)	1	2	3	4	5	
5. I would like to have a friendly chat with Ned.	1	2	3	4	5	
6. I think Ned is quite handsome.	1	2	3	4	5	
7. Ned is very sexy looking.	1	2	3	4	5	
8. I find Ned very attractive physically.	1	2	3	4	5	
9. I don't like the way Ned looks. (R)	1	2	3	4	5	
10. Ned is somewhat ugly. (R)	1	2	3	4	5	
11. Ned is a typical goof-off when assigned a job to do. (R)	1	2	3	4	5	
12. I have confidence in Ned's ability to get the job done.	1	2	3	4	5	
13. If I wanted to get things done, I could probably depend on Ned.	1	2	3	4	5	

14. I couldn't get anything accomplished with Ned. (R)	1	2	3	4	5
15. Ned would be a poor problem solver. (R)	1	2	3	4	5

APPENDIX F

Parasocial Interaction Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree					Strongly Agree
1. While watching the show, I had the feeling that Ned was aware of me.	1	2	3	4	5	
2. While watching the show, I had the feeling that Ned knew I was there.	1	2	3	4	5	
3. While watching the show, I had the feeling that Ned knew I was aware of him.	1	2	3	4	5	
4. While watching the show, I had the feeling that Ned knew I paid attention to him.	1	2	3	4	5	
5. While watching the show, I had the feeling that Ned knew that I reacted to him.	1	2	3	4	5	
6. While watching the show, I had the feeling that Ned reacted to what I said or did.	1	2	3	4	5	

APPENDIX G

Identification Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree				Strongly Agree
1. I was able to understand the events in the show in a manner similar to that in which Ned understood them.	1	2	3	4	5
2. I think I have a good understanding of Ned.	1	2	3	4	5
3. I tend to understand the reasons why Ned does what he does.	1	2	3	4	5
4. While viewing the show, I could feel the emotions Ned portrayed.	1	2	3	4	5
5. During viewing, I felt I could really get inside Ned's head.	1	2	3	4	5
6. At key moments in the show, I felt I knew exactly what Ned was going through.	1	2	3	4	5
7. While viewing the show, I wanted Ned to succeed in achieving his goals.	1	2	3	4	5
8. When Ned succeeded I felt joy, but when he failed, I was sad.	1	2	3	4	5

APPENDIX H

Wishful Identification Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree					Strongly Agree
1. I'd like to do the kinds of things Ned does on the show.	1	2	3	4	5	
2. Ned is the sort of person I want to be like myself.	1	2	3	4	5	
3. Sometimes I wish I could be more like Ned.	1	2	3	4	5	
4. Ned is someone I would like to emulate.	1	2	3	4	5	
5. I would NEVER want to act the way Ned does on the show. (R)	1	2	3	4	5	

APPENDIX I

Transportation Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree				Strongly Agree
1. While watching the show, I was aware of activity going on in the room around me. (R)	1	2	3	4	5
2. I could picture myself in the scenes that I watched.	1	2	3	4	5
3. I was mentally involved in the show while watching it.	1	2	3	4	5
4. After finishing the show, I found it easy to put it out of my mind. (R)	1	2	3	4	5
5. I wanted to learn how the show ended.	1	2	3	4	5
6. The show affected me emotionally.	1	2	3	4	5
7. I found myself thinking of ways the show could have turned out differently.	1	2	3	4	5
8. I found my mind wandering while watching the show. (R)	1	2	3	4	5
9. The events in the show are relevant to my everyday life.	1	2	3	4	5
10. The events in the show have changed my life.	1	2	3	4	5

APPENDIX J**Informed Consent Form (Main Study)**

Principal Investigator: A. Luke MacNeill
e-mail: luke.macneill@unb.ca

Supervisor: Dr. Enrico DiTommaso, Professor, UNB Saint John
e-mail: rico@unb.ca telephone: 506-648-5636

You are invited to participate in a study on relationships with television characters. The purpose of this study is to determine (a) how relationships with television characters develop, and (b) how people react when these relationships come to an end. You will be asked to fill out an initial series of questionnaires concerning your personality and social relationships. This should take approximately 5 to 10 minutes. Afterward, you will be given several questionnaires and a television show on DVD or Blu-ray, all of which you will take home. Over the first four weeks of the study, you will be asked to watch two episodes of the television series per week. You will also fill out a short questionnaire each week. It should take approximately 80 to 90 minutes per week to watch the television episodes and an additional 10 to 20 minutes to complete the questionnaire. For the final two weeks of the study, you will be asked to fill out a short questionnaire each week without watching any episodes. Once again, it should take approximately 10 to 20 minutes to complete each questionnaire. At the conclusion of the study, you will return the questionnaires and television show to the researcher. More detailed instructions will be provided once the study has begun.

Participation in this study is entirely voluntary. You may withdraw your participation without penalty at any time. In addition, you may decline to answer specific questions during testing. For your participation, you will receive three bonus points for a qualifying undergraduate psychology course. Upon completion of the study, you will receive a monetary incentive of \$20. If you withdraw after testing has begun, you will still receive your bonus points but you will not receive the monetary incentive. Participation in this study is anonymous – your name will not be attached to the information that you provide. This consent form will be stored in a separate location from the data collected for the study. Other than the researchers in this study, no one will have access to your information. In addition, the collected data will be password-protected and stored in a locked room in the Department of Psychology for approximately five years, at which point it will be destroyed.

This project has been reviewed by the University of New Brunswick – Saint John's Research Ethics Board (*REB File # 019-2018*). If you have any questions or concerns about this study, or you are interested in obtaining the final results of the study, please contact one of the following researchers at the University of New Brunswick: Luke MacNeill (e-mail: luke.macneill@unb.ca) or Dr. Enrico DiTommaso (e-mail:

rico@unb.ca; telephone: 506-648-5636). If you wish to communicate with someone who is not directly involved in the research, please contact Dr. Lisa Best or Dr. Beth Keyes, Chairs, Research Ethics Board, University of New Brunswick – Saint John (e-mail: reb@unb.ca; telephone: 506-648-5908).

I agree to participate. My signature indicates that I, _____, have read and understood the above information and wish to voluntarily participate. I am also satisfied that the researchers have answered my questions.

Signature: _____ Date: _____

Student Number: _____ E-mail: _____

Please check this box if you would like to receive a summary of the study results via e-mail.

APPENDIX K

Demographic Questionnaire (Main Study)

Participant Number: _____

Date: _____

- What is your age? _____

- What is your gender? Male
 Female
 Other _____

- Are you currently in a romantic relationship? Yes
 No

- If you answered yes, how long have you been in this relationship? _____

- What is your race or ethnicity? (check all that apply) White / Caucasian
 Black / African Canadian
 Indigenous / First Nations
 Hispanic / Latino
 Asian / Pacific Islander
 Middle Eastern
 Other _____

- What is your first language?
 - English
 - French
 - Mandarin
 - Other _____

- What is your second language?
 - English
 - French
 - Mandarin
 - Other _____

- Approximately how many hours of television programming do you watch on a **typical weekday** (Mon-Fri), across all electronic devices (television, computer, tablet)?
Your answer should include traditional television programming, as well as television programming accessed through streaming services such as Netflix.

_____ hours

- Approximately how many hours of television programming do you watch on a **typical weekend day** (Sat, Sun), across all electronic devices (television, computer, tablet)?
Your answer should include traditional television programming, as well as television programming accessed through streaming services such as Netflix.

_____ hours

APPENDIX L

Parasocial Breakup Scale

Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	Strongly Disagree				Strongly Agree
1. Now that I am unable to watch Ned, I feel more lonely.	1	2	3	4	5
2. Now that I am unable to watch Ned, I feel angry.	1	2	3	4	5
3. Now that I am unable to watch Ned, I plan to watch other programs with the same actor.	1	2	3	4	5
4. Now that I am unable to watch Ned, I am less excited about watching TV.	1	2	3	4	5
5. Now that I am unable to watch Ned, I tend to think of him often.	1	2	3	4	5
6. Now that I am unable to watch Ned, I feel sad.	1	2	3	4	5
7. Now that I am unable to watch Ned, I don't miss him as much as I thought I would. (R)	1	2	3	4	5
8. Now that I am unable to watch Ned, I feel like I lost a close friend.	1	2	3	4	5
9. Now that I am unable to watch Ned, I found a different TV personality to like. (R)	1	2	3	4	5
10. Now that I am unable to watch Ned, I feel a void in my life.	1	2	3	4	5
11. Now that I am unable to watch Ned, I will look for information about him in other places (e.g., Internet).	1	2	3	4	5
12. Now that I am unable to watch Ned, I feel disappointed.	1	2	3	4	5

APPENDIX M**Attention Test**

The following questions ask about the content of the episodes that you have seen. Please answer these questions to the best of your ability.

Which of the following characters is Olive (the waitress) in love with?

- Ned
- Chuck
- Emerson Cod

Which of the following characters is a private investigator with his/her own detective agency?

- Ned
- Chuck
- Emerson Cod

Chuck's aunts, Lily and Vivian, once had a successful career doing what?

- They were dog breeders
- They were synchronized swimmers
- They were candy makers

APPENDIX N**Poststudy Questionnaire**

Before participating in this study, how familiar were you with the actor who portrayed Ned?

- I was very familiar with the actor (saw him in many movies, TV shows, etc.)
- I was somewhat familiar with the actor (saw him in a few movies, TV shows, etc.)
- I was unfamiliar with the actor (cannot recall seeing him in any movies, TV shows, etc.)

During the study, did you tend to watch the episodes alone or with other people?

- Always alone
- Mostly alone
- Sometimes alone, sometimes with others
- Mostly with others
- Always with others

During the study, did you tend to watch each week's episodes together (back-to-back) or at different times (for instance, on different days)?

- Always together
- Mostly together
- Sometimes together, sometimes at different times
- Mostly at different times
- Always at different times

How well did you follow the study's instructions?

- I always followed the instructions perfectly
- I usually followed the instructions perfectly
- Sometimes I followed the instructions perfectly and sometimes I did not
- I rarely followed the instructions perfectly
- I never followed the instructions perfectly

If you did not follow the instructions perfectly, please specify which part of the instructions you did not follow. There is no penalty, so please be honest.

APPENDIX O**Task Questionnaires****Weeks 1 to 4:**

Which day (or days) did you watch the *Pushing Daisies* episodes this week? Circle the day (or days).

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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Weeks 5 and 6:

Which day did you fill out the questionnaires this week? Circle the day.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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APPENDIX P

Participant Instructions (DVD)

Week 1 Checklist

Dates: _____

Watch Episode 2: Dummy.

(disc 1, chapters 8-14)

Watch Episode 3: The Fun in Funeral.

(disc 1, chapters 15-21)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.
- **Do not** watch Episode 1: Pie-lette.

Complete Week 1 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 3.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 2 Checklist

Dates: _____

Watch Episode 4: Pigeon.
(disc 2, chapters 1-8)

Watch Episode 5: Girth.
(disc 2, chapters 9-15)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 2 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 5.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 3 Checklist

Dates: _____

Watch Episode 6: Bitches.
(disc 2, chapters 16-22)

Watch Episode 7: Smell of Success.
(disc 3, chapters 1-7)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 3 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 7.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 4 Checklist

Dates: _____

Watch Episode 8: Bitter Sweets.
(disc 3, chapters 8-14)

Watch Episode 9: Corpsicle.
(disc 3, chapters 15-21)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 4 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 9.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 5 Checklist

Dates: _____

Do not watch any *Pushing Daisies* episodes.

- Do not watch any previously-viewed episodes.
- Do not watch any episodes that are not included in the study.

Complete Week 5 Questionnaire.

- Fill out questionnaire about one week after the previous (Week 4) questionnaire.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 6 Checklist

Dates: _____

Do not watch any *Pushing Daisies* episodes.

- Do not watch any previously-viewed episodes.
- Do not watch any episodes that are not included in the study.

Complete Week 6 Questionnaire.

- Fill out questionnaire about one week after the previous (Week 5) questionnaire.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

APPENDIX Q

Participant Instructions (Blu-Ray)

Week 1 Checklist

Dates: _____

Watch Episode 2: Dummy.

(disc 1, chapters 8-15)

Watch Episode 3: The Fun in Funeral.

(disc 1, chapters 16-23)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.
- **Do not** watch Episode 1: Pie-lette.

Complete Week 1 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 3.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 2 Checklist

Dates: _____

Watch Episode 4: Pigeon.
(disc 2, chapters 1-8)

Watch Episode 5: Girth.
(disc 2, chapters 9-16)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 2 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 5.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 3 Checklist

Dates: _____

Watch Episode 6: Bitches.
(disc 2, chapters 17-24)

Watch Episode 7: Smell of Success.
(disc 3, chapters 1-8)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 3 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 7.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 4 Checklist

Dates: _____

Watch Episode 8: Bitter Sweets.
(disc 3, chapters 9-16)

Watch Episode 9: Corpsicle.
(disc 3, chapters 17-24)

- Watch the episodes in a quiet place with few distractions.
- You can watch the episodes on separate days if you want.

Complete Week 4 Questionnaire.

- Fill out questionnaire **immediately** after viewing Episode 9.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 5 Checklist

Dates: _____

Do not watch any *Pushing Daisies* episodes.

- Do not watch any previously-viewed episodes.
- Do not watch any episodes that are not included in the study.

Complete Week 5 Questionnaire.

- Fill out questionnaire about one week after the previous (Week 4) questionnaire.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

Week 6 Checklist

Dates: _____

Do not watch any *Pushing Daisies* episodes.

- Do not watch any previously-viewed episodes.
- Do not watch any episodes that are not included in the study.

Complete Week 6 Questionnaire.

- Fill out questionnaire about one week after the previous (Week 5) questionnaire.
- Fill out questionnaire in a quiet place with few distractions.

E-mail luke.macneill@unb.ca when finished.

APPENDIX R**Debriefing Document**

Thank you for your participation in this study. The purpose of this study is to determine (a) how relationships with television characters develop, and (b) how people react when these relationships come to an end. If you wish to learn more about the emotional bonds that people form with figures from the media, please see the following readings:

Horton, D., & Wohl, R.R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry*, *19*(3), 215-229.
doi: 10.1080/00332747.1956.11023049

Brown, W.J. (2015). Examining four processes of audience involvement with media personae: Transportation, parasocial interaction, identification, and worship. *Communication Theory*, *25*(3), 259-283. doi: 10.1111/comt.12053

Schiappa, E., Allen, M., & Gregg, P.B. (2007). Parasocial relationships and television: A meta-analysis of the effects. In R.W. Preiss, B.M. Gayle, N. Burrell, M. Allen, & J. Bryant (Eds.), *Mass media effects research: Advances through meta-analysis* (pp. 301-314). Mahwah: Lawrence Erlbaum Associates.

If you have any questions or concerns about this study, or you are interested in obtaining the final results of the study, please contact one of the following researchers at the University of New Brunswick: Luke MacNeill (e-mail: luke.macneill@unb.ca) or Dr. Enrico DiTommaso (e-mail: rico@unb.ca; telephone: 506-648-5636). If you wish to communicate with someone who is not directly involved in the research, please contact Dr. Lisa Best or Dr. Beth Keyes, Chairs, Research Ethics Board, University of New Brunswick – Saint John (e-mail: reb@unb.ca; telephone: 506-648-5908). If you feel that your participation in this study negatively affected your physical or mental health, please contact one of the researchers and set up an appointment with counselling services through the following website:

<http://www.unb.ca/saintjohn/studentservices/health/counselling>

Please keep a copy of this form for future reference. Once again, thank you for your participation in this study.

CURRICULUM VITAE

A. Luke MacNeill

Universities attended:

- 2014 – 2020 Doctor of Philosophy, Experimental Psychology,
University of New Brunswick
- 2011 – 2014 Master of Arts, Experimental Psychology,
University of New Brunswick
- 2006 – 2011 Bachelor of Arts, Psychology (First Class Honours),
University of New Brunswick

Publications:

- MacNeill, A.L., & Mayich, D.J.** (2020). A physiological assessment of patient pain during surgery with wide-awake local anesthesia. *Journal of Orthopaedics*. Advance online publication.
- MacNeill, A.L., Wright, J., & Mayich, D.J.** (2019). Qualitative aspects of patient pain during surgery with wide-awake local anesthesia. *Journal of Orthopaedics*, *16*(1), 105-108. <https://doi.org/10.1016/j.jor.2018.12.015>
- Wright, J., **MacNeill, A.L., & Mayich, D.J.** (2019). A prospective comparison of wide-awake local anesthesia and general anesthesia for forefoot surgery. *Foot and Ankle Surgery*, *25*(2), 211-214. <https://doi.org/10.1016/j.fas.2017.10.015>
- MacNeill, A.L.** (2018). The patient experience during wide-awake surgery on the extremities. *Psynopsis*, *40*(3), 11. <https://www.cpa.ca/psynopsis>
- MacNeill, A.L., & Mayich, D.J.** (2017). Wide-awake foot and ankle surgery: A retrospective analysis. *Foot and Ankle Surgery*, *23*(4), 307-310. <https://doi.org/10.1016/j.fas.2016.09.004>
- MacNeill, A.L., & Bradley, M.T.** (2016). Temperature effects on polygraph detection of concealed information. *Psychophysiology*, *53*(2), 143-150. <https://doi.org/10.1111/psyp.12557>
- MacNeill, A.L., Bradley, M.T., Cullen, M.C., & Arsenault, A.M.** (2014). Cognitive and emotional reactions to questions in the Comparison Question Test. *Perceptual and Motor Skills*, *118*(2), 429-445. <https://doi.org/10.2466/22.03.PMS.118k20w9>

Bradley, M.T., Brand, A., & **MacNeill, A.L.** (2012). Interpreting effect size estimates through graphic analysis of raw data distributions. In P. Cox, B. Plimmer, & P. Rodgers (Eds.), *Diagrammatic Representation and Inference: Proceedings of the 7th International Conference, Diagrams 2012* (pp. 117-123). Springer. https://doi.org/10.1007/978-3-642-31223-6_15

Fanjoy, L.P., **MacNeill, A.L.**, & Best, L.A. (2012). The use of diagrams in Science: An examination of trends in articles published in Science between 1880 and 2010. In P. Cox, B. Plimmer, & P. Rodgers (Eds.), *Diagrammatic Representation and Inference: Proceedings of the 7th International Conference, Diagrams 2012* (pp. 303-305). Springer. https://doi.org/10.1007/978-3-642-31223-6_33

Conference Presentations:

MacNeill, A.L., & DiTommaso, E. (2019, May). *Social attraction and perceived similarity predict parasocial relationships with a novel television character*. Poster presentation at Canadian Psychological Association 2019 Annual Convention, Halifax, NS.

MacNeill, A.L., Wright, J., & Mayich, D.J. (2019, May). *Pain and anxiety during wide-awake surgery on the extremities: A review of three studies*. Symposium presentation at Canadian Psychological Association 2019 Annual Convention, Halifax, NS.

MacNeill, A.L., Wright, J., & Mayich, D.J. (2018, June). *Qualitative aspects of patient pain during surgery with wide-awake local anesthesia*. Poster presentation at 2018 International Congress of Applied Psychology, Montreal, QC.

MacNeill, L.P., **MacNeill, A.L.**, Golding, M., Cull, A., Mayich, D.J., DiTommaso, E. (2018, June). *Coping strategies and mental health outcomes in patients waiting for orthopaedic foot and ankle care*. Poster presentation at 2018 International Congress of Applied Psychology, Montreal, QC.

MacNeill, A.L., Wright, J., & Mayich, D.J. (2017, October). *The use of wide-awake local anesthesia for pre-emptive analgesia*. Keynote presentation at 2017 Atlantic Orthopaedic Foot and Ankle Surgery Conference, Charlottetown, PEI.

MacNeill, A.L., & Mayich, D.J. (2017, June). *A physiological assessment of patient pain during wide-awake surgery*. Poster presentation at Canadian Psychological Association 2017 Annual Convention, Toronto, ON.

MacNeill, A.L., Wright, J., & Mayich, D.J. (2016, June). *Pain and anxiety during wide-awake surgery*. Poster presentation at Canadian Psychological Association 2016 Annual Convention, Victoria, BC.

- MacNeill, A.L., & DiTommaso, E.** (2016, June). *The parasocial contact hypothesis: A test of negative parasocial contact*. Poster presentation at Canadian Psychological Association 2016 Annual Convention, Victoria, BC.
- MacNeill, A.L., Wright, J., & Mayich, D.J.** (2016, April). *Patient assessments of wide-awake surgery*. Presentation at 2016 UNB Graduate Research Conference, Fredericton, NB.
- MacNeill, A.L., & DiTommaso, E.** (2016, April). *Parasocial contact with positive and negative portrayals of minority television characters*. Presentation at 2016 UNB Graduate Research Conference, Fredericton, NB.
- MacNeill, A.L., Mayich, D.J., & Wright, J.** (2015, October). *Wide-awake foot and ankle surgery: A research review*. Keynote presentation at 2015 Atlantic Orthopaedic Foot and Ankle Surgery Conference, Saint John, NB.
- MacNeill, A.L., & Mayich, D.J.** (2015, July). *Wide-awake foot and ankle surgery: A retrospective analysis*. Poster presentation at American Orthopaedic Foot and Ankle Society Annual Meeting 2015, Long Beach, CA.
- Wright, J., MacNeill, A.L., & Mayich, D.J.** (2015, July). *Wide-awake foot and ankle surgery: A prospective comparison with general anesthesia*. Poster presentation at American Orthopaedic Foot and Ankle Society Annual Meeting 2015, Long Beach, CA.
- MacNeill, A.L., & Bradley, M.T.** (2015, June). *Mapping attachment: Using a Meta-Analysis Profile (MAP) to visualize sex differences in romantic attachment*. Poster presentation at Canadian Psychological Association 2015 Annual Convention, Ottawa, ON.
- MacNeill, A.L., & Bradley, M.T.** (2015, April). *The Meta-Analysis Profile (MAP)*. Poster presentation at 2015 UNB Graduate Research Conference, Fredericton, NB.
- MacNeill, A.L., & Bradley, M.T.** (2014, June). *Temperature effects on polygraph responding*. Poster presentation at Canadian Psychological Association 2014 Annual Convention, Vancouver, BC.
- Bradley, M.T., Brand, A., & MacNeill, A.L.** (2014, June). *The Neyman and Pearson versus Fisher controversy is informative of current practice in inferential statistics*. Poster presentation at Canadian Psychological Association 2014 Annual Convention, Vancouver, BC.

- Bradley, M.T., Brand, A., & **MacNeill, A.L.** (2013, June). *Effect size reporting reveals the weakness Fisher believed inherent in the Neyman-Pearson approach to statistical analysis*. Poster presentation at Canadian Psychological Association 2013 Annual Convention, Quebec City, QC.
- Fanjoy, L.P., **MacNeill, A.L.**, & Best, L.A. (2013, April). *Exercise habits of female university undergraduates*. Poster presentation at 2013 UNB Graduate Research Conference, Fredericton, NB.
- Fanjoy, L.P., **MacNeill, A.L.**, & Best, L.A. (2013, March). *Exercise habits of female university undergraduates*. Poster presentation at Interprofessional Health Research Day 2013 (iHR), Saint John, NB..
- MacNeill, A.L.**, & Fanjoy, L.P. (2012, July). *The Serial-Colour (SECO) Profile*. Graduate symposium presentation at DIAGRAMS 2012, Canterbury, UK.
- Fanjoy, L.P., **MacNeill, A.L.**, & Best, L.A. (2012, July). *The use of diagrams in Science: An examination of trends in articles published in Science between 1880 and 2010*. Poster presentation at DIAGRAMS 2012, Canterbury, UK.
- Bradley, M.T., Brand, A., & **MacNeill, A.L.** (2012, July). *Examination of higher moments of raw data distributions: Variances, skewness and kurtosis*. Presentation at DIAGRAMS 2012, Canterbury, UK.
- Bradley, M.T., Brand, A., & **MacNeill, A.L.** (2012, June). *Examination of higher moments of raw data distributions: Variances, skewness and kurtosis*. Symposium presentation at Canadian Psychological Association 2012 Annual Convention, Halifax, NS.
- MacNeill, A.L.**, & Fanjoy, L.P. (2012, April). *The Serial-Colour (SECO) Profile*. Poster presentation at 2012 UNB Graduate Research Conference, Fredericton, NB.