INSECURE ADULT ATTACHMENT PREDICTS ENGAGEMENT WITH NARRATIVE FICTION

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Abstract

Individual differences in attachment orientations predict how deeply involved people become in social relationships, but do they also influence the extent to which they become invested in fictional social worlds? In Studies 1–3, we found that an interaction between attachment anxiety and avoidance predicted becoming more absorbed into a story at both the trait and state level. To extend these findings and to gain a more nuanced understanding of the relation between attachment and narrative consumption, we next turned our attention to examine engagement with specific characters. In Study 4, we found that attachment anxiety predicted a greater tendency towards parasocial interaction and forming parasocial relationships with favourite TV characters. In contrast, attachment avoidance predicted the tendency to identify with characters, in addition to greater parasocial interaction with them. Study 5 expanded on Study 4, demonstrating that viewers higher in attachment anxiety perceive their favourite characters as being more sociotropic, whereas viewers higher in avoidance perceive their favourite characters as higher in autonomy. Finally, in Study 6, we manipulated emotional intimacy and found that attachment and parasocial relationships were positively related after participants were given an opportunity to experience emotional closeness with another person, whereas the two were unrelated when this opportunity was not provided. Overall, our findings suggest that attachment insecurity predicts a greater tendency to engage with narrative fiction, albeit through different processes. Individuals who are high in both attachment anxiety and avoidance tend to become transported into the story world, but do not report strong engagement with specific characters. Conversely, those high in anxiety form strong friendship-like bonds with fictional characters who prioritize relationships,

while individuals high in avoidance engage with fictional agents by identifying with characters who prioritize autonomy.

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Chapter 1

Numerous studies have shown that early childhood attachment can influence adult relationships with others, including romantic partners, friends, siblings, and even total strangers (e.g., Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013; Roisman, Collins, Sroufe, & Egeland, 2005; Simpson, Collins, & Salvatore, 2011). Specifically, early insecurities about caregiver availability and affection can influence adult levels of attachment anxiety (hypervigilance and preoccupation with relationships) and attachment avoidance (suppression and avoidance of relationship-related content and needs). Both attachment anxiety and avoidance affect the nature and quality of adult relationships. We know that attachment patterns influence how people interact with others in the real world (e.g., romantic partners and family members), but does the effect of attachment style extend to how people interact with fictional others? The following program of study explores whether the two attachment orientations—attachment anxiety and attachment avoidance—differentially predict the way in which individuals become involved with fictional narratives and characters.

Adult Attachment

Adult attachment theory proposes that early caregiver-infant interactions lead to individual differences in attachment orientations, which in turn shape how people experience close relationships as adults (Mikulincer & Shaver, 2007). Specifically, Bowlby (1982) argued that upon experiencing threat, infants attempt to alleviate their distress by relying on a set of inborn attachment behaviours (i.e., the attachment system) that motivate them to seek and maintain proximity to caregivers (i.e., attachment figures). The attachment system can therefore be viewed as an inborn affect-regulation device that

can help relieve distress. Successful proximity-seeking attempts result in a sense of attachment security. Securely-attached individuals believe that they are capable of reducing their distress through the help of supportive others. Conversely, if bids for proximity are frequently unsuccessful, the infant develops a sense of attachment insecurity. In this case, the function of the attachment system as an affect-regulation device is disrupted. In fact, the activation of the attachment system in this context compounds the distress elicited by the presence of threat, with failed attempts to gain caregiver support leading to frustration and pain. Consequently, infants develop alternative affect regulation strategies that can be represented by two conceptual dimensions: attachment anxiety and attachment avoidance (Brennan et al., 1998).

High attachment anxiety is characterized by a chronic hyperactivation of the attachment system in an attempt to gain reliable attention and protection from others, which may provide a temporary sense of relief and security (Shaver & Mikulincer, 2007). Consequently, individuals who are higher in attachment anxiety have a high need for emotional closeness, reassurance, and comfort (Davis, Shaver, & Vernon, 2004), with these individuals seeking to minimize emotional and physical distance from relationship partners (Mikulincer & Shaver, 2003). Individuals high in attachment anxiety are hypervigilant to attachment-related content such as intimacy and relationship partners (e.g., Edelstein & Gillath, 2008), tend to be preoccupied with relationships, and seek others for help with affect regulation (Mikulincer & Florian, 1998). In contrast, high attachment avoidance is characterized by a chronic tendency to deactivate the attachment system through engagement of various defensive strategies that emphasize one's self-reliance, self-efficacy, and personal strength (Shaver & Mikulincer, 2007). Such

strategies include blocking or inhibiting any emotional states that are associated with feelings of vulnerability or threat, diverting attention away from attachment-related information (Edelstein & Gillath, 2008), and suppressing thoughts and memories related to relationships (Fraley, Davis, & Shaver, 1998).

High levels of attachment anxiety and/or avoidance reflect insecure attachment. Chronic reliance on hyperactivating or deactivating coping strategies leads to dysfunctional emotional, cognitive, and behavioural patterns that are detrimental to relationships and can lead to interpersonal difficulties (e.g., Vicary & Fraley, 2007; Mikulincer & Shaver, 2012). For example, attachment anxiety is associated with sensitivity to relationship-threatening cues and frequent worrying about relationship stability (Campbell, Simpson, Boldry, & Kashy, 2005). This increases the frequency and intensity with which anxiously-attached individuals experience negative emotions and intensify their support-seeking efforts, which may have the ironic effect of frustrating their partners and push their partners away (Feeney & Collins, 2003). In fact, the demanding and over-involved relationship style of anxiously-attached individuals often leads to relationship dysfunction (Henderson et al., 2005). High attachment avoidance, the other form of attachment insecurity, is associated with expectations of relationship failure and an aversion towards commitment (Birnie, McClure, Lydon, & Holmberg, 2009). Consequently, avoidant individuals are less committed to their romantic partners (Pistole, Clark, & Tubbs, 1995), offer less emotional support (Brennan, Clark, & Shaver, 1998), and experience less intimacy in their relationships (Tidwell, Reis, & Shaver, 1996). Not surprisingly, avoidantly-attached individuals are more likely to have brief, unsatisfying relationships (Hazan & Shaver, 1987; Meyers & Landsberger, 2002). As a

result of these approaches to intimacy, both avoidantly- and anxiously-attached individuals can find it difficult to satisfy their attachment needs.

Despite their detrimental long-term effects, hyperactivating and deactivating strategies may offer short-term benefits such as self-soothing (Wei, Vogel, Ku & Zakalik, 2005; Wei & Ku, 2007). However, using these strategies to protect against distress may not be feasible at times. For example, an emotionally or physically unavailable partner may make it difficult for anxiously-attached individuals to gain the intimacy they desire. Conversely, an overinvolved and needy partner may make it difficult for an avoidantly-attached individual to create the distance they crave for self-soothing. In other words, the coping strategies of insecurely-attached individuals may not always work in the presence of real others, particularly those with a different attachment style. This is one reason why alternative soothing strategies, such as turning to the fictional others found in narratives, might be so attractive.

Adult attachment and engagement with fictional narratives

The idea that individuals use media to regulate their mood has been well-documented by researchers (e.g., Larson, 1995; Moskalenko & Heine, 2003). For example, many individuals turn to TV when experiencing stress, anxiety, low self-esteem, or loneliness, and this may be motivated by a need to alleviate these negative states (e.g., Thayer, Newman, & McClain, 1994; Nabi, Finnerty, Domschke, & Hull, 2006; Helregel, & Weaver, 1989; Roe & Minnebo, 2007; Anderson, Collins, Schmitt, & Jacobvitz, 1996; Greenwood & Long, 2009; Derrick et al., 2009; Jonason et al., 2008). There are many different ways in which people may engage with media, but focusing on involvement with fictional narratives, which have a strong social component (Oatley,

1999), seems especially relevant when studying adult attachment orientations given how attachment shapes our interpersonal interactions in the real world.

There are numerous ways in which media consumers may become involved with stories. For example, individuals may become engaged with the broader story world through the process of *narrative transportation*, which refers to the experience of becoming cognitively and emotionally absorbed in a narrative (Gerrig, 1993; Green & Brock, 2000). In addition to engaging with stories on a general level, individuals may become involved with specific fictional characters. For example, individuals may identify with a character and consequently experience a narrative from this character's perspective (i.e., as if the story events were happening to the reader/viewer, through that character's eyes; Cohen, 2001). Alternatively, viewers may engage with characters through parasocial interaction, in which characters are perceived as separate social entities with whom the viewer can "interact" (Hartmann & Goldhoorn, 2011). Moreover, viewers can develop lasting, friendship-like bonds with media figures, known as a parasocial relationship (Horton & Wohl, 1956). Although all these forms of engaging with a story are clearly related, they have also been found to be distinct in some ways, predicting different outcomes (e.g., Cohen, 2001; Cohen, Tal-Or, & Mazor-Tregerman, 2015; Sestir & Green, 2010; Tal-Or & Cohen, 2010).

Interestingly, although neither anxiety nor avoidance is related to the sheer amount of narratives individuals consume (Derrick et al, 2009), attachment does appear to play a role in how individuals engage with these stories. For example, one study found that attachment anxiety is positively related to the general tendency to become absorbed in stories (i.e., narrative transportation; Greenwood, 2008). Attachment avoidance also

predicted greater transportation in the same study, but this association disappeared after controlling for attachment anxiety and other indicators of psychosocial functioning. The effect of attachment anxiety seems to carry over beyond engagement with narratives to involvement with specific fictional characters. Specifically, attachment anxiety predicts a tendency to engage in parasocial relationships, whereas attachment avoidance shows no such association (Greenwood, 2008; Greenwood & Long, 2011). People who are high in attachment anxiety and low in attachment avoidance tend to report stronger parasocial bonds with their favourite TV characters, meaning that they tend to think of their favourite characters as friends and to feel as if these characters keep them company when the show is on (Cole & Leets, 1999; Greenwood, Pietromonaco, Long, 2008; Theran, Newberg, & Gleason, 2010). Moreover, these same individuals also experience higher levels of distress in response to the potential loss of a favourite TV character compared to those low in attachment anxiety and high in attachment avoidance (Cohen, 2004).

Overall, there is some evidence that individuals' attachment orientations do influence how they engage with fiction. Specifically, the research to date seems to suggest that these influences are somewhat consistent with how individuals engage with social targets in the real world. In other words, those higher in attachment anxiety, who have a chronic goal of connecting and being close to others, become highly absorbed in narratives and develop friendship-like bonds with the characters in them. On the other hand, those higher in attachment avoidance, who keep others at a distance, do not demonstrate this behaviour. That said, research in this area is relatively limited and more work is needed to better understand the phenomenon in question. This dissertation aims to flesh out the relationships between adult attachment and our interactions with stories.

Proposed Studies

The current dissertation focuses on two broad research questions. First, how do attachment anxiety and avoidance impact the way in which we become involved with the broader story world of narratives? Second, how do these two attachment orientations influence engagement with specific fictional characters? We employed a combination of correlational and experimental methodologies to address these research questions.

The first three studies of this dissertation explore the relationship between attachment and how individuals become transported into narratives. Only one study to date has examined how attachment insecurity is related to the tendency to become cognitively and emotionally absorbed into stories (Greenwood, 2008). This study found that both attachment anxiety and avoidance were correlated with greater narrative transportation, although only anxiety remained a unique predictor once controlling for indicators of psychosocial functioning and the other form of attachment (Greenwood, 2008). Recently, attachment research has recognized that when studying adult attachment, it is important to control for domain-general personality traits (e.g., Big Five personality traits), in order to determine whether the results observed are truly attachment-related and not a function of broader tendencies (Noftle & Shaver, 2006). Practically speaking, the robust and positive correlation between attachment anxiety and trait Neuroticism means that the worries about interpersonal relationships represented by attachment anxiety are correlated with the tendency to experience negative affect more generally (Noftle & Shaver, 2006). Accounting for Neuroticism increases the likelihood that the observed effects can be attributed more specifically to relationship-centered worries and not a more general tendency toward experiencing negative emotions.

Similarly, attachment avoidance is negatively correlated with the Big Five traits of Extraversion, Agreeableness, and Conscientiousness (Noftle & Shaver, 2006). Accounting for the variance associated with the Big Five traits related to attachment rules out the possibility that any results observed for attachment truly centre on the relationship context, rather than simply reflecting broader traits. Studies 1 and 2 employ this approach in order to improve upon and clarify past findings. They employ a correlational design to examine the association between attachment and narrative transportation and, most importantly, isolate the relationship-specific aspect of trait tendencies by controlling for the Big Five personality traits related to anxiety and avoidance (i.e., Neuroticism, Extraversion, Agreeableness, and Conscientiousness).

Additionally, in order to gain a more nuanced understanding of the relation between attachment insecurity and transportation, we also examine the interaction between anxiety and avoidance (e.g., Fraley & Bonanno, 2004), which has not been examined in past work. Those who are high in both attachment anxiety and avoidance are theoretically distinct from those high in attachment avoidance only (Bartholomew, 1990; Simpson & Rholes, 2002). Namely, members of the former group possess competing motivations to simultaneously withdraw in order to avoid rejection and establish closeness in order to avoid abandonment, thus cycling between deactivating and hyperactivating strategies. This is in contrast to individuals who are solely high in avoidance, who primarily eschew closeness. Indeed, recent research demonstrates that one's attitudes towards a romantic partner differs as a function of one's positioning along the two attachment orientation continua (Park, Debrot, Spielmann, Joel, Impett, & MacDonald, 2018). That is, the association between closeness and commitment in a

romantic relationship is weaker in the presence of high avoidance and high anxiety compared to high avoidance and low anxiety (Park et al., 2018). In light of these differences, we set out to examine the interaction between anxiety and avoidance, seeing as it is possible that individuals who are high in both anxiety and avoidance have different motives for engaging with narrative fiction than those who are solely high in avoidance. However, because the emotional and behavioural strategies that are employed by individuals who are simultaneously high in both anxiety and avoidance are typically disorganized and context-dependent (Simpson & Rholes, 2002), we did not make specific predictions with respect to how these individuals may engage with fiction.

Another manner in which the association between attachment and narrative transportation can be clarified is by exploring transportation into a specific narrative (i.e., transportation at the state level), in addition to retrospective reports of transportation into narratives in general (i.e., transportation at the trait level) (Gnambs, Appel, Schreiner, Richter, & Isberner, 2014). Relying on retrospective reports can be a particularly tricky issue when studying avoidantly attached individuals, as they have been shown to "forget" attachment-related information as a psychological defensive mechanism (Edelstein, 2006; Fraley, Garner, & Shaver, 2000; Simpson, Rholes, & Winterheld, 2010). For example, individuals high in avoidant attachment who were distressed while providing support to a romantic partner show memory deficits one week later, falsely recollecting that they were less supportive than they reported at the time (Simpson et al., 2010). It is therefore possible that the null association between avoidant attachment and transportation found previously is the result of a failure to remember engaging with relational information, rather than a lack of true engagement. Examining state transportation into a specific

narrative soon after exposure might help to circumvent these memory issues. Study 3 takes this approach, exploring the association between attachment and transportation more directly by presenting an actual narrative and measuring engagement immediately afterward in an attempt to bypass any memory-suppression tendencies of avoidantly-attached individuals. Thus, we move from the measurement of trait transportation in Studies 1 and 2 to the study of state transportation in Study 3.

The second part of this dissertation focuses on how attachment affects engagement with fictional characters. We know that attachment orientations are differentially related to the tendency to form parasocial relationships with fictional characters, but does this influence extend to other forms of character engagement? For example, do anxiously-attached individuals, who form parasocial bonds with TV characters, also participate in parasocial interaction with these characters? This seems likely given that anxiously-attached individuals have a chronic need to be close to others and that, during parasocial interaction, characters are perceived as separate entities with whom the viewer can share a sense of mutual awareness. In contrast, for the avoidantly-attached, it is possible that character identification is better suited for fulfilling their needs rather than parasocial relationships. Attachment avoidance is related to a tendency to manage distress by deactivating emotion, inflating positive self-views, minimizing weaknesses, and enhancing one's sense of self-reliance and self-efficacy (Bowlby, 1988; Mikulincer, 1998; Mikulincer & Shaver, 2007). As a result, it may be the case that avoidantly-attached individuals gravitate towards characters that embody admirable characteristics (e.g., self-reliance, personal efficacy, power, independence) and identify with them as a form of self-enhancement. Consistent with this idea, identification—

merging with a character and sharing his/her goals, feelings, and perspective (Tal-Or & Cohen, 2010)—has been shown to affect self-perceptions (Sestir & Green, 2010; Appel, 2011). In this way, identifying with a highly-autonomous character may make one feel more personally autonomous, which may be attractive for avoidantly-attached individuals. In order to explore these possibilities, Study 4 employs a correlational design to examine how attachment relates to three forms of character engagement: parasocial relationships, parasocial interaction, and character identification. Subsequently, Study 5 examines directly whether anxiety and avoidance differentially predict the types of characters viewers gravitate towards. For example, do avoidantly-attached individuals favour characters who are autonomous and competent, as we suggest above?

Finally, we close by exploring further the nature of the association between attachment anxiety and parasocial relationships, examining whether a need for emotional intimacy can explain this association. One possible explanation for why the two are associated is that people higher in attachment anxiety have a persistent goal of creating emotional connections with others as a form of self-soothing (Mallinckrodt, 2010), which may then extend to fictional characters. Those high in attachment anxiety attempt to manage distress by hyperactivating emotional systems and seeking access/proximity to attachment figures, in order to gain affection and support. This maps well onto the needs satisfied by parasocial relationships relative to other forms of character involvement. Compared to character identification, for example, parasocial relationships are more "interactive" in that one's favourite character is perceived as a "real" and separate entity with whom one forms a strong bond (Gardner & Knowles, 2008). For these reasons, parasocial relationships seem uniquely suited to fulfilling the needs of anxiously-attached

individuals. Fictional characters can be summoned on demand to provide a sense of emotional closeness or intimacy. Moreover, anxious individuals can spend as much time as they wish watching or reading about their favourite characters, all without worrying about the possibility of being rejected or judged as being too clingy. In fact, thinking about a favourite TV character may buffer against the negative effects of social rejection, as evidenced by research by Derrick and colleagues (2009). In order to test whether the need for emotional connection is an underlying factor in the association between attachment and anxiety and parasocial relationships, Study 5 examines whether anxiously-attached individuals perceive their favourite characters as being warm and supportive. Subsequently, Study 6 employs an experimental design in which we manipulate emotional intimacy in order to test its role in the association between attachment anxiety and parasocial relationships with TV characters.

The current program of study addresses several questions regarding the relationship between attachment insecurity and engagement with narratives. Studies 1-3 examine how attachment relates to people's tendency to become absorbed in stories, both at the trait and the state level. Study 4 examines how attachment relates to three forms of character involvement: parasocial relationships, parasocial interaction, and character identification. Finally, studies 5 and 6 will explore whether insecurely-attached individuals become involved with fictional characters in ways consistent with their particular distress-reducing strategies (i.e., deactivating vs. hyperactivating). Specifically, Study 5 examines the perceived characteristics of individuals' favourite TV characters to test the assumption that insecurely-attached individuals self-select characters that allow

them to meet their needs. Finally, Study 6 tests whether the need for emotional intimacy plays a role in the association between anxiety and parasocial relationships.

Chapter 2

Attachment security is a strong predictor of interpersonal functioning (Pietromonaco & Beck, 2015). Securely-attached individuals (i.e., those low in both attachment anxiety and avoidance) tend to be involved in romantic relationships that are relatively more happy, functioning, and stable (Feeney, 2008). These individuals believe that others can be counted on for reliable support and associate relationships with safety. Conversely, insecurely-attached individuals have difficulty deriving a sense of safety from relationships, and they tend to experience greater levels of interpersonal challenges compared to those who are securely-attached.

For example, people who are high in attachment anxiety find it difficult to trust partners to be a reliable source of support and often interpret ambiguous partner behaviour as rejection or abandonment (Pereg & Mikulincer, 2004). As a result, anxiously-attached individuals' sense of safety and relational stability is in a constant state of peril, leading them to feel a great deal of anxiety and distress (Feeney & Kirkpatrick, 1996). Because these individuals tend to fret over being abandoned and are hypervigilant for any sign of rejection or withdrawal (Cassidy & Berlin, 1994), they attempt to obtain a sense of security through frequent pleads for reassurance and intimacy. Unfortunately, these excessive demands for attention can often become smothering, coercive, and aggressive, which puts a strain on the relationship (Mikulincer & Shaver, 2007; Simpson & Rholes, 2012). Overall, anxiously-attached individuals tend to have relationships that are highly turbulent, dysfunctional, and dissatisfying (Feeney, 2008; Pietromonaco & Beck, 2015; Mikulincer & Shaver, 2007).

Avoidantly-attached individuals struggle to find safety within relationships as well. Like anxiously-attached individuals, these people find it difficult to trust and rely on others for support. However, whereas anxiously-attached individuals attempt to gain security by approaching relational partners, avoidantly-attached individuals rely on pulling away from others, focusing instead on maintaining a sense of autonomy, control, and independence (Mikulincer, 1998). These people tend to avoid situations that require self-disclosure, emotional involvement, and intimacy, and tend to ignore or suppress attachment-related needs and emotions (Mikulincer & Shaver, 2007). Consequently, avoidant individuals tend to have unsatisfying, emotionally-shallow relationships that often end prematurely (Feeney, 2008; Pietromonaco & Beck, 2015).

Given that relationships constitute a source of threat rather than safety for those who are insecurely-attached, these individuals might turn to alternative sources when in need of soothing. Specifically, it has been suggested that anxious and avoidant individuals may rely on non-human targets for comfort (e.g., Keefer et al, 2012; Keefer, 2016). For example, inanimate objects, which tend to be highly reliable, might represent a viable source of security for insecurely-attached individuals, who otherwise view the world as an unreliable place (Keefer et al, 2012). In support of this idea, Medard and Kellet (2014) found that levels of attachment anxiety and avoidance were both higher among a clinical sample of hoarders compared to non-hoarders. Interestingly, individuals' motivations for acquiring and using material possessions appears to differ as a function of their attachment orientation (Kwok et al., 2018; Keefer et al. 2012; Norris, Lambert, DeWall, & Fincham, 2012).

Anxiously-attached individuals attempt to relieve their distress through social proximity (Mikulincer & Shaver, 2016). Consistent with this idea, research suggests that anxiously-attached individuals may be driven to acquire possessions by a desire for social connection. For example, the association between attachment anxiety and materialistic aspirations is partially mediated by loneliness (Norris et al., 2012). Moreover, priming participants with the unreliability of close others increases object attachment, and this effect is mediated by attachment anxiety (but not avoidance) (Keefer et al, 2012). How could a decidedly non-social target such as an inanimate object be used to fulfill social needs? A recent systematic review found a positive association between attachment anxiety and the tendency to attribute human characteristics and mental states to physical objects (i.e., anthropomorphism; Waytz, Epley, & Cacioppo, 2010; Waytz, Gray, Epley, & Wegner, 2010) (Kwok et al., 2018). Seeing objects as humanlike may help anxiously-attached individuals feel as if they are in the presence of social others, thus alleviating their loneliness and boosting their feelings of safety (Keefer, 2016; Keefer et al., 2012).

Unlike anxiously-attached individuals, those who are higher in attachment avoidance seek to lower their distress by limiting social contact with others, opting instead to engage in non-social activities (Mikulincer & Shaver, 2016). Accordingly, although both attachment anxiety and avoidance are related to a tendency to acquire objects, there is little evidence to suggest that this behaviour is motivated by a need for social closeness among the avoidantly-attached (e.g., Kwok et al., 2018; Keefer et al, 2012). One possibility is that avoidant individuals prefer to use objects in a manner that serves their defensive framework. For example, they might use inanimate objects for non-social activities to distance themselves from others.

Taken together, it appears that the systematic differences in how anxious and avoidant individuals behave in the social world extend to their interactions with non-human targets. Specifically, anxiously-attached individuals seem to be using inanimate objects as social surrogates, whereas avoidantly-attached do not.

Social surrogates are symbolic social targets that can fulfill social needs (Derrick, Gabriel, & Hugenberg, 2009; Derrick, 2013; Gabriel et al., 2018; Gabriel & Young, 2011; Troisi & Gabriel, 2011). Not all social surrogates are tangible. It has been suggested that the implied presence of others is at times sufficient to provide social benefits and that fictional narratives (i.e., books, movies, TV shows) can act as social surrogates (Derrick et al., 2009; Gabriel & Young, 2011; Gabriel et al., 2018). The social nature of narratives makes them a good candidate for the fulfillment of social needs—stories characteristically focus on people and their relationships (Hogan, 2003; Mar & Oatley, 2008). Importantly, becoming immersed in a story can be akin to taking part in a simulation of social interaction, whereby readers or viewers can imaginatively engage with the story world and its characters (Mar & Oatley, 2008). Considering that narratives offer an opportunity to experience social interaction without the risk of being rejected and/or abandoned, becoming invested in stories should be especially attractive for insecurely-attached individuals.

There is some evidence that anxiously-attached individuals may use personally-generated narratives to satisfy their attachment motives. Specifically, attachment anxiety predicts a greater frequency of engaging in sexual fantasies, with submission being a particularly prominent theme in these fantasies (Birnbaum, 2007). Submissive themes are consistent with the desire for connection to a stronger and wiser partner among the

anxiously attached (Birnbaum, 2007). Moreover, attachment anxiety is positively associated with anthropomorphism (Kwok et al., 2018), which has an inherent narrative generation component (Westh, 2013; McCauley, 2000). Anthropomorphizing an inanimate object or an animal imbues them with agency, replete with emotions, motivations, and thought. It has been argued that the act of assigning agency and creating a narrative are inseparable (McCauley, 2000), seeing as stories typically focus on social agents, and that their mental states and interactions with the world are the driving engines of these narratives (Mar & Oatley, 2008; Hogan, 2003).

Overall, there is some preliminary evidence suggesting that attachment insecurity is related to a tendency towards narrative production, but what is its relation to narrative consumption? We engage with narratives on a daily basis through books, TV shows, movies, video games, and advertisements. Given the ubiquitous nature of narratives and their potential role as social surrogates, investigating how individuals' attachment orientations may relate to narrative consumption seems worthwhile and promising.

Surprisingly, only one study to date has examined this question, focusing on the association between adult attachment and the trait tendency to engage with narratives through a process called narrative transportation (Greenwood, 2008). Narrative transportation refers to the experience of being emotionally, cognitively, and imaginarily absorbed into the world of a narrative to the extent that access to the real world is temporarily suspended (Gerrig, 1993; Green & Brock, 2000). Specifically, as one's attention and thoughts become focused on the unfolding events in the story, one loses track of time and of one's immediate environment, and experiences strong emotions in response to the story (Green & Brock, 2000; Green & Fitzgerald, 2017). This deep

immersion into a narrative world may help make the characters within it seem more real and therefore more capable of satisfying anxiously-attached individuals' desire to be close to others.

How is attachment related to narrative transportation? Greenwood (2008) found that attachment anxiety was a positive predictor of the general tendency to become absorbed in narratives. Interestingly, in the same study, attachment avoidance also predicted greater transportation, but this association disappeared after controlling for attachment anxiety and other indicators of psychosocial functioning. Thus, further work is needed to better understand how attachment is related to narrative transportation and engagement. In this chapter, we seek to build upon this past work in three ways, by (1) ruling out the role of broader traits not specifically concerned with relationships, such as general Neuroticism, (2) exploring whether the interaction between avoidance and anxiety predicts transportation, and (3) measuring transportation into a specific narrative, in addition to relying on retrospective reports of trait tendencies.

The Current Studies

The current studies investigated how attachment anxiety and attachment avoidance relate to narrative transportation, controlling for broader and related traits when examining trait transportation (Studies 1–3) and measuring state transportation in response to a specific narrative (Study 3). In Studies 1 and 2 we aimed to replicate the previously reported associations between attachment and trait transportation (Greenwood, 2008), and extend this work by examining whether these associations persist after controlling for the Big Five traits related to attachment. Doing so allows us to demonstrate that it is specifically relationship-oriented anxiety, and not anxiety per se,

that predicts narrative transportation, for example. In other words, given the social nature of narrative fiction, we expected that the association between attachment and narrative engagement would be a function of individual differences in social motivations and needs, and would therefore not be accounted for by broader traits that encompass behavioural tendencies across a wider variety of domains. We further extended past work by investigating whether there is an interaction between attachment anxiety and attachment avoidance in predicting transportation. A possible interaction between the attachment dimensions has not been previously explored by past research on this topic and could provide a more nuanced insight into the association between attachment and transportation. Because the behavioural and emotional strategies of individuals who are high in both anxiety and avoidance tend to be disorganized and not well-understood (Simpson & Rholes, 2002), we did not make specific hypotheses with respect to the nature of an interaction effect in predicting transportation. In Study 3, we move from studying retrospective reports of trait transportation into narratives to state transportation into a specific piece of fiction. This latter approach will hopefully allow us to better investigate the role of attachment avoidance, circumventing potential memory biases that might influence the former. In addition, Study 3 employs a multi-dimensional approach to measuring transportation, allowing us to uncover how attachment relates to the various dimensions of narrative engagement.

Study 1

Study 1 examined how attachment relates to trait transportation, controlling for the Big Five personality traits and examining possible interactions between the two attachment dimensions.

Method

Participants

A total of 556 participants were recruited from York University's Undergraduate Research Participant Pool and completed an online questionnaire study for course credit. From this initial sample, a total of 222 participants were removed. These exclusions were due to concerns over inattentive responding[1] ($N = 115$) or due to having an unusual study completion time[2] ($N = 8$). In addition, participants who did not indicate having a specific favourite TV character were removed from the analyses ($N = 81$). A further 18 cases were removed because they represented the second time participants completed the study. All decisions regarding exclusions were made a priori, before the data were analyzed. The final sample consisted of 334 participants (103 male), ranging in age from 17 to 42 ($M = 19.71$, $SD = 3.11$).

Measures

Trait Transportation. The 7-item Fantasy subscale of The Interpersonal Reactivity Index (IRI; Davis, 1980) was used to assess the trait tendency to become transported into narratives. The IRI was originally intended to capture four dimensions related to empathy (Fantasy, Perspective-taking, Empathic Concern and, Personal Distress) (Davis, 1980). However, all but one[3] of the seven items on the Fantasy subscale directly address a tendency to become absorbed into a fictional narrative world (see Mar et al., 2006; Mar et al., 2009, Table 1). Example items include "After seeing a play or movie, I have felt as though I were one of the characters" and "I really get involved with the feelings of the characters in a novel." In addition to its face validity, this subscale also demonstrates adequate internal reliability and convergent validity with respect to other

measures of transportation and narrative consumption (Green, 2005; Mar et al., 2006; Mar et al., 2009). Responses were made on a 5-point Likert scale ranging from 1 (*Does not describe me well*) to 5 (*Describes me very well*) and an overall score was computed using all 7 items.

Adult Attachment. The Experiences in Close Relationships-Revised (ECR-R) scale (Fraley, Waller, & Brennan, 2000) was used to assess attachment anxiety and avoidance. The 18-item anxiety subscale includes statements such as "I worry a lot about my relationships" and "I'm afraid that I will lose my partner's love." The 18-item avoidance subscale includes items such as "I am nervous when partners get too close to me" and "I feel comfortable depending on romantic partners" (reverse coded). Responses were made on a 7-point Likert scale, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The ECR-R is commonly used in the attachment literature and possesses satisfactory convergent and discriminant validity, as well as test-retest reliability (Sibley, Fischer, & Liu, 2005).

Personality. The 44-item Big Five Inventory (BFI-44; John & Srivastava, 1999) was used to calculate participants' scores on the four broad personality traits that have been shown to be related to attachment: Conscientiousness, Extraversion, Agreeableness, and Neuroticism. These traits were measured so that they could be statistically controlled for, ensuring that the broad tendencies measured by our attachment measure were unique to a relationship context. Participants were presented with a series of short descriptive phrases (e.g., "Has a forgiving nature") and asked to rate the degree to which they believe each phrase characterizes themselves, using a 5-point Likert scale ranging from 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). The BFI-44 is a reliable and valid measure of

five-factor personality and is widely used in personality research (John & Srivastava, 1999).

Procedure

Participants completed all of the questionnaires online within the context of a larger study examining media use in relation to adult attachment. A second measure of attachment was also presented (Relationship Questionnaire [RQ]; Bartholomew & Horowitz, 1991), but because the current paper focuses on the two underlying dimensions of attachment, which are not explicitly measured in the RQ, only data from the ECR-R questionnaire are reported. In addition to the scales outlined above, participants also completed measures of parasocial relationship quality, reading habits and loneliness, as well as an online shopping task. The order of the questionnaires was randomized for each person, with the shopping task always appearing last.

Results and Discussion

Descriptive statistics are reported in Table 1 and correlations among the measures are reported in Table 2. We first sought to examine the relationship between the two attachment dimensions and trait transportation. We expected to replicate results from previous research by demonstrating that attachment anxiety, but not avoidance, would predict a greater tendency to become transported into narratives. In addition, to extend these results, we controlled for individual differences to examine whether it is specifically a preoccupation with relationships that drives the association between attachment anxiety and transportability. Lastly, to further extend previous research, we also examined whether there is an interaction between attachment anxiety and avoidance that predicts trait transportation, probing for possible moderation effects.

Zero-order correlations revealed that attachment anxiety, but not attachment avoidance, was associated with trait transportation, replicating past work (Table 2). In order to more closely examine these associations, a regression analysis was conducted to examine how anxiety and avoidance uniquely relate to the tendency to become engaged in narratives after controlling for broad personality traits, and to explore any possible moderation in the form of an interaction between the two attachment dimensions (Table 3). Anxiety and avoidance scores were centered and entered into the first block (Aiken & West, 1991), and the interaction term between anxiety and avoidance was entered into the second block. In order to rule out the possibility that any observed effects were a function of overarching individual differences such as the Big Five personality traits, we also controlled for Extraversion, Agreeableness, Conscientiousness, and Neuroticism—the four broad personality traits that are related to attachment anxiety and avoidance (Noftle & Shaver, 2006). All trait scores were centered and interaction terms between each trait and attachment anxiety, as well as avoidance, were computed. The resultant 12 variables were entered into the third block of the regression analysis.

As expected, attachment anxiety predicted a greater tendency to become absorbed into narratives. These findings replicate past research and provide further support to the idea that individuals who are high in attachment anxiety are more likely to seek social surrogates and express interest in fictional worlds and characters (Greenwood, 2008). Importantly, this effect persisted even after controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism. Neither attachment avoidance nor the interaction between anxiety and avoidance predicted trait transportation. This demonstrates that attachment anxiety uniquely predicts retrospective reports of trait

transportation tendencies, controlling for general anxiety and any interaction with attachment avoidance.

Study 2

Study 1 replicates and extends previous research on the association between adult attachment and trait transportability (Greenwood, 2008). Consistent with past work, attachment anxiety was found to be a positive predictor of the overall tendency to become transported into narratives, even after controlling for broader personality traits. However, it is important to note that the questionnaire we employed to measure trait transportation was not originally designed for this purpose. Moreover, this scale references multiple forms of media (i.e., movies, books, plays), whereas previous research on attachment and transportation tendencies has only focused on visual media (i.e., TV/movies) (Greenwood, 2008). In order to address these limitations and to make our results more relevant to previous work, we conducted a pre-registered replication study. The aim of Study 2 was to replicate the results of Study 1 using a more typical measure of trait transportation that focuses on engagement with visual narratives (Dal Cin, Zanna, & Fong, 2002), one that was employed in the past study on this topic (Greenwood, 2008).

Method

Participants

A total of 369 undergraduate students completed an online questionnaire study for course credit. From this initial sample, a total of 84 participants were removed due to concerns over inattentive responding[4] ($N = 77$) or due to having an unusual study completion time[5] ($N = 7$). All decisions regarding exclusions were made a priori, before the data were analyzed, based on steps outlined in our pre-registration document

(https://osf.io/mgp3h/). The final sample consisted of 285 participants (90 males, 1 unknown), ranging in age from 17 to 43 (M = 20.08, SD = 3.42).

Measures

Trait Transportation. Individual differences in the tendency to become readily transported into visual narratives were measured with the film version of the Transportability Scale (Dal Cin, Zanna, & Fong, 2004). This is a trait version of transportation based on the Transportation Scale developed by Green and Brock (2000), which measures transportation at the state level. Participants were presented with a series of 20 statements (e.g., "When watching movies/videos for pleasure: I get mentally involved in the story.") and asked to indicate the degree to which each statement accurately described them using a 9-point Likert scale ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*). This scale has acceptable psychometric properties as evidenced through internal consistency, test-retest reliability, and convergent validity (Dal Cin, Zanna, & Fong, 2004; Bilandzic & Busselle, 2008).

Adult Attachment. As in Study 1, the Experiences in Close Relationships-Revised (ECR-R) scale (Fraley, Waller, & Brennan, 2000) was employed to assess attachment anxiety and avoidance.

Personality. The Big Five Inventory (BFI; John & Srivastava, 1999) was again used to measure Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

No other measures were administered in this study, aside from our demographics questionnaire. These measures along with the analytic approach were pre-registered with the Open Science Foundation (https://osf.io/mgp3h/).

Procedure

Participants completed all of the questionnaires online and the order of the questionnaires was randomized for each person. All participants received partial course credit in exchange for their participation.

Results and Discussion

Descriptive statistics are reported in Table 1 and correlations among the measures are reported in Table 2. We expected to replicate the results from Study 1 showing that attachment anxiety uniquely predicts a tendency to become absorbed in narratives. Zero-order correlations revealed a pattern of results that deviated somewhat from what has previously been observed. Consistent with Study 1, trait transportation was positively related to attachment anxiety, but in this study transportation was also negatively related to attachment avoidance. Both correlations were small in magnitude and failed to attain the traditional threshold for statistical significance. This was surprising in light of previous findings.

We next repeated the same regression analysis that was conducted in Study 1 in order to examine the unique associations between attachment and trait transportation more closely, while controlling for the influence of broad personality traits (Table 4). This analysis revealed that the interaction between anxiety and avoidance was a unique predictor of trait transportation and that this effect persisted even after controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism. Specifically, it appears that although anxiety and trait transportation were unrelated at low levels of avoidance (25^{th} percentile) (b = -0.05, $t(269)$ = -0.62, p = .54), the two were positively associated at high levels of avoidance (75^{th} percentile) (b = 0.30, $t(269)$ = 3.61, $p < .001$) (Figure 1B). Thus, although attachment anxiety was found to be a positive predictor of

trait transportation in Study 1, the results from Study 2 suggest that the positive association between attachment anxiety and transportation is moderated by attachment avoidance.

Although Study 2 was a pre-registered attempt to replicate Study 1 using a more traditional measure of trait transportation and a cleaner design (i.e., including no other measures), the results of Study 2 appear somewhat different from those of Study 1. That said, it is important to note that an interaction between anxiety and avoidance was observed in Study 1, but this effect became much weaker after controlling for the attachment-related personality traits. Comparing the interaction plots from the two studies (Figure 1A and 1B), the pattern of results observed in Studies 1 and 2 is very similar and not at all contradictory. Both studies do in fact capture the same effect, but the size of this effect is somewhat smaller in Study 1 compared to Study 2.

In addition, the results from Study 2 do not fully replicate past findings showing that attachment anxiety is a positive unique predictor of trait transportation (Greenwood, 2008). This discrepancy in results is less surprising, however, seeing as how this previous work did not examine the possible interaction between anxiety and avoidance. Study 2 therefore extends past research by demonstrating that attachment anxiety does in fact predict a greater tendency to engage with narratives, but only when levels of attachment avoidance are also high. Moreover, this association remains even after controlling for attachment-related personality traits.

Study 3

Studies 1 and 2 extend previous research on the association between adult attachment and trait transportability (Greenwood, 2008). In Study 1, attachment anxiety

was found to be a unique positive predictor of overall transportation tendencies after controlling for broad personality traits related to attachment. In Study 2, attachment anxiety was a positive predictor of the tendency to become transported into visual narratives, but only when levels of attachment avoidance were also high. (This moderation was also observed in Study 1, although it failed to reach the threshold for statistical significance.) Although Studies 1 and 2 demonstrate that people with different attachment orientations vary in their trait tendency to become immersed in narratives, the way in which attachment influences transportation into a specific, previously unencountered narrative remains unexamined. This latter form of transportation can be viewed as state transportation, in contrast to trait transportation. Importantly, measuring engagement soon after the presentation of an actual fictional narrative may provide a more sensitive measure of how attachment avoidance relates to transportation, circumventing the tendency for those high in avoidance to selectively forget episodes of relational engagement (Simpson et al., 2010). In this study, we also improved upon our measurement of transportation by employing a multi-dimensional measure of state transportation to assess viewer responses to two different short films. By using a more nuanced measure of transportation, we were able to examine more closely how the two attachment dimensions relate to different aspects of transportation.

Method

Participants

A total of 263 undergraduate students completed the study for course credit. Responses from 3 participants who had seen the target film before were not included in the analyses. Data from an additional 5 participants were removed as they experienced

technical difficulties while watching the movie (e.g., the film failed to play on their computer). In addition, 19 participants were removed because their responses[6] (N = 17) or behaviour in the lab (N = 2) suggested that they were not paying attention (i.e., one participant was observed using his cellphone while the film was playing and another told the experimenter that he was responding indiscriminately to finish the study faster). Lastly, four participants who did not finish the study were also removed, resulting in a final sample of 232 participants (53 male), ranging in age from 17 to 55 years (M = 20.41, SD = 4.22). All decisions regarding exclusions were made before any statistical analyses were conducted.

Materials

Video stimuli. Two short films were chosen as stimuli to examine how attachment style influences individuals' reaction to a narrative encountered for the first time. Employing two different films allowed us to examine whether these reactions generalize beyond a single target stimulus and/or portrayal of relationships. The first, *Mistletoe*, is 9 minutes and 7 seconds in length and describes the story of a man realizing his romantic feelings for a co-worker. The film concludes with a happy outcome for the couple (finitefilms, 2011). The second film, *Sweet Night Good Heart*, is 9 minutes and 16 seconds in length. It portrays a man trying to break up with his girlfriend, who misunderstands his attempt as a proposal for marriage, only for him to realize his true feelings for her in the end. This film ends with a more ambiguous outcome, leaving the audience unaware of where these two characters stand as a couple (Goodman & Zeff, 2001). These two short films were chosen because they are roughly equivalent in length and both deal with romantic relationships, while presenting somewhat different views on

romance (one positive, one equivocal). Both films employed in this study focused on relationships, as this type of content is most likely to illustrate differences in transportation with respect to attachment. In a previous study, for example, attachment anxiety and avoidance were shown to be associated with different biological responses to films, but only when emotional intimacy was portrayed (Edelstein, Kean, & Chopik, 2012). Participants were randomly assigned to view only one of these films.

State Transportation. Busselle and Bilandzic's (2009) 12-item Narrative Engagement scale was used to measure the degree to which participants became transported into the films. An overall transportation score can be calculated by averaging across all items. In addition, this scale distinguishes between four dimensions of narrative transportation: narrative understanding (e.g., "My understanding of the characters is unclear." [reverse-coded]), attentional focus (e.g., "I had a hard time keeping my mind on the program." [reverse-coded]), narrative presence (e.g., "During the program, my body was in the room, but my mind was inside the world created by the story."), and emotional engagement (e.g., "The story affected me emotionally."). Responses were made on a 7-point Likert scale, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). This 12-item scale is highly correlated with Green and Brock's (2000) transportation scale (*r*s = .73–86) (Busselle & Bilandzic, 2009). In addition, a recent study employed psychophysiological measures to support the validity of this scale's multi-dimensional conceptualization of narrative engagement (Sukalla, Bilandzic, Bolls, & Busselle, 2015). This measure was chosen because it was specifically designed to measure engagement with visual media. In addition, the measure's ability to distinguish between different aspects of narrative engagement permits a more fine-grained analysis of how attachment

relates to the various dimensions of transportation. Exploring these separate dimensions could help shed light on exactly how attachment predicts transportation.

Adult Attachment. Two measures were used to assess attachment. The Experiences in Close Relationships-Revised (ECR-R) scale (Fraley, Waller, & Brennan, 2000) was once again used to assess attachment anxiety and avoidance. In addition, the Attachment Style Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994) was used as a second measure of the two attachment dimensions. The ASQ is a 40-item questionnaire designed to measure broad attachment tendencies and it does not require participants to currently be in a romantic relationship or have extensive experience with such relationships. This makes it very suitable for use with an undergraduate sample and we thought it would be advantageous to include this measure in addition to the ECR-R, which primarily focuses on attachment in a romantic context. The ASQ was originally intended to capture five dimensions related to attachment (Confidence, Discomfort with Closeness, Need for Approval, Preoccupation with Relationships and Relationships as Secondary), but scores for the broader tendencies of attachment anxiety and avoidance can easily be derived. This questionnaire possesses adequate levels of internal consistency and test-retest reliability (Feeney, Noller, & Hanrahan, 1994). Moreover, the scale authors have demonstrated convergent validity with respect to other measures of attachment, as well as related constructs such as family functioning. Example items include “I worry that I won’t measure up to other people” (attachment anxiety) and “I find it hard to trust other people” (attachment avoidance). Responses were made using a 6-point Likert scale ranging from 1 (*Totally Disagree*) to 6 (*Totally Agree*).

Personality. As in Studies 1 and 2, the Big Five Inventory (BFI; John & Srivastava, 1999) was employed to assess Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

Procedure

Upon their arrival in the laboratory, participants were led to a computer where they were randomly assigned to watch one of the two short films. Following their informed consent, all participants completed the attachment and personality measures, which were randomized in order. Participants then watched the film and completed the Narrative Engagement scale. In addition, participants completed a number of questionnaires not germane to the purpose of the current study after the transportation measure. These included measures of mood, loneliness, need to belong, interpersonal support, relationship status, and retention of film content. Lastly, the participants completed a set of demographic questions and were debriefed upon completion of the study.

Results and Discussion

Descriptive statistics for all measures are reported in Table 1 and correlations among the measures are reported in Table 2. Participants' scores on the ECR-R anxiety subscale were highly correlated with the anxiety scores derived using the ASQ ($r = .82$, $p < .001$). As a result, the two subscales were averaged to create an aggregate score for attachment anxiety. This new aggregate score was highly correlated with both original attachment anxiety subscales (ECR-R: $r = .97$; ASQ: $r = .94$, both ps $< .001$). Similarly, avoidance scores on the two measures were also closely related ($r = .79$, $p < .001$) and were averaged to create an aggregate attachment avoidance score. This new score was

highly related to participants' avoidance ratings on the ECR-R and the ASQ (r = .97, r = .92, respectively, both ps < .001).

Studies 1 and 2 investigated how the two attachment dimensions relate to retrospective reports of trait tendencies in transportation. How might these dimensions relate to becoming transported into new narratives upon first encounter? A series of regressions was employed in order to answer this question with respect to overall state transportation, as well as each of its four aspects: Narrative Understanding, Attentional Control, Narrative Presence, and Emotional Engagement.

Adult Attachment and State Transportation

The associations between attachment and state transportation across both films[7] were first explored through zero-order correlations. We found that state transportation was negatively related to attachment avoidance and unrelated to attachment anxiety. These results are in contrast to trait transportation in Study 1, which was unrelated to attachment avoidance and positively related to anxiety.

We next investigated whether each of the two attachment dimensions was uniquely associated with state transportation and its four facets. In each of the analyses that follow (Tables 4-8), centered aggregate anxiety and avoidance scores were entered in the first block, their interaction was entered in the second block, and all control variables were entered into the third block (as in the analyses performed for Studies 1 and 2).

Our first analysis revealed that the interaction between anxiety and avoidance was a unique predictor of overall state transportation (Table 5; Figure 1C). Specifically, it appears that although anxiety and state transportation were unrelated at low levels of avoidance (25th percentile) (b = -0.00, t(216) = -0.01, p = .94), the two were positively

associated at high levels of avoidance (75th percentile) (b = 0.21, t(216) = 2.14, p = .03). Thus, the results from Studies 2 and 3 converge to suggest that at both the trait and state level, the relationship between transportation and attachment anxiety is moderated by attachment avoidance. (This same moderation was also observed in Study 1, but fell above threshold for statistical significance after controlling for Big Five traits.)

We subsequently examined how anxiety and avoidance relate to each of the four aspects of state transportation in order to better understand this difference in association. Although neither attachment dimension, nor their interaction, was related to Narrative Understanding or Attentional Focus (Tables 6 and 7), a divergent pattern of associations did emerge for the remaining two aspects of state transportation. Specifically, attachment anxiety was a positive predictor of Narrative Presence (the sense of being within the narrative; Table 8), whereas attachment avoidance was unrelated to this outcome. In all cases, these associations persisted after controlling for the relevant Big Five traits (i.e., Extraversion, Agreeableness, Conscientiousness, and Neuroticism).

Interestingly, for the Emotional Engagement facet of transportation, an interaction between anxiety and avoidance again emerged as a unique predictor (Table 9; Figure 1D). Probing this interaction revealed that although anxiety and Emotional Engagement were unrelated at low levels of avoidance (25th percentile) (b = 0.15, t(216) = 1.20, p = .23), the two were positively associated at high levels of avoidance (75th percentile) (b = 0.51, t(216) = 3.85, p < .001). This interaction therefore parallels what is observed with respect to overall state transportation (and trait transportation in Study 2): the relationship between attachment anxiety and Emotional Engagement was found to be moderated by attachment avoidance.

By examining the facets of transportation in the context of transportation into specific films, we were able to uncover a better understanding of how attachment relates to narrative engagement. Specifically, attachment anxiety predicts more transportation in the form of feeling "as-if" one is in the story-world itself, as well as being more emotionally impacted by the narrative, with the latter only being the case at high levels of attachment avoidance.

General Discussion

In this chapter, we built on previous research into how attachment anxiety and attachment avoidance relate to narrative transportation (Greenwood, 2008). Consistent with past research, Study 1 found that attachment anxiety, but not attachment avoidance, predicts a greater general tendency to become transported into narratives. Extending this past work, we found that this association was not accounted for by broad personality traits related to attachment. This is important as it demonstrates that the association between attachment anxiety and trait transportation is unique to relationship anxiety, rather than a general tendency to worry. Interestingly, a slightly more complex pattern of results emerged when transportation was measured in Studies 2 and 3. In both these studies attachment anxiety still predicted a greater tendency to become absorbed into the narrative, but only at high levels of attachment avoidance. In other words, we found that the relationship between attachment anxiety and narrative transportation is moderated by attachment avoidance. Looking back at Study 1, a similar interaction between attachment anxiety and avoidance was also observed, but it was no longer statistically significant after controlling for personality. Examining the interaction plots from all three studies more closely (Figure 1), the pattern of results observed across these studies is rather

consistent. Therefore, it appears that the same effect is captured across the three studies, but that the size of this effect is smaller in Study 1 compared to Studies 2 and 3.

One possibility for why this interaction effect failed to reach statistical significance in Study 1 might be because the measure of transportation employed is not sensitive enough to capture the interaction effect between anxiety and avoidance. If this interaction pertains most specifically to the emotional engagement dimension of transportation, as appears to be the case from Study 3 (Figure 1D), only 2 of the 7 items in the measure that was employed in Study 1 deal explicitly with emotions. Another possibility is that this interactive effect is more pronounced with respect to visual narratives (Studies 2 and 3) and so was not detected in Study 1 when the measure asked about various narrative modalities. These possibilities should be explored in future research.

Our research demonstrates the advantages of using a multi-dimensional model of narrative transportation to gain a better understanding of how attachment relates to narrative engagement. In Study 3, overall state transportation was predicted by an interaction between attachment anxiety and avoidance, such that individuals who were high in both anxiety and avoidance were the most engaged with the film they watched. We further deconstructed this association by probing the various aspects of narrative engagement: (1) Narrative Understanding, (2) Attentional Focus, (3) Narrative Presence, and (4) Emotional Engagement. Neither attachment dimension was related to understanding or paying attention to the films, which is somewhat surprising in light of previous research. It has previously been shown that avoidantly-attached individuals divert their attention away from attachment-related content, with the opposite being true

for anxiously-attached individuals (Edelstein & Gillath, 2008). The remaining two aspects of narrative transportation did show an association with the attachment dimensions. Specifically, attachment anxiety, but not avoidance, predicted feeling present in the narrative world created by the film. In addition, those who were more anxiously-attached reported feeling more sympathy for the characters in the film and that the story affected them emotionally, but only when they were also high in attachment avoidance. This suggests that the moderating effect of avoidance on anxiety observed with respect to overall transportation may be largely a function of emotional engagement. In other words, individuals who were high in both anxiety and avoidance were particularly emotionally affected by the narrative, which likely contributed to more overall transportation into the film. This supports our idea that insecurely-attached individuals may be using narratives to regulate their mood.

These studies also highlight the importance of measuring transportation both in terms of retrospective tendencies as well as state transportation into a specific narrative example. Although a similar pattern of results emerged with respect to how attachment relates to trait and state transportation in Studies 2 and 3, there is an important point of distinction that is worth noting. Specifically, in Study 2, we demonstrated that the interaction between anxiety and avoidance was a unique predictor of trait transportation before and after controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism. In other words, the relationship between attachment and trait transportation cannot be explained by these general traits. However, in Study 3, the interaction between anxiety and avoidance became a unique predictor of state transportation only after controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism. This

suggests that the relationship between attachment and transportation may be more complex at the state level. Specifically, the aforementioned broad personality traits appear to be suppressing the effect of attachment on state transportation (e.g., Paulhus, Robins, Trzesniewski, & Tracy, 2004). In other words, it is only after removing the shared variance between attachment and these four personality traits that we were able to observe the unique effect of attachment on state transportation.

One possibility is that viewer response to a specific narrative is influenced by a greater number of factors compared to general transportation tendencies to self-selected narratives. This can contribute to greater error variance in our reduced predictive model containing only attachment anxiety, attachment avoidance, and their interaction term. Some of this error variance may be attributed to entertainment genre preferences related to Big Five traits (Rentfrow, Goldberg, & Zilca, 2011), so accounting for these traits can improve predictive ability and help uncover the unique associations between attachment and state transportation. That said, this is necessarily conjecture and more work is needed to better understand the mechanism behind this suppression effect.

Why do individuals who are high on both attachment anxiety and avoidance become most transported into narratives? One potential explanation is that these people find the social nature of fictional narratives especially appealing and engaging. These individuals desire social contact but avoid close relationships due to fear of rejection fuelled by mistrust of others (Bartholomew & Horowitz, 1991; Henderson et al., 2005). They experience a poor quality of close relationships (Bartholomew & Horowitz, 1991) and of all the attachment patterns are the least content with their social support (Bartholomew et al., 1997). Fictional narratives with characters who can provide

exposure to relationship content without the risk of rejection or judgment may therefore be especially appealing to this group. In contrast, those who are high in attachment anxiety and low in attachment avoidance may have relatively more opportunities to fulfill their strong belongingness needs through actual relationships. Unfortunately, for those high in both anxiety and avoidance, a real-world relationship is an avenue to need satisfaction that is relatively more difficult to achieve. Although these individuals desire social connections, actual intimacy is likely to trigger avoidant defenses. Narratives may therefore offer a safe social experience for individuals high on both anxiety and avoidance. Future work should examine the potential benefits these individuals may experience through narrative engagement. For example, could repeated exposure to fictional narratives fulfill these individuals' belongingness needs or change their attitudes about relationships? Additionally, in light of these results, researchers should pay close attention to the interaction between anxiety and avoidance when examining other forms of social surrogacy.

It is important to note that our studies were not without limitations. For example, all three studies relied on samples consisting solely of university students and therefore these results may not generalize to other populations. In addition, because only two films were used in Study 3, there is a possibility that our results do not generalize beyond these two narratives. Moreover, the film stimuli were both relationship-focused, raising the possibility that our results do not apply to transportation into narratives per se, but are rather limited to transportation into media portrayals of intimacy. That being said, narratives are typically centred on people and their relationships, with stories that do not contain these elements being quite rare (Hogan, 2003). Future work should examine

whether our findings replicate across different types of content (e.g., relational vs. non-relational), modalities (e.g., print), and genres (e.g., romance, science-fiction). Another limitation is that we cannot be certain of the mechanism behind the associations we have uncovered. Although we successfully identified emotional engagement as the aspect of transportation driving our effects, our study was exploratory in nature and it was not possible to formally examine emotion as the driving causal mechanism based on our study design. Future studies could extend this work by examining potential mediators at the individual level (e.g., need for affect, need to belong) as well as the narrative level (e.g., high vs. low relational content, high vs. low emotional content), within the context of an experimental design.

The present set of studies contributes to a growing body of work on the association between attachment orientation and the use of narratives. Specifically, we present evidence showing that insecurely-attached individuals become more invested in narratives. However, further research is required to shed light on the processes involved. One approach to gaining a better understanding of how and why insecurely-attached individuals engage with narratives is to study their involvement with the characters who inhabit these stories. Thus, in Study 4 we shift our focus to examine how attachment anxiety and avoidance shape the ways in which individuals engage with fictional characters.

Chapter 3

Narratives create rich imaginary worlds in which we can lose ourselves. Becoming transported into these narrative worlds is one way in which audiences respond to media, with narrative transportation describing the experience of paying close attention to plot events, a diminished awareness of the self and surroundings, and becoming immersed into the environment of the story world (Gerrig, 1993; Green & Brock, 2000; Barker, 2005; Sestir & Green, 2010). However, beyond becoming transported into the world of a story, consumers of narratives can also become involved with the specific story characters that inhabit this world. This involvement with story characters can take on several distinct forms, including identifying as that character or feeling close to them. Involvement with story worlds and story characters is conceptually linked, but the two are not mutually exclusive: in fact, they often co-occur. Despite their similarity and co-occurrence, there is evidence to suggest that the two processes are independent, associated with unique precursors and different outcomes (e.g., Sestir & Green, 2010).

In this chapter, we shift our focus from studying how attachment impacts involvement with narrative worlds to its association with how individuals engage with fictional characters. The first aim of Study 4 was to examine how attachment relates to three primary forms of viewer responses to media characters and how they relate to adult attachment: character identification, parasocial interaction, and parasocial relationships. We hypothesize that individuals who are high in attachment anxiety would engage with fictional characters in a manner consistent with their hyperactivated attachment system. In other words, these individuals would seek to form close social bonds with fictional characters. On the hand, we predict that individuals high in attachment avoidance, whose

goal is to deactivate their attachment system, would engage with fictional characters in a way that would allow them to maintain social distance and a sense of independence. A second objective of Study 4 was to extend previous findings by controlling for Conscientiousness, Extraversion, Agreeableness, and Neuroticism. If the observed associations between attachment tendencies and character involvement are truly a function of relationship-centric individual differences, then these effects should prevail after broad-level traits are taken into account. In addition, in light of the results observed with respect to narrative transportation in Chapter 2, we will examine the interaction between anxious and avoidant tendencies to explore whether a similar association exists with respect to character engagement.

Character Involvement

i. Character Identification

Character identification describes a process in which audiences experience a narrative vicariously through the eyes of a character (Cohen, 2001; Rosengren & Windahl, 1972). Like narrative transportation, character identification involves diminished self-awareness and increased engagement with the story. What distinguishes the two processes, however, is the media consumer's frame of reference. In the case of narrative transportation, transported individuals experience the narrative as themselves. Character identification, on the other hand, is a process characterized by the experience of shifting identities. Individuals who identify with a particular character come to share that character's point of view, goals, emotions, and knowledge. In other words, as one becomes more identified with a character, one begins to experience the narrative events in the role of the character (i.e., as if one were the character), rather than as oneself.

Narrative transportation and character identification are undoubtedly conceptually overlapping processes, as both produce a sense of "being in the narrative." However, as outlined above, they do so in different ways and can be independently manipulated (Cohen, 2001; Sestir & Green, 2010; Tal-Or & Cohen, 2010). For example, increasing readers' suspense while reading a story enhances transportation, but appears to have little influence on identification (Tal-Or & Cohen 2010). Conversely, positive evaluations of characters increase identification, but do not have an effect on transportation (Tal-Or & Cohen 2010). Moreover, identification and transportation appear to be associated with different outcomes of media consumption. For instance, under high identification, individuals experience a shift in self-perception to be more in line with the characteristics possessed by the character with whom they identify, whereas the effects of transportation on individuals' self-concept are inconsistent (Sestir & Green, 2010).

ii. Parasocial Interaction

Identification is not the only way in which audiences can engage with fictional characters. For example, individuals may engage with characters through the process of parasocial interaction. Whereas character identification involves audiences joining with characters to experience a story, during parasocial interaction characters are perceived as separate, external entities. The term "parasocial interaction" was first coined by Horton and Wohl (1956) to describe how media users sometimes feel as if they have an intimate and personal relationship with a media persona. This idea was further refined by Hartmann and Goldhoorn (2011), who suggest that some viewers may intuitively feel a sense of mutual awareness and attention between themselves and the characters on the screen. In other words, these authors conceptualize parasocial interaction as the illusion

of being in a reciprocal social encounter with someone in the media whom the viewer does not know personally or interact with directly. Consistent with this idea, research has shown that parasocial interaction can be triggered when the media performer directs social cues towards the viewer (e.g., through direct eye-gaze, verbal and/or bodily address; Cummins & Cui, 2014; Hartmann & Goldhoorn, 2011; Dibble, Hartmann, & Rosaen, 2016).

iii. Parasocial Relationships

Some forms of character engagement are more enduring and can take place long after exposure to the mediated other. For decades, researchers used *parasocial interaction* as a broad umbrella term to describe how viewers sometimes perceive a form of relationship between themselves and a media persona. This involves engaging in participatory behaviors during media engagement (e.g., yelling at the TV to warn a character that they are in dangers) (Allbritton & Gerrig, 1991), as well as more enduring responses long after exposure (e.g., thinking or talking about the character when their show is not on). In recent years, however, scholars have begun to acknowledge and explore the differences between viewer responses during a specific instance of media exposure versus more long-term responses to media characters. Specifically, the term parasocial interaction is now used to describe a perceived social experience during a specific media presentation, differentiating it from more enduring, long-term, psychologically- and emotionally-intimate bonds with media performers that extend beyond a given exposure situation, with the latter now taking the term parasocial relationship (e.g., Giles, 2002; Hartmann & Goldhoorn, 2011; Klimmt, Hartmann, & Schramm, 2006). These more enduring parasocial relationships develop over time as

characters "share" experiences with the viewer, leading to a sense of intimacy (Derrick, Gabriel, & Tippin, 2008). Moreover, as viewers come to know the mannerisms, personality, and motivations of characters, they feel that they understand the character and can predict his or her actions (Derrick et al., 2008; Stever, 2013). Despite the fact that parasocial relationships are imaginary, they share similarities with real-world relationships and can be feel psychologically real and perceived as personally meaningful (Giles & Maltby, 2004; Stever, 2013, 2016; Derrick et al., 2008; Cole & Leets, 1999). For example, the presence of a favourite TV character can elicit social facilitation effects, which typically only occur in front of a human audience (Gardner & Knowles, 2008). These same facilitation effects do not occur in the presence of a non-favourite TV character, however, suggesting that this perceived "realness" is reserved for characters one likes and cares about (Gardner & Knowles, 2008). Thinking about a favourite TV character can also reduce the negative effects of social rejection, demonstrating how parasocial relationships can sometimes stand in for real-world social relations (Derrick, Gabriel, & Hugenberg, 2009).

Character involvement and adult attachment

The ways in which people engage with fictional characters may also mirror real world relationships when it comes to attachment behaviour (Coles & Leets, 1999; Stever, 2011, 2013; Giles & Maltby, 2004). It is possible, for example, that viewers may come to see their favourite TV character as a secure base that can provide a sense of safety. Consequently, they may try to increase their proximity to this character (e.g., read magazine articles about him/her) and protest when the availability of this character is threatened (e.g., by show cancellation; Cohen, 2003, 2004). Research in this area has

primarily focused on parasocial relationships. These one-sided and intimate bonds seem well-suited to fulfilling the relational needs of insecurely-attached individuals, because fictional characters can be summoned on demand and provide a sense of social connection with minimal risk of rejection. However, the exact nature of the attachment insecurity may be important to consider. In line with this idea, research finds that only attachment anxiety was associated with a tendency to form parasocial relationships, with attachment avoidance showing no such association (Greenwood, 2008; Greenwood & Long, 2011). Follow up research found that people who are high in attachment anxiety and low in attachment avoidance tend to form stronger parasocial bonds, once more demonstrating that these two attachment dimensions have unique associations with parasocial tendencies (Cole & Leets, 1999; Greenwood, Pietromonaco, Long, 2008; Theran, Newberg, & Gleason, 2010). These same individuals experience higher levels of distress in response to the potential loss of a favourite TV character compared to those low in anxiety and high in avoidance (Cohen, 2004).

Study 4

Past work on adult attachment and character involvement reveals a reliable positive association between attachment anxiety and a tendency to engage in parasocial relationships. This same work fails to find an association between avoidant attachment and parasocial relationships, but the other forms of character engagement such as character identification and parasocial interaction remain unexplored. The goals of Study 4 were twofold. First, we wanted to extend existing work by examining how attachment may relate to two additional forms of character involvement: character identification and parasocial interaction. Specifically, it is possible that character identification, rather than

parasocial interaction or relationships, is better suited for fulfilling the needs of avoidantly-attached individuals. As discussed in Chapter 1, avoidantly-attached individuals regulate distress by attempting to enhance their autonomy and distancing themselves from others. Parasocial interaction and/or relationships contain a perceived interactive component between the self and another, and therefore these two forms of character engagement are less likely to appeal to avoidantly-attached individuals. Character identification, on the other hand, lacks a relational component, and involves assuming the character's role in the story during exposure to the narrative. Moreover, as character identification has been shown to affect self-perceptions (Sestir & Green, 2010; Appel, 2011), it is possible that avoidantly-attached individuals may be able to temporarily inflate their sense of autonomy and independence by identifying with characters who embody these desirable characteristics. Therefore, character identification may be an attractive way for avoidantly-attached individuals to engage with fictional characters.

On other hand, the relational aspect of parasocial interaction may be an appealing feature for anxiously-attached individuals, who seek proximity to others in an attempt to alleviate distress. Parasocial interaction seems to be well-suited to aid this self-soothing strategy as it involves perceived mutual interaction or awareness between the viewer and a TV character. In other words, in this form of character engagement, the fictional character is perceived as "real" and a separate entity: someone who can form the other half of a close relationship. It is therefore possible that anxiously-attached individuals, who tend to form lasting emotional bonds with fictional characters, also tend to perceive a higher degree of reciprocal interaction with these characters during media exposure.

A second aim of Study 4 was to extend previous findings by examining whether any associations between attachment tendencies and character involvement remain once broad-level traits are taken into account. To this end, as in Studies 1-3, we controlled for Extraversion, Agreeableness, Conscientiousness, and Neuroticism to rule out the possibility that any observed relationships are a function of these traits, rather than attachment anxiety and/or avoidance.

Methods

Overview

Study 4 attempted to replicate and extend past work on how attachment relates to three forms of character involvement: character identification, parasocial interaction, and parasocial relationships.

Participants

A total of 232 undergraduate students completed an online questionnaire for course credit. From this initial sample, a total of 82 participants were removed due to failure to name a favorite television character ($N = 34$) or due to concerns over inattentive responding ($N = 48$). Three items were used to detect inattentive or indiscriminant responding. These items were embedded within the measures employed in this study and asked participants to respond with a specific item on the response scale (e.g., "Please click on disagree and proceed to the next question"). Participants who failed to answer correctly on any one of these three items were removed from the sample. All decisions regarding exclusions were made a priori, before the data were analyzed. The final sample consisted of 150 participants (66 male), ranging in age from 17 to 28 ($M = 19.3$, $SD = 1.89$).

Materials

Attachment. As in Study 3, attachment anxiety and avoidance were assessed using the Attachment Style Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994).

Character Identification. The degree to which participants identify with their favourite TV character was assessed using a 5-item identification scale developed by Tal-Or and Cohen (2010). The items were developed to represent Cohen's (2001) theoretical definition of character identification, which centres around emotional and cognitive perspective-taking for characters. A factor analysis revealed that these items map well onto one underlying latent variable, supporting the unidimensional nature of this construct, and the scale also demonstrates satisfactory levels of internal consistency (Tal-Or & Cohen, 2010). Example items include "I understand the events in the show the way [CHARACTER] understands them" and "While viewing the show, I feel what [CHARACTER] feels," with the name of the respondent's favourite character inserted into each item. Responses were given using a 7-point Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

Parasocial Interaction. Participants' sense of mutual awareness, attention, and adjustment between themselves and their favourite TV character was measured using the Experience of Parasocial Interaction scale (EPI; Hartmann & Goldhoorn, 2011). This 6-item scale was specifically designed to capture parasocial interaction in a manner that conceptually distinguishes it from parasocial relationships. In other words, the items ask about perceived interaction with a media persona, rather than feelings of friendship or companionship towards him or her. This scale has been found to have adequate internal consistency, and it demonstrates good convergent and discriminant validity with respect

to other measures of media engagement (Dibble & Rosaen, 2011; Hartmann & Goldhoorn, 2011). Importantly, items from this scale factor separately from items taken from a parasocial relationship measure, which increases our confidence that the EPI captures a unique phenomenon (Hartmann & Goldhoorn, 2011). Although originally designed to assess parasocial interaction in a specific media exposure situation, we were interested in participants' general tendency to engage in such behaviour, and the wording of the instructions was slightly modified to reflect this change in goals. Example items include "While watching the show, I tend to have the feeling that [CHARACTER] is aware of me" and "While watching the show, I tend to have the feeling that [CHARACTER] knows I'm there," with the name of the respondent's favourite character inserted into each item. Responses were provided on a 7-point scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

Parasocial Relationships. The degree to which participants experience a parasocial bond with their favourite TV character was measured using Cole and Leets' (1999) Parasocial Interaction Scale. Originally developed by Rubin and colleagues (1985) to assess individuals' involvement with newscasters, this scale was developed during a time in which parasocial interaction and parasocial relationships were conceptually conflated and the terms were used interchangeably. Cole and Leets' revision of the scale involved replacing the term "newscasters" with "favourite TV personality", as well as removing five items that contributed to low reliability. The final 15-item questionnaire focuses on capturing the long-term, relational or friendship-like nature characteristic of parasocial relationships. This is well-evidenced by items such as "I think my favorite TV personality is like an old friend" and "My favorite TV personality keeps

me company when his or her program is on television." In other words, despite its name, this scale measures parasocial relationships rather than parasocial interaction. For the purposes of our study, we replaced the term "my favorite TV personality" with the name of the favourite TV character provided by each of our participants. Responses were given using a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). This scale has satisfactory reliability and the authors have also demonstrated that this questionnaire measures one underlying construct through factor analysis (Cole & Leets, 1999).

Personality. As in Studies 1-3, the Big Five Inventory (BFI-44; John & Srivastava, 1999) was used to assess Conscientiousness, Extraversion, Agreeableness, and Neuroticism (i.e., the four broad personality traits that have been shown to be related to attachment).

Procedure

Participants completed the study online in exchange for course credit. They first completed the ASQ and BFI, in randomized order. Upon completing these measures, participants were asked to identify their favourite TV character and subsequently responded to the parasocial relationship, parasocial interaction, and character identification questionnaires in relation to this character, the order of which was also randomized. In addition, participants completed a number of questionnaires that are related but not immediately relevant to the purpose of the current study. These include measures of the need to belong, the need for affect, trait transportation, and perceived interpersonal closeness with favourite characters. Lastly, the participants completed a set of demographic questions and were debriefed upon completion of the study.

Results

Descriptive statistics are reported in Table 10 and correlations among the measures are reported in Table 11. Study 4 investigated how attachment anxiety and avoidance relate to engagement with fictional characters. Specifically, are these two attachment dimensions uniquely associated with different types of character engagement? If so, are these associations truly a function of attachment or could they be explained by broad, domain-independent, traits? A series of regressions was employed to answer these questions in relation to the three forms of character engagement: character identification, parasocial interaction, and parasocial relationships.

How does adult attachment relate to character identification?

According to past research, the two adult attachment dimensions are differentially related to the degree to which individuals form parasocial relationships with TV characters, but is the same true with respect to character identification? Zero-order correlations were first examined to test how attachment and character identification are related and these revealed an entirely opposite pattern of associations compared to what has been observed in relation to parasocial relationships. Specifically, identification with a favourite TV character was positively related to attachment avoidance and unrelated to attachment anxiety. A follow-up regression analysis including both anxiety and avoidance as predictors to control for shared variance confirmed the unique nature of these associations: avoidance was a positive predictor of character identification (b = 0.36, p = .04), whereas anxiety was unrelated (b = 0.01, p = .95)[8]

We next examined whether these associations would remain after controlling for the influence of broader trait dimensions. In addition to anxiety and avoidance scores, the

four personality traits relevant to attachment were also included in the regression model as control variables (Table 12). This analysis revealed that avoidance was a unique predictor of identifying with a favourite character, controlling for attachment anxiety as well as the relevant Big Five traits (i.e., Extraversion, Agreeableness, Conscientiousness, and Neuroticism). Attachment anxiety, however, did not emerge as a unique predictor of character identification in these regressions, consistent with what was observed with the zero-order correlations.

How does adult attachment relate to parasocial interaction?

Based on previous research on attachment and parasocial relationships, we expected to see a positive relationship between attachment anxiety and parasocial interaction. Given that previous work failed to find a link between attachment avoidance and parasocial relationships, we expected that this lack of association will extend to parasocial interaction. Surprisingly, zero-order correlations revealed that tendency to perceive an interaction with a favourite TV character was positively related to both attachment anxiety and avoidance. This was true even after shared variance was taken into account: both anxiety ($b = 0.33$, $p = .05$) and avoidance ($b = 0.43$, $p = .03$) were positive unique predictors of parasocial interaction with favourite TV characters[9].

Next, we tested whether these associations were unique to each attachment dimensions after controlling for broad trait domains. Due to concerns over non-normality and heteroscedasticity identified through regression diagnostics, a robust regression was employed. As in the previous analysis, anxiety, avoidance, Extraversion, Agreeableness, Conscientiousness, and Neuroticism were all entered into one model (Table 13). The results of this analysis show that both anxiety and avoidance were unique predictors of a

tendency to perceive a mutual awareness and attention between oneself and one's favourite TV character. Importantly, this was true even after controlling for broad-level personality traits.

How does adult attachment relate to parasocial relationships?

The association between attachment and parasocial relationship with a favourite TV character was first examined through zero-order correlations. We found that parasocial relationship quality was positively related to attachment anxiety and unrelated to attachment avoidance, in line with previous research (e.g., Greenwood, 2008). A follow-up regression analysis controlling for shared variance between anxiety and avoidance confirmed that anxiety was a unique positive predictor of parasocial relationship scores ($b = 0.21$, $p < .01$), whereas avoidance was unrelated ($b = 0.06$, $p = .56$)[10].

We next investigated whether each of the two attachment dimensions was uniquely associated with parasocial relationships with a favourite TV character, controlling for the broad trait personality dimensions of Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The model included anxiety and avoidance scores as predictors and personality traits as control variables (Table 14). Our analysis revealed that anxiety was a unique predictor of strong feelings of friendship towards a favourite TV character, even after controlling for attachment avoidance and the personality traits relevant to attachment (i.e., Extraversion, Agreeableness, Conscientiousness, and Neuroticism). Attachment avoidance, however, did not emerge as a unique predictor of having a close parasocial relationship with a favourite TV character.

Discussion

The aim of Study 4 was to explore how trait attachment relates to the way in which individuals become involved with fictional characters. Specifically, we focused on whether attachment anxiety and avoidance predict viewers' tendencies to engage in character identification, parasocial identification, and parasocial relationships with their favourite TV characters. In addition, we controlled for broad-level personality traits to rule out broader tendencies not specific to the relationship context for any observed associations with respect to attachment.

Our results suggest that the influence of attachment on how individuals relate to others extends beyond the real world and into the world of fiction. We examined three conceptually distinct forms of character engagement and found that viewers' trait attachment differentially predicted how these viewers engage with their favourite TV characters. Attachment avoidance was a positive predictor of the tendency to identify with favourite characters, whereas attachment anxiety was unrelated. Both attachment anxiety and avoidance were positive predictors of parasocial interaction with favourite TV characters. Replicating previous work, our study also showed that higher levels of attachment anxiety predicted stronger parasocial bonds, whereas attachment avoidance was unrelated. Importantly, all these associations persisted once we controlled for the four broad personality traits related to attachment, suggesting that the observed effects are unique to the relationship context. Moreover, the statistically conservative nature of this approach increases our confidence that the observed effects are a function of individual differences in attachment.

Taken together, this divergent pattern of results with respect to attachment suggests that the way in which people engage with fictional characters may be consistent

with how they respond to social targets in the real world. Specifically, anxiously-attached individuals tend to seek proximity to others, whereas avoidantly-attached individuals tend to try to maximize their distance from other people. Our findings with respect to attachment anxiety do seem to fit a proximity-seeking motivation. Higher levels of attachment anxiety corresponded to a tendency to feel a false sense of mutual awareness with favourite characters and to developing strong emotional bonds with them. However, attachment anxiety was not related to the tendency to experience a narrative through a favourite character's eyes via the process of identification.

These findings suggest that anxiously-attached individuals engage with characters in ways that allow them to experience a sense of connection with someone. For example, parasocial interaction involves perceiving one's favourite character as a separate entity with whom one can "interact." Although limited, the nature of this interaction is overall non-threatening and positive. Specifically, viewers feel that the character is aware of them, attends to them, and adjusts his or her behaviour accordingly. Interestingly, these are also the central features of attunement, a key process in the formation of one's attachment orientation (Schore & Schore, 2008). The development of a secure bond with a caregiver is contingent upon continuous emotional attunement between the caregiver and the infant, whereby caregivers communicate that they are aware of the infant's needs and respond to them accordingly, either verbally or non-verbally. Emotional attunement is also a fundamental feature of attachment-based psychotherapy, in which the therapist responds to the client's verbal and non-verbal cues in ways that communicates that the client is seen and understood (Wylie & Turner, 2011). Although the levels of perceived attunement in parasocial interaction cannot parallel those encountered in the context of

therapy, it may nevertheless appeal to anxiously-attached individuals, who experienced missattunement with their caregivers earlier in life. In other words, parasocial interaction may appeal to anxiously-attached people not only because it provides an opportunity to be close to another individual, but also because this "person" can provide some sense of attunement with another being.

We also replicate past research demonstrating a positive association between attachment anxiety and a tendency to form parasocial relationships. This is consistent with the general trend among anxiously-attached individuals to be preoccupied with relationships and seek the company of others. In parasocial relationships, viewers perceive their favourite character to be like an old friend, who can keep them company and make them feel like they are a part of a group. Importantly, these relationships are less threatening than real-world relationships in the sense that there is a minimal risk that the character will leave or reject the viewer. Thus, parasocial relationships are likely an attractive form of character engagement for anxiously-attached viewers because it provides a risk-free sense of closeness to a friend.

On the other hand, character identification is a process in which the character acts as a lens through which the story is experienced. Consequently, this latter form of character engagement might not appeal to anxiously-attached individuals because it does not provide an opportunity to connect or feel close to another. Overall, these results are consistent with past research and our expectations. That is, attachment anxiety predicts a tendency to engage with fictional characters in ways that maximize proximity to a supportive other.

However, our findings with respect to avoidant attachment and its relation to character engagement are somewhat more complex. As expected, we found that attachment avoidance was a positive predictor of character identification. It is possible that avoidantly-attached individuals gravitate towards characters who embody traits that they find desirable, such as autonomy and independence. Experiencing a story through such characters could lead to shifts in the viewer's self-concept, such that he or she may temporarily feel more autonomous and independent. This may be especially attractive for avoidantly-attached individuals, who self-soothe by minimizing their reliance on others and emphasizing their own autonomy. Additionally, we replicate past research showing a lack of association between avoidant attachment and parasocial relationships. This was also consistent with our predictions, as the strong relational aspect of this form of character engagement was unlikely to appeal to avoidantly-attached individuals.

Surprisingly, however, we found that avoidant attachment was a positive predictor of the tendency to engage in parasocial interaction. In other words, like anxiously-attached individuals, avoidantly-attached individuals also tend to perceive favourite characters as separate entities. However, unlike anxiously-attached individuals, avoidant people do not tend to form friendships with these characters. Why might this be the case? Similarly to anxiously-attached individuals, those high in attachment avoidance also experienced missattunement with their caregivers at early age. One possibility is that parasocial interaction can provide an opportunity for perceived attunement. There is some recent evidence, albeit mixed, suggesting that avoidant defenses can be overcome when strong positive social feedback is present (Carvallo & Gabriel, 2006, MacDonald & Borsook, 2010, cf: Philipp-Muller & MacDonald, 2017). It is possible that parasocial

interaction can provide an opportunity for avoidantly-attached individuals to experience a level of attunement from a safe distance, without getting "too close," whereas the relational nature of parasocial relationships might be perceived as too threatening or overwhelming.

Another possibility is that avoidantly-attached individuals do form parasocial relationships with fictional characters, but downplay these feelings when asked directly about them. This is consistent with avoidant defenses that keep emotional and relational experiences away from conscious awareness in order to deactivate the attachment system (Mikulincer, Shaver, & Pereg, 2003, Fraley & Brumbaugh, 2007; Philipp-Muller & MacDonald, 2017). This makes the measurement of such experiences challenging, especially when relying on self-report. It is possible that the parasocial interaction scale does not trigger avoidant defenses, as opposed to the parasocial relationship scale items, with the latter explicitly addressing feelings of friendship and relational closeness.

Although somewhat mixed, the overall pattern of results suggests that avoidant individuals do seem to engage with characters, but in ways that minimize feelings of friendship or interpersonal closeness. In other words, it appears that the way in which these individuals engage with fictional characters is somewhat consistent with the strategies they employ when interacting with people in real life (i.e., keeping others at a distance). Avoidantly-attached individuals engage with characters through identification and parasocial interaction, but do not get too close to these characters by forming friendships with them.

Interestingly, the interaction between anxiety and avoidance did not predict any type of character engagement. It thus appears that although individuals who are high in

both anxiety and avoidance become transported into narrative worlds, they do not engage with the specific characters that inhabit these worlds in a meaningful way. One possibility is that transportation into narratives allows individuals who are high in both anxiety and avoidance to satisfy their competing goals with respect to proximity seeking. Engaging with narratives on a broader, story-world level may allow these people to feel connected to a social world, while at the same maintaining some distance from any given character. In other words, narrative transportation may allow these individuals to experience social closeness or contact with other social agents, but from a distance safe from rejection or vulnerability.

In Study 4 we demonstrated that whereas both attachment orientations predict parasocial interaction, they do diverge with respect to two other character engagement processes. Specifically, attachment avoidance predicts a tendency to identify with favourite TV characters, whereas attachment anxiety predicts a tendency to form close friendship-like bonds with them. We suggest that this unique pattern of association is a function of self-soothing strategies that are characteristic of each attachment orientation. Specifically, character identification may allow avoidantly-attached individuals to temporarily feel more autonomous and independent, and parasocial relationship may allow anxiously-attached individuals to gain proximity to a sympathetic other. Study 5 further explores this idea by focusing on the perceived characteristics/traits of the characters with whom individuals choose to engage. If avoidant individuals use character identification to self-enhance, then their favourite characters should demonstrate qualities consistent with independence and self-reliance. Similarly, if anxious individuals use

parasocial relationships for emotional/social support, then the characters they choose should demonstrate qualities consistent with providing attention and support.

Chapter 4

Study 4 demonstrates that attachment avoidance and anxiety predict differential patterns of engagement with fictional characters. Specifically, avoidantly-attached individuals tend to engage with favourite TV characters through identification, whereas anxiously-attached individuals tend to do so through parasocial relationships. One possible explanation for this dissociation is that it reflects the different self-soothing strategies for those with different attachment orientations. Avoidantly-attached individuals seek to detach themselves from others and enhance their own sense of autonomy, whereas anxiously-attached individuals seek proximity to others in order to experience a sense of closeness and safety. We propose that character identification and parasocial relationships are uniquely suited to meet these needs of avoidant and anxious individuals, respectively. That is, identification with autonomous and self-sufficient characters may help avoidantly-attached individuals gain a temporary sense of autonomy. Parasocial relationships, on the other hand, may appeal to anxiously-attached people because of the interactive and relational nature of this form of media engagement and its potential to provide a sense of closeness with another person.

A preliminary step for testing this proposed explanation is to examine the types of characters avoidantly and anxiously-attached individuals gravitate towards. Do avoidantly-attached individuals engage with characters through identification because it allows them to feel more independent? If this is the case, then the characters with whom these individuals engage should exhibit traits consistent with autonomy and self-reliance. Similarly, if anxiously-attached individuals engage in parasocial relationships out of a need to feel close to a supportive other, then we would expect their preferred characters

to be warm and non-rejecting. Study 5 sets out to explore this possibility by focusing on the traits of the characters with whom individuals choose to engage. Specifically, we asked participants to rate their favourite TV characters on five personality dimensions germane to our research question: competence and warmth (Fiske et al., 2002), autonomy (i.e., prioritization of personal achievement goals) and sociotropy (i.e., prioritization of interpersonal concerns) (Beck, 1983), and attachment avoidance.

The first aim of Study 5 was to begin exploring whether avoidantly-attached individuals engage in character identification to self-enhance. If this is the case, then these individuals' favourite characters should demonstrate qualities consistent with independence and self-reliance. We hypothesized that levels of attachment avoidance in viewers will positively predict levels of attachment avoidance, competence, and autonomy for characters. Avoidantly-attached characters are likely to embody the avoidant ideal, behaving in ways that maximize independence and minimize emotional intimacy with others. Similarly, characters who are high in competence should appeal to avoidantly-attached viewers because such characters are self-sufficient and self-reliant. Lastly, characters who are high in autonomy will behave in ways that prioritize personal goals and independence, eschewing interpersonal relationships to focus on their career, which should be attractive to the avoidantly-attached. Identifying with characters who are high in avoidant attachment, competence, and/or autonomy thus suits the defensive framework of avoidant individuals and could potentially help them feel more independent and less threatened by intimacy.

The second objective of Study 5 was to lay the groundwork for understanding whether anxiously-attached individuals engage in parasocial relationships to fulfill their

need for emotional connectedness and social support. If this is true, then these individuals' favourite characters should behave in ways that are consistent with providing attention and support. We hypothesized that attachment anxiety in viewers will negatively predict attachment avoidance in characters, and positively predict the warmth and sociotropy of characters. Anxiously-attached viewers should be attracted to characters low in attachment avoidance because such characters are comfortable with intimacy and are more likely to be open and supportive. The same viewers should also like characters who exude warmth because such characters behave in an affectionate and kind manner. Lastly, characters who are high in sociotropy prioritize the needs of others over their own needs and value harmonious relationships, which should appeal to anxiously-attached individuals. Forming parasocial relationships with characters who are low in avoidant attachment, high in warmth, or high in sociotropy might therefore help anxiously-attached individuals feel a sense of closeness to a supportive, caring, and non-rejecting other.

The final goal of Study 5 was to rule out alternative explanations for any observed effects. As in Studies 1-4, we controlled for Extraversion, Agreeableness, Conscientiousness, and Neuroticism to rule out the possibility that the results are a function of broad-level traits rather than attachment. An additional concern was that any association between viewers' attachment and their favourite characters' traits might be a function of a general tendency to perceive others in a certain way. In other words, it is possible that avoidant individuals tend to generally perceive people as avoidant, and this could then account for an observed association between viewer avoidance and character avoidance. We theorize, however, that avoidant individuals gravitate towards and favour

avoidant characters because identifying with such characters helps to increase self-perceptions of autonomy. We therefore wanted to demonstrate that any of the hypothesized relationships between viewer attachment and character traits are unique to favourite characters, rather than the result of a tendency to perceive others in a certain way. To this end, we asked our participants to identify a character they neither liked nor disliked (i.e., had neutral feelings about) and rate this character on the same six personality dimensions they rated their favourite character on. These ratings can therefore serve as a form of control in our analyses. In other words, we expected that the hypothesized associations between viewer attachment and character ratings will be observed when the target is a favourite character, but not with ratings of neutral characters.

Methods

Overview

Study 5 employs a correlational design to examine the association between viewer attachment and the characteristics of favourite characters. If avoidant individuals use character identification to self-enhance, then their favourite characters should demonstrate qualities consistent with independence and self-reliance. This study will focus on three qualities that should appeal to these individuals: high attachment avoidance, high competency, and high autonomy. Similarly, if anxious individuals use parasocial relationships for emotional/social support, then the characters they choose should demonstrate qualities consistent with providing attention and support. For this study we focus on three qualities that should appeal to these individuals: low attachment

avoidance, high warmth, and high sociotropy (i.e., prioritization of interpersonal concerns).

Participants

A total of 509 participants were recruited through Prolific Academic, a crowd-sourcing online platform that connects researchers with participants from around the world. Prescreen items were used to identify prospective participants who indicated in advance that they have a favourite TV character and that they reside in North America. From this initial sample, a total of 95 participants were removed because they did not identify a specific favorite or neutral television character ($N = 2$) or due to concerns regarding inattentive responding ($N = 93$). Specifically, we removed 61 participants who had over 10% of their data missing, as well as 32 participants who failed to answer correctly on any one of three items that were used to detect inattentive or indiscriminate responding. These items were embedded within the measures employed in this study and asked participants to respond with a specific item on the response scale (e.g., "Ignore [character name] for this question and just click on Agree"). All decisions regarding exclusions were made a priori before the data were analyzed. The final sample consisted of 414 participants (198 male), ranging in age from 16 to 66 ($M = 30.10$, $SD = 10.42$).

Materials

Viewer attachment Orientation. As in Study 4, the ASQ (Feeney, Noller & Hanrahan, 1994) was used to assess our participants' attachment anxiety and attachment avoidance.

Character Attachment Orientation. Participants' perceptions of characters' attachment anxiety and avoidance were assessed using the Experiences in Close

Relationship Scale-Short Form (ECR-SF; Wei, Russell, Mallinckrodt, & Vogel, 2007). The rationale for using this measure over the Attachment Style Questionnaire was twofold. First, we wanted to address concerns that an observed association between self-ratings and character ratings could be inflated due to common measurement variance. We also selected a shorter questionnaire for the character rating portion in attempt to reduce participant fatigue. This scale consists of 12 items, with six items measuring attachment anxiety (e.g., "[CHARACTER] needs a lot of reassurance that s/he is loved by his/her partner.") and six items measuring attachment avoidance (e.g., "[CHARACTER] is nervous when partners get too close."). Participants were instructed to rate these items based on how the character generally experiences relationships, rather than what is happening in a current relationship. Responses were made on a 7-point scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*). The ECR-SF possesses acceptable levels of internal consistency, test-retest reliability, and construct validity (Wei, Russell, Mallinckrodt, & Vogel, 2007).

Character Competence/Warmth. Participants rated characters on warmth and competence using the Warmth and Competence Scales developed by Fiske and colleagues (2002). Six items assessed perceived competence (e.g., "How capable is [CHARACTER]?") and six items were used to measure perceived warmth (e.g., "How friendly is [CHARACTER]?"). Responses were made on a 7-point scale from 1 (*Not at all*) to 7 (*Extremely*). Both scales demonstrate acceptable levels of internal consistency (Fiske et al., 2002).

Character Autonomy/Sociotropy. Participants rated characters on autonomy and sociotropy using the Personal Style Inventory-II (PSI-II; Robins, Ladd, Welkowitz,

Blaney, Diaz, & Kutcher, 1994). They were presented with 48 items and asked to rate how well these statements apply to the target character. Half of the items measured perceived concerns over autonomous achievement (i.e., autonomy) (e.g., "[CHARACTER] feels controlled when others have a say in his/her plans"), and the other half assessed concerns over interpersonal relationships (i.e., sociotropy) (e.g., "[CHARACTER] judges himself/herself based on how [CHARACTER] thinks others feel about him/her"). Responses were made on a 6-point scale ranging from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). The original measure possesses a good factor structure, as well as acceptable levels of internal consistency and test-retest reliability (Robins et al., 1994).

Participant Personality. As in Studies 1-4, the BFI-44 (John & Srivastava, 1999) was used to assess participants' Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

Procedure

Participants completed the study online in exchange for £5 and all questionnaires were presented in a randomized order. Participants were asked to name their favourite TV show and then identify two characters from this show: their favourite character and a character they neither liked not disliked (i.e., a neutral character). Subsequently, they completed the ECR-SF, PSI-II, and Warmth and Competence Scales for each character, as well as the ASQ and BFI-44 in relation to themselves. In addition to these measures, participants completed a few questionnaires related but not directly applicable to this study's research questions. These included measures of participant relationship status and relationship quality (for those currently in a relationship). Participants were also asked to

rate their favourite and neutral character's general personality using a Big Five personality questionnaire, as well as complete a parasocial relationship and identification measure in relation to each character. These measures along with the analytic approach were pre-registered with AsPredicted (http://aspredicted.org/blind.php?x=ba6mj6).

Results

Descriptive statistics are reported in Table 15 and correlations among the measures are reported in Table 16. Study 5 investigated how attachment anxiety and avoidance relate to five perceived characteristics of favourite TV characters: character attachment avoidance, character competence, character autonomy, character warmth, and character sociotropy.

A three-step approach was used to examine the association between viewer attachment and each of the character traits listed above. First, we tested each association using a regression model in which viewer attachment avoidance and anxiety were both entered as predictors. Because we hypothesized that viewer anxiety and avoidance would be differentially and uniquely associated to these character traits, we wanted to control for the shared variance between attachment anxiety and avoidance in order to demonstrate that the observed associations are in fact unique to the attachment orientation in question.

If this first analysis yielded results in support of the hypothesized relationship, we conducted two additional follow-up tests, to rule out two explanations. First, we wanted to increase our confidence that viewers' trait attachment, rather than broader-level personality traits, is driving the observed effects. As in Studies 1-4, we ran a secondary regression analysis in which participant avoidance and anxiety scores were entered in the

first block, and Extraversion, Agreeableness, Conscientiousness, and Neuroticism were entered as control variables in the second block. In addition, we wanted to explore the possibility that our results may be a function of an idiosyncratic rating bias unique to attachment avoidance or anxiety. For example, it could be the case that anxiously-attached individuals tend to perceive and rate all others as high in warmth, and this tendency could then account for an observed association between participant anxiety and character warmth. Our second follow-up test aimed to address this concern and to demonstrate that our results were unique to the characteristics of favourite characters. To do so, we repeated the original analysis, replacing the favourite character ratings with neutral character ratings (i.e., viewer attachment avoidance and anxiety were entered as predictors and neutral character ratings served as the outcome variable).

How Does Viewer Attachment Avoidance Relate to Perceived Character Traits?

The first goal of Study 5 was to examine the types of characters favoured by avoidantly-attached individuals. Specifically, we examined whether viewer attachment avoidance predicts higher levels of independence in favourite TV characters. We hypothesized that viewer attachment avoidance would be a positive predictor of character attachment avoidance, character competence, and character autonomy. Furthermore, we hypothesized that these associations would be unique to this attachment orientation. We reasoned that avoidant individuals have a strong need to self-enhance, which may be fulfilled by identifying with self-sufficient characters, whereas the same is not true for anxious individuals.

Character avoidance.

We first examined how viewer attachment avoidance is related to character avoidance, controlling for viewer attachment anxiety (Table 17). Viewer attachment avoidance was a positive predictor of character attachment avoidance, whereas viewer attachment anxiety was unrelated. Because this first test confirmed our hypothesis, we conducted the two follow-up analyses outlined above to further examine this association. We found that the association between viewer avoidance and character avoidance was no longer statistically significant once taking into account the contribution of the broader personality traits: Extraversion, Agreeableness, Conscientiousness, and Neuroticism (Table 17). Additionally, our second follow-up analysis using ratings of neutral characters as an outcome variable revealed that viewer avoidance was unrelated to character avoidance ($b = 0.03$, $p = .75$), suggesting that the association between viewer avoidance and character avoidance is specific to favourite characters.

Character competence.

It appears that there is some evidence to suggest that viewer attachment avoidance predicts higher avoidance in favourite characters, but is the same true with respect to character competence? We predicted that viewer attachment avoidance will be a positive unique predictor of character competence. We first tested how viewer attachment avoidance is related to competence levels in favourite characters, controlling for viewer attachment anxiety. Surprisingly, neither viewer avoidance nor anxiety were related to character competence ($b = 0.02$, $p = .82$ and $b = -0.11$, $p = .09$, respectively). Therefore, our second hypothesis was not confirmed and no follow-up tests were conducted.

Character autonomy.

We first examined how viewer attachment avoidance is related to character autonomy, controlling for viewer attachment anxiety (Table 18). As expected, viewer attachment avoidance was a positive predictor of character autonomy, whereas viewer attachment anxiety was unrelated. Seeing as this first analysis confirmed our hypothesis, we conducted follow-up analyses to further investigate this association. We found that viewer avoidance remained a unique predictor of character autonomy even after controlling for broad-level personality traits (Table 18). In addition, it appears that the association between viewer attachment avoidance and character autonomy is not unique to favourite characters, as we found that viewer avoidance was also positively related to the autonomy scores of neutral characters ($b = 0.11$, $p = .06$).

How Does Viewer Attachment Anxiety Relate to Perceived Character Traits?

The second goal of Study 5 was to assess the types of characters favoured by anxiously-attached individuals. Specifically, we examined whether viewer attachment anxiety predicts higher levels of warmth and supportiveness in favourite TV characters. We hypothesized that viewer attachment anxiety would be a negative predictor of character attachment avoidance, and a positive predictor of character warmth, and character sociotropy. Furthermore, we hypothesized that these associations would be unique to attachment anxiety, controlling for avoidance—if it is the case that avoidantly-attached viewers engage with characters to enhance their sense of self-reliance, then these characteristics are unlikely to appeal to them.

Character avoidance.

We predicted that viewer attachment anxiety will be a unique negative predictor of character avoidance. However, viewer attachment anxiety was unrelated to attachment

avoidance in favourite characters, controlling for the effects of viewer avoidance (Table 17). Therefore, our fourth hypothesis was not confirmed and no follow-up tests were conducted.

Character warmth.

We next turned our attention to character warmth. We expected that anxiously-attached viewers would be attracted to friendly and well-meaning characters and would want to form parasocial bonds with them. We therefore predicted that viewer attachment anxiety would be a positive unique predictor of warmth in favourite characters. Our first analysis, however, did not support this hypothesis, as viewer attachment anxiety was unrelated to character warmth ratings, controlling for viewer avoidance ($b = 0.003$, $p = .97$). No follow-up tests were conducted as the first step in our analytic strategy did not yield promising results.

Character sociotropy.

Up to this point, our hypotheses with respect to anxiously-attached viewers have not been confirmed. We did not find evidence to support the idea that these individuals favour characters who display low levels of attachment avoidance and/or high levels of warmth, but what about character sociotropy? We first examined how viewer attachment anxiety is related to character sociotropy, controlling for viewer attachment avoidance (Table 19). As predicted, viewer attachment anxiety was a positive predictor of character sociotropy, whereas viewer attachment avoidance was unrelated. Because this first step confirmed our hypothesis, we conducted follow-up analyses to further explore this effect. We found that viewer anxiety remained a unique predictor of character sociotropy even after controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism

(Table 19). Also in support of our hypothesis, the association between viewer anxiety and character sociotropy was not present when neutral character ratings replaced favourite character ratings as the outcome variable ($b = 0.06$, $p = .21$), suggesting that the association between viewer anxiety and character sociotropy is unique to favourite characters.

Discussion

The current study builds upon the findings from Study 4 to provide further support to the idea that the effects of attachment on interpersonal relationships extends to fictional others. In Study 4, we found that attachment avoidance predicts a tendency to engage with favourite characters through the process of identification, whereas attachment anxiety predicts a tendency to form parasocial relationships with beloved characters. In other words, attachment avoidance and anxiety are differentially related to *how* viewers engage with fictional characters. We extend these findings in Study 5 by demonstrating that these two attachment orientations are also distinctly related to *who* viewers engage with. In particular, we focused on whether levels of attachment avoidance and anxiety in viewers predict perceived levels of attachment avoidance, competence, autonomy, warmth, and sociotropy in favourite TV characters. As in Studies 1-4, we also controlled for broad-level individual differences to demonstrate that any observed associations are a function of viewers' attachment. Moreover, we conducted parallel analyses using neutral character ratings in order to increase our confidence that any effects we uncovered were unique to favourite characters.

In Study 4, we found that viewers' levels of attachment avoidance predicted a tendency to identify with favourite TV characters. We hypothesized that this association

was a function of avoidant individuals' chronic need for independence and self-reliance in order to feel safe. We posited that avoidant viewers are attracted to characters who embody autonomous characteristics and that they subsequently engage in identification with those types of characters to temporarily assume these traits themselves. In other words, character identification could constitute a process by which avoidant individuals shift their sense of independence in order to self-enhance and self-soothe. In line with this idea, we predicted that viewer attachment avoidance will be positively related three traits in favourite TV characters: attachment avoidance, competence, and autonomy. As expected, we found that viewer attachment avoidance was a predictor of character attachment avoidance and autonomy. Surprisingly, however, viewer avoidance was unrelated to character competence.

Why did we fail to see an association between viewer avoidance and character competence? We expected that high levels of competence would be accompanied by strong self-reliance and self-direction, qualities which should appeal to avoidantly-attached individuals. However, a close examination of the items used to assess character competence in our study revealed that this scale primarily focused on assessing level of skill, knowledge, and ability. In other words, the items were largely non-social in nature and did not measure how characters' competence plays out in the context of their interpersonal relationships, if at all. In hindsight it is possible that proficiency and skillfulness bears little influence on one's willingness or tendency to rely on others. In contrast, our measures of character avoidance and autonomy were largely focused on how the character relates to others: the attachment avoidance items referenced discomfort with closeness and emotional disclosure, and the autonomy items assessed compulsive

self-reliance, perfectionism, and defensive separation from others. In other words, it appears that avoidant viewers are especially sensitive to characters' attitudes and behaviour in a social context. Taken together, these results suggest that these viewers favour characters who eschew emotional intimacy with others. Importantly, the same associations did not emerge with respect to viewer anxiety, suggesting that avoidant and anxious viewers do gravitate towards different types of characters.

What about our anxiously-attached viewers? What qualities do their favourite characters possess? In Study 4, we found that viewers' levels of attachment anxiety predicted a tendency to form parasocial bonds with favourite TV characters. We postulated that this association stems out of the habitual motivation in anxiously-attached individuals to form relationships with others and to use them as a source of safety. In accordance with this idea, we predicted that attachment anxiety in viewers would be inversely related to attachment avoidance in favourite characters. We also predicted that viewers' attachment anxiety will be positively related to levels of warmth and sociotropy in their favourite characters. Surprisingly, our results show that viewer anxiety was only related to the latter.

Why might viewer attachment predict character sociotropy, but not character avoidance or warmth? One approach to understanding these mixed results is to examine what distinguishes sociotropy from (low) attachment avoidance and warmth. Although all three traits are characterized by being interpersonally oriented and having a high tolerance for intimacy, sociotropy is unique in that it emphasizes pleasing others and prioritizing others' needs (Beck, 1983). Individuals who are high in sociotropy are overly concerned about avoiding disapproval from others, which leads them to behave in an

overly affectionate, protective, and helping manner. This characteristic appears to be absent in attachment avoidance and warmth. Specifically, our measure of attachment avoidance operationalizes low avoidance as being at ease with relying on others for help and intimacy. It does not assess whether one reciprocates the help they receive from others. Similarly, an inspection of the items used to measure character warmth reveals that they primarily focus on having a friendly and good-natured demeanor. In other words, this measure mainly assesses whether an individual is affable and welcoming, as opposed to explicitly helpful and supportive to intimate peers. It is possible that the needs of anxiously-attached viewers in the context of parasocial relationships are more nuanced than we had previously believed. More to the point, it is possible that these individuals attempt to maximize their sense of emotional safety by bonding with characters who behave in an overly nurturant manner. However, further work is needed to better understand the nature of this association.

Although some of our hypotheses were not confirmed, the overall pattern of results suggests that avoidant and anxious individuals do tend to favour different types of characters. Taken together, it appears that avoidant viewers favour characters who prioritize autonomy, whereas anxious viewers favour characters who prioritize interpersonal relationships. It is important to note, however, that our follow-up analyses raise some doubts regarding the robustness of our findings involving avoidantly-attached viewers. Specifically, we found that viewer avoidance was no longer a significant predictor of character avoidance after controlling for viewers' broad-level personality traits. Furthermore, we found that in addition to predicting autonomy levels in favourite characters, viewer avoidance also predicted levels of autonomy in neutral characters,

suggesting that the association between viewer avoidance and autonomy could be a function of a third variable (e.g., a rating bias). Overall, these statistically-conservative analyses suggest that the phenomenon we are attempting to capture with respect to avoidant viewers is rather nuanced and complex, and that further work is required to better understand the underlying mechanisms and potential outcomes (e.g., does identifying with favourite characters actually facilitate feelings of independence, self-reliance, and safety?).

Our results pertaining to anxiously-attached viewers, however, were rather robust. Viewer anxiety remained a unique predictor of character sociotropy after controlling for viewers' general personality traits, and viewer anxiety is also unrelated to sociotropy ratings of neutral characters. This conservative statistical approach increases our confidence that this association is a function of attachment anxiety specifically, and not general anxiety, and that it is unique to favourite characters.

Given that the association between viewer anxiety and sociotropy in favourite characters is the most robust and stable effect in Study 5, we chose to focus on further examining the association between attachment anxiety and parasocial relationships in Study 6. This study explores the possibility that parasocial relationships function as attachment bonds for anxiously-attached viewers (Bowlby, 1982, Mikulincer & Shaver, 2007). An attachment relationship is a specific form of close relationships in which one person comes to see the other as an attachment figure. The way in which individuals relate to their attachment figures has four essential characteristics: (i) attachment figures provide a sense of comfort and support, (ii) the unavailability of an attachment figure can cause separation anxiety (iii) attachment figures are a target of emotional or physical

proximity-seeking, and (iv) attachment figures act as a secure base from which one can explore the world.

Could favourite TV characters act as attachment figures for anxiously-attached viewers? These individuals are less likely to have reliable attachment figures in their lives and may indeed turn to fictional characters in attempt to feel safe. The results from Study 5 highlight the importance that helpful and supportive behaviours hold for anxiously-attached viewers in their favourite characters. Moreover, evidence from previous research suggests that thinking about a favourite character can alleviate negative affect (Derrick et al., 2009) and that viewers do experience separation anxiety in response to the loss of their favourite characters, with anxiously-attached viewers experiencing the most distress (Cohen, 2003, 2004; Eyal & Cohen 2006).

In Study 6, we begin to explore the idea that parasocial relationships can function as attachment bonds for anxiously-attached viewers. Specifically, we examined the role of emotional intimacy in the link between attachment anxiety and parasocial relationships. As viewers are often privy to characters' inner workings and secrets, gaining a sense of emotional closeness with fictional characters may be especially easy, and this may be very attractive to anxiously-attached viewers. If anxiously-attached individuals are motivated to engage in parasocial relationships out of a desire for emotional intimacy, then this lends further support to the idea that they may view their favourite characters as attachment figures. This is because attempts to create and experience emotional intimacy is a form of proximity seeking—one of the four essential elements of an attachment bond (Mallinckrodt, 2010).

Chapter 5

Study 5 demonstrated that anxiously attached viewers favour characters who are high in sociotropy. In other words, these characters prioritize others' needs over their own, invest greatly in their interpersonal relationships, and tend to demonstrate nurturing behaviour (Newman, Gray, Fuqua, & Choi, 2009). This seems to support our proposition that engaging in parasocial relationships provides anxiously-attached viewers with a sense of safety and helps them regulate their distress. More precisely, it may be the case that for anxiously-attached individuals, parasocial relationships serve the function of an attachment bond.

Attachment theory makes a distinction between close relationships in general and attachment relationships (Bowlby, 1982, Mikulincer & Shaver, 2007). Specifically, the latter is a special case of the former, occurring when individuals come to view certain relationship partners as attachment figures. These attachment figures can take various forms, including individuals (e.g., relatives, co-workers, friends, romantic partners), groups (i.e., church, sports team), or symbolic figures (e.g., God) (Shaver and Mikulincer, 2014). What distinguishes attachment relationships from other close relationships is their strong security and intimacy components, which in turn makes these bonds important for psychological well-being.

Attachment relationships have four distinct characteristics that differentiate them from other close relationships (Bowlby, 1982, Mikulincer & Shaver, 2007). First, attachment figures function as a safe haven and provide a sense of solace, comfort, and support to individuals who might be feeling distressed, injured or threatened. The second characteristic of an attachment relationship is the experience of separation anxiety in

response to actual or potential unavailability or loss of the attachment figure. The third feature of attachment relationships is proximity seeking. When individuals feel distressed or unsafe, they will attempt to gain proximity to their attachment figures in order to gain a sense of physical and/or emotional closeness. Proximity seeking can take various forms, such as trying to reduce the physical distance between oneself and one's attachment figure, as well as closely attending to or monitoring the attachment figure's behaviour and whereabouts (Simpson & Rholes, 2012). Lastly, attachment figures function as secure base from which people can explore the world and enhance their understanding of themselves as unique individuals.

Anxiously-attached individuals, who frequently worry about the availability of their real-life attachment figures, might be attracted to the relative stability of parasocial relationships and come to view their favourite characters as attachment figures. Indeed, there is some evidence to support the idea that TV characters could serve some of the functions characteristic of an attachment figure. For example, work by Derrick and colleagues (2009) suggests that favourite fictional characters can serve as a safe haven. In their study, thinking about a favourite TV character following a stressful experience buffered against drops in mood, self-esteem, and perceived rejection; the same was not observed for a non-favourite TV character. In addition, work by Cohen (2003, 2004) demonstrates that individuals experience distress over the real or potential loss of a favourite character. For example, Eyal and Cohen (2006) studied viewers' responses to the finale of the TV show Friends and found that some viewers experienced a sense of loss, sadness, and anger. Importantly, viewers who reported more intense parasocial relationships with the characters of Friends experienced greater levels of negative affect.

Interestingly, in the context of adult attachment, anxiously-attached participants reported the most distress in response to the potential loss of a favourite character, compared to securely- or avoidantly-attached participants (Cohen, 2004).

In Study 6, we continue to explore the association between attachment anxiety and parasocial relationships by focusing on the third characteristic of attachment bonds: proximity seeking. Anxiously-attached individuals have a chronically-activated goal of establishing a sense of physical and/or emotional closeness with others in an effort to feel safe. Although parasocial relationships are limited in that characters are physically out of reach, they can grant a level of perceived emotional intimacy that might be difficult to achieve in real life. Viewers are often privy to characters' inner thoughts, desires, and secrets, and characters may even address the viewers directly to disclose confidential information (e.g., so-called "breaking the fourth wall," like Frank Underwood on *House of Cards*). Moreover, viewers do not need to risk being vulnerable themselves in order to enjoy this level of emotional disclosure. Thus, gaining a sense of emotional intimacy with fictional characters can be relatively quick, easy, and safe compared to real-world relationships. In this way, parasocial relationships may be uniquely suited to fulfill anxious individuals' strong craving for emotional proximity (Collins & Read, 1990; Simpson & Rholes, 2012, 2017; Mallinckrodt, 2010; Shaver & Mikulincer, 2002).

For these reasons, we believe that the need for emotional intimacy might partially mediate the association between attachment anxiety and parasocial relationships. In other words, we propose that individuals who are higher in attachment anxiety are motivated to form parasocial relationships by a need for emotional closeness. The primary goal of Study 6 was to examine this possibility by providing an alternative opportunity for

emotional intimacy and measuring the subsequent effects on parasocial relationships. All participants were first presented with a relationship-threat scenario in order to elicit attachment-related strategies and make anxious individuals' proximity seeking behaviour more salient. Subsequently, half of our participants were given an opportunity to interact with an online chat partner whereas the other half did not. We hypothesized that anxious participants whose need for emotional proximity was satisfied through this interaction would feel less compelled to connect with their favourite characters, compared to anxious participants with a still-active need for emotional intimacy. In other words, we predicted that the association between attachment anxiety and parasocial relationships would be weaker in the condition where participants were allowed to experience emotional intimacy compared the condition in which this opportunity was not provided. As in Studies 1-5, we controlled for Extraversion, Agreeableness, Conscientiousness, and Neuroticism in follow-up analyses to rule out the possibility that these general personality traits are responsible for any observed effects.

Methods

Overview

Study 6 employed an experimental design to examine whether the association between attachment anxiety and parasocial relationships could be partially explained by a need for emotional intimacy. If anxiously-attached individuals are motivated to form parasocial relationships by a need to feel emotionally close to others, then satisfying this need should temporarily reduce the degree of self-reported parasocial closeness with a favourite character.

Participants

A total of 434 undergraduate students were recruited through York University's Undergraduate Research Participant Pool and completed this study in-lab in exchange for course credit. Prescreen items were used to identify prospective participants who have previously indicated that they have a favourite TV character. From this initial sample, we removed 26 participants because they did not name a specific favorite television character during the study, as well as two participants who experienced a technical interruption during the study (i.e., computer restarted). In addition, we removed 56 participants due to concerns over inattentive responding. Specifically, we removed one participant who had over 80% of their data missing, one participant who spoke to their friend during the study, as well as 54 participants who failed to answer correctly at least one of the two items that were used to detect inattentive or indiscriminant responding. These items were embedded within the questionnaires employed in this study and asked participants to select a specific item on the response scale (e.g., "Click on slightly agree and proceed to the next question."). Lastly, we also removed 13 participants who spontaneously expressed suspicion over whether or not their online chat partner was real. All decisions regarding exclusions were made a priori before the data were analyzed. In total, 97 participants were removed and the final sample consisted of 337 participants (98 male), ranging in age from 17 to 52 (M = 19.62, SD = 3.06). The majority of our sample (73%) reported their relationship status as single.

Materials

Attachment. As in Studies 4 and 5, the Attachment Style Questionnaire (ASQ; Feeney, Noller & Hanrahan, 1994) was used to assess participants' attachment anxiety and attachment avoidance.

Personality. As in Studies 1-5, The Big Five Inventory (BFI; John & Srivastava, 1999) was used to measure Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

Threat Manipulation. In order to make attachment-related behaviour more salient, and to hyper-activate anxiously-attached individuals' need for reassurance and proximity, we used a relationship-threat manipulation created by Crisp and colleagues (2009). All participants were presented with a hypothetical scenario about a fight with a significant other and asked to spend three minutes writing about how they would feel if they were in the following situation:

> While in a discussion with your boy/girlfriend about the current state of your relationship, it comes to light that he/she is not happy with the relationship as it is, and would like to spend some time apart and have some time to think. This came as a shock to you as you were under the impression things were fine and you think time apart could do more harm than good. The discussion escalates into a full-blown row and your boy/girlfriend storms out of the house slamming the door, leaving the situation unresolved. When you try to contact him/her the phone is constantly switched off. You have no means of contact.

Emotional Intimacy Manipulation. In order to experimentally foster feelings of emotional intimacy, we used the Relationship Closeness Induction Task (RCIT; Sedikides et al., 1999). The RCIT is a structured self-disclosure procedure consisting of 29 questions, which increase in level of self-disclosure (see Appendix A). The RCIT procedure has been successfully used in previous research to foster a sense of closeness between two previously unacquainted individuals and the RCIT items possess acceptable levels of internal consistency and construct validity (e.g., Sedikides, Campbell, Reeder, & Elliot, 1998, 1999).

For the purpose of this study, we adapted the RCIT to increase our degree of experimental control. Participants were told that they will be testing a new online chat interface and that they will be chatting with another student who was currently sitting in another room on campus. They were presented with the RCIT questions and asked to answer them, one at a time. After providing their answer to each question, participants were presented with their chat partner's answer to the same question. However, these responses were actually pre-programmed, so all participants saw the same answers. A short delay was programmed prior to the presentation of questions and answers in an effort to enhance believability by better simulating a chat with an actual person. In addition, only 24 of the original 29 items were used, due concerns over participant fatigue (the five excluded questions are denoted by an asterisk in Appendix A).

Parasocial Relationships. As in Study 4, the Parasocial Interaction Scale (PSI; Cole & Leets, 1999) was employed to assess the strength of participants' parasocial relationship with their favourite TV characters.

Procedure

Upon arrival at the lab, participants were seated in front of a computer in individual cubicles. They first completed the ASQ and BFI-44 questionnaires, which were presented in a randomized order. After completing these measures, all participants were presented with the relationship threat induction. Subsequently, participants were randomly assigned to either an Emotional Intimacy or a Control condition. Participants in both conditions completed all 24 RCIT items. However, participants in the Emotional Intimacy condition believed that they were responding to these questions in the context of a conversation with a chat partner, whereas those in the Control condition thought they

were responding to yet another psychological measure, with no interaction with another person involved. In other words, the Control condition did not include any element of emotional intimacy or implied social presence. Once participants completed this phase of the study, they were asked to identify and describe their favourite TV character and complete the PSI scale in relation to this character.

In addition to these measures, participants completed several questionnaires not directly relevant to the study's main goal. Participants responded to items assessing their relationship status and relationship quality (for those currently in a relationship)[11], their mood[12], and their impression of their chat partner (if they were assigned to the chat condition). Finally, they also provided demographic information and completed a funnel debriefing to probe for suspicion regarding the veracity of the chat interaction.

Results

Descriptive statistics are reported in Table 20 and correlations among the measures are reported in Table 21. On average, participants who were assigned to the Control Condition completed the study in 40.16 minutes (*SD* = 11.64), and participants who were assigned to the Emotional Intimacy Condition had an average completion time of 48.79 minutes (*SD* = 11.11). Upon closer examination, it was determined that this difference in completion times was largely a function of the string of partner answers' and timed delays that were programmed into the chat task in Emotional Intimacy Condition (a total of 345 seconds), as well as the funnel debriefing questions that were only presented to participants in this condition. Despite this difference in study duration, we did not observe condition differences in parasocial relationship scores (t[315.92] =

1.49, $p = 0.14$, $d = .16$), suggesting that the disparities in completion times did not affect our outcome variable.

We hypothesized that following a threat, the association between attachment anxiety and parasocial relationships will stronger when an alternative opportunity for emotional closeness is unavailable (Control Condition) compared to when emotional intimacy is provided (Emotional Intimacy Condition). In order to test this hypothesis, we first centered participants' anxiety and avoidance scores, and computed interaction terms between the centered scores and condition. We then entered the resultant four variables, alongside a dummy-coded condition variable, into a regression model to examine their effects with respect to parasocial relationships[14].

Our first analysis revealed that the interaction between attachment anxiety and condition was a statistically significant predictor of parasocial relationships ($b = 0.17$, $p = .01$) (Figure 2). However, the nature of this interaction was in the opposite direction of what we had predicted. That is, attachment anxiety was unrelated to parasocial relationships when emotional intimacy was not provided (Control Condition) ($b = 0.04$, $p = .40$), and a positive predictor of parasocial bonds when an opportunity for emotional closeness was available (Emotional Intimacy Condition) ($b = 0.21$, $p < .001$). The interaction between attachment avoidance and condition was not statistically significant ($b = 0.03$, $p = .62$), suggesting that this effect is unique to attachment anxiety.

We next examined whether the observed effects would persist after controlling for overarching trait dimensions related to attachment. Participants' Extraversion, Agreeableness, Conscientiousness, and Neuroticism scores were all centered, and interaction terms between each trait and condition were computed. The resulting eight

variables were then added to the five predictors in the original regression model[15] (Table 22). The interaction between attachment anxiety and condition remained statistically significant even when these four broad-level traits were taken into account. Once again, attachment anxiety and parasocial relationships were unrelated in the Control Condition ($b = 0.05$, $p = .40$) and positively related in the Emotional Intimacy Condition ($b = 0.27$, $p < .001$).

Discussion

In Study 6, we explored the idea that parasocial relationships could serve a similar function to an attachment relationship for anxiously-attached viewers. The main focus of this study was on emotional intimacy and its role in the association between attachment anxiety and parasocial bonds with TV characters. As in all previous studies, we also controlled for broad-level personality traits to increase our confidence that any observed effects are due to individual differences in attachment anxiety.

We proposed that the association between attachment anxiety and parasocial relationships is partially driven by a desire for emotional intimacy. We hypothesized that providing anxiously-attached participants with an opportunity to feel emotional closeness would temporarily satiate this need, which would in turn reduce the appeal of fictional characters. In our study, we predicted a weaker association between attachment anxiety and parasocial relationships among those assigned to chat with a partner compared to those who were not. Surprisingly, the exact opposite pattern of results was observed. That is, attachment anxiety and parasocial relationships were positively related among participants who were provided with an opportunity for emotional closeness with a chat partner, whereas the two were unrelated in participants not assigned to a chat partner.

What could account for these perplexing results? Although we had intended for the chat experience to be a positive one, fostering emotional intimacy and satisfying this need in our participants, it may have inadvertently induced distress in our anxiously-attached participants. There are at least two possible ways in which this may have occurred. First, anxiously-attached participants may have found the chat experience stressful due to their perceived deficits in social self-efficacy (Mallinckrodt & Wei, 2005). Early childhood experiences with unpredictably responsive caregivers often leaves anxiously-attached individuals feeling powerless and ill-equipped to effect desired outcomes in relationships with others (Tronick, 1989). They harbor negative self-views and worry about being rejected and abandoned by others. Thus, it could be the case that anxiously-attached participants found the chat experience to be stressful due to worries about making a good impression and the possibility of being rejected. Unfortunately, the design of the current study precludes us from evaluating this possibility, as we did not employ measures of distress immediately following the chat portion of the study.

Another way in which this chat experience could have ultimately proved stressful, is if we succeeded in producing a sense of emotional intimacy, but then took it away after the chat was over with no recourse to continue it on the part of our participants. In other words, it is also possible that anxiously-attached participants had in fact enjoyed the chat experience. We predicted that anxiously-attached individuals would experience high levels of stress in response to the relationship-threat induction, and that imagining this scenario would hyper-activate their attachment system and send them in pursuit of emotional closeness, support, and reassurance from others. The chat interaction was thus specifically tailored to meet these individuals' needs, with pre-programmed responses

that were pleasant, sincere, and non-judgmental. An examination of participants' open-ended responses to the funnel-debrief supports this idea, with over 80% of participants describing their chat partner and their interaction in a positive light. Thus, it is possible that anxiously-attached participants were in fact temporarily soothed by engaging with their chat partner. However, in retrospect, terminating this experience may have been ironically created a new source of stress for our anxiously-attached participants. This chat task was ended by us; participants did not have any control over when and how their conversation ended. Nor did they have any possibility of re-connecting with their chat partner in any way, after the task was over. Not only did we remove a much-needed source of comfort, but more broadly speaking, this experience could have served as a reminder of the unpredictable availability of supportive others and participants' powerlessness over avoiding abandonment.

Unfortunately, we cannot ascertain which of the two scenarios outlined above had actually occurred. However, we surmise that the chat experience had the unintentional effect of compounding the threat and distress experienced by anxious participants in this condition. Consequently, anxious participants in the chat condition may have felt more compelled to connect with their favourite TV characters compared to those who did not have a chat partner, and thus reported stronger parasocial relationships with these characters. This would be consistent with the results we observed.

As intimated above, this study has several limitations. First, we cannot confidently ascertain whether the differences observed between the two conditions are a function of emotional intimacy. Of primary concern in the failure to employ an appropriate manipulation check. Participants in the Emotional Intimacy condition were

asked questions assessing how close they felt to their chat partner[16], but unfortunately a parallel set of questions was not presented to participants in the Control condition. As such, it is difficult to unequivocally determine the extent of the differences in perceived emotional intimacy across the two conditions.

In addition, while we hypothesize that anxiously-attached individuals engage in parasocial relationships to reduce distress, the current study's design prevents us from investigating this assumption directly. Future studies should examine whether engaging with favourite characters following a stressful event is beneficial for anxiously-attached individuals. For example, researchers could randomly assign participants to watch a video clip that either features their favourite character or a non-favourite character and subsequently test whether this results in divergent effects with respect to well-being. Examining the implications of actual exposure instead of relying on self-reported retrospective accounts may also help enhance the ecological validity of work in this area.

Overall, this study was the first to experimentally investigate a potential mechanism behind the association between attachment anxiety and parasocial relationships. Despite the ambiguity of our results, it is important to highlight their robust nature. Specifically, the interaction between attachment anxiety and condition in predicting parasocial relationships remained significant even after controlling for attachment avoidance and broad personality dimensions related to attachment. In other words, although we cannot be certain of the mechanism underlying our results, we can be fairly confident that they are a function of relationship-oriented worries and needs, rather than a broad-level trait such as the general tendency to worry.

Chapter 6: Discussion

This dissertation focused on two central questions: (1) how does insecure attachment impact the way in which we become involved with stories on a broad level?; and (2) how does insecure attachment influence engagement with fictional characters more specifically? Individual differences in attachment orientations predict how deeply involved people become in social relationships, but do they also influence the extent to which they become invested in fictional social worlds? In Studies 1–3, we found that an interaction between attachment anxiety and avoidance predicted becoming more absorbed into a story at both the trait and state level. In order to extend these findings and to gain a more nuanced understanding of the relation between attachment and narrative consumption, we next turned our attention to examine engagement with specific characters. In Study 4, we found that attachment anxiety predicted a greater tendency towards parasocial interaction and forming parasocial relationships with favourite TV characters. In contrast, attachment avoidance predicted the tendency to identify with characters, in addition to greater parasocial interaction with them. Study 5 expanded on Study 4, demonstrating that viewers higher in attachment anxiety perceive their favourite characters as being more sociotropic, whereas viewers higher in avoidance perceive their favourite characters as higher in autonomy. Finally, in Study 6, we manipulated emotional intimacy and found that attachment and parasocial relationships were positively related after participants were given an opportunity to experience emotional closeness with another person, whereas the two were unrelated when this opportunity was not provided. Overall, our findings suggest that attachment insecurity predicts a greater tendency to engage with narrative fiction, albeit through different processes. Individuals

who are high in both attachment anxiety and avoidance tend to become transported into the story world, but do not report strong engagement with specific characters. Conversely, those high in attachment anxiety form strong friendship-like bonds with fictional characters who prioritize relationships, while individuals high in attachment avoidance engage with fictional agents by identifying with characters who prioritize autonomy.

General Discussion

Attachment theory posits that variations in early caregiver-infant interaction produce individual differences in people's cognitions and behaviour in later life, specifically with respect to interpersonal contexts. The current consensus among attachment researchers is that these differences are best captured by two underlying continuous dimensions (e.g., Simpson & Rholes, 2012). The first dimension, anxiety, represents the degree to which individuals worry about being abandoned and underappreciated. The second dimension, avoidance, describes the extent to which individuals are uncomfortable with emotional intimacy and closeness in relationships. Low scores on both dimensions reflects attachment security, whereas high scores on either dimension or both represents attachment insecurity. Securely-attached individuals believe that the world is a safe place, that others can be relied on for support in times of need, and that they can successfully cope with stressors. On the other hand, insecurely-attached individuals do not feel safe in the world, have a difficult time trusting others, and have not developed adequate skills or resources to manage their emotions effectively. Depending on an individual's levels of anxiety and avoidance, they may attempt to achieve a sense of safety and alleviate distress by either amplifying their pleas for

connection (high attachment anxiety), eschewing intimacy (high attachment avoidance), or some combination of both (high anxiety and high avoidance).

The current dissertation contributes to the attachment literature by demonstrating that individual differences in attachment not only predict how people interact with others in the real world, but also map on to how they interact with fictional others. Specifically, it appears that the propensity to engage with narratives is related to insecure attachment, with the three different styles of insecure attachment being distinctly related to different processes of engagement. In the following section, we outline our results with respect to these three styles (i.e., high anxiety, high avoidance, and high anxiety combined with high avoidance).

Insecure attachment and parasocial relationships.

Individuals who are high in attachment anxiety have a chronically-activated goal to seek intimacy, closeness, and validation (Gillath, Karantzas & Fraley, 2016). They are habitually preoccupied with the fear of abandonment and rely on hyperactivating their attachment system to garner attention, protection, and support from others. To boost their sense of felt safety and soothe their distress, anxiously-attached individuals continuously monitor their environment for available attachment figures and engage in strong attempts to maintain cognitive, emotional, and physical proximity to others (Mikulincer & Shaver, 2007).

The current dissertation demonstrates that the ways in which anxiously-attached individuals engage with narratives is consistent with their underlying desire for intimacy and support. Favourite fictional characters may serve as attachment figures for people who are high in attachment anxiety. In Study 4, for example, we found that attachment

anxiety was uniquely related to the tendency to form parasocial relationships with favourite TV characters. Importantly, this was a relatively specific association, as it was not observed with respect to other forms of character engagement (e.g., attachment anxiety was unrelated to identification with characters). These findings suggest that parasocial bonds appeal to anxiously-attached individuals more so than other forms of narrative engagement, perhaps due to their relational aspect. In support of this idea, the association between attachment anxiety and parasocial relationships persisted after controlling for broad personality traits related to attachment, suggesting that this effect is unique to the relational realms and a function of underlying attachment needs and motives.

This idea was further explored in Study 5 by examining the types of characters with whom anxiously-attached individuals tend to form parasocial relationships. We found that attachment anxiety was a unique predictor of the degree to which favourite characters were invested in interpersonal relationships (i.e., sociotropy). This suggests that sociotropic characters demonstrate attributes that are especially appealing for anxious individuals and their needs. High sociotropy is characterized by attempts to gain approval and support from others, as well as seeking out close and trusting relationships, which are all qualities that align well with the needs of anxiously-attached individuals. In other words, these characters seem like good candidates for the role of an attachment figure because they may be perceived as supportive, accepting, and easy to become close with. Importantly, the positive association between attachment anxiety and character sociotropy was not observed for non-favourite characters. This suggests that how sociotropic a character is plays a meaningful role in the attraction different characters

hold for anxiously-attached viewers. Furthermore, this association remained once general personality traits were statistically controlled, suggesting that core attachment needs are at the source of this effect and not broader trait tendencies.

Study 6 attempted to examine whether the association between attachment anxiety and parasocial relationships is indeed a function of attachment needs. Specifically, we focused on the need for intimacy and emotional closeness as a potential mediator. We found that the association between attachment anxiety and parasocial relationships was stronger among participants who experienced a task designed to promote feelings of closeness with others, compared to the participants assigned to the control condition. These results imply that the mechanism responsible for the association between attachment anxiety and parasocial relationships is social in nature, although further work is required to better understand the nature of this process.

Insecure attachment and character identification.

In contrast to anxiously-attached individuals' proximity-seeking efforts, those who are high in attachment avoidance rely on a different set of strategies to handle feelings of insecurity. These individuals have a chronically-activated goal for independence and are compulsively self-reliant (Pietromonaco & Barrett, 2000). To achieve this goal and a sense of safety, avoidantly-attached individuals utilize strategies that keep their attachment system deactivated and quell painful feelings of inadequacy and insecurity (Gillath, Karantzas & Fraley, 2016). Deactivating strategies include attempting to maximize control and distance in interpersonal relationships, avoiding interactions that require self-disclosure, intimacy, interdependence, or emotional involvement, and suppressing thoughts and feelings related to either attachment or

personal weaknesses (Mikulincer & Shaver, 2007).

Whereas previous studies failed to find an association between avoidant attachment and character engagement (i.e., parasocial relationships; Cole & Leets, 1999), in this dissertation we present new evidence showing that avoidantly-attached individuals do engage with fictional characters, but in manner that is consistent with their underlying need for independence. In Study 4, we have uncovered a divergent pattern of results with respect to attachment and character engagement, such that attachment anxiety predicted parasocial relationships with favourite characters and attachment avoidance predicted character identification[17]. Importantly, the association between avoidance and character identification remained statistically significant after controlling for broad-level personality traits, indicating that this effect is specifically a function of avoidant attachment needs and strategies. Taken together, the findings from Study 4 suggest that avoidantly-attached individuals are not motivated to engage with fictional characters to gain a sense of intimacy or friendship. Instead, given that character identification can produce shifts in self-perception (Sestir & Green, 2010), we proposed that avoidant individuals favour this method of character engagement because it provides them with an opportunity to self-enhance and bolster their coping through affirmation of independence.

We further explored this idea in Study 5 by examining the traits of favourite characters among avoidant individuals. We found that attachment avoidance was uniquely associated with the degree to which favourite characters were concerned with personal achievement and control (i.e., autonomy). The positive link between attachment avoidance and character autonomy was not observed when examining non-favourite characters, suggesting once again that our results shed light on what traits make a

fictional character appealing to avoidant individuals. Furthermore, this association remained even after controlling for general personality traits, implying that deactivating attachment strategies may be a contributing factor at the root of this effect. Taken together, Studies 4 and 5 support the idea that avoidant individuals engage with fictional characters in a manner that is consistent with their attachment motives and tactics. Specifically, they point to the possibility that identifying with characters who are high in autonomy may help avoidant individuals attain a greater sense of control, independence, and accomplishments, at least temporarily.

Insecure attachment and narrative transportation.

Individuals who are high in both attachment anxiety and avoidance have competing goals to both pursue and avoid intimacy. Whereas individuals who are high in avoidance but low in anxiety dodge intimacy because their attachment needs are repressed, those who are high in both avoidance and anxiety enter relationships but then withdraw from them because they are plagued by fears of being rejected, punished, or abandoned (Fraley, Davis, & Shaver, 1998). These individuals have not been able to successfully adapt strategies to facilitate a sense of relationship security, and so they often oscillate between deactivating and activating strategies.

Interestingly, we found that although scoring higher on either anxiety or avoidance predicts engagement with fictional characters, being high on both does not consistently predict engagement with characters. Instead, it seems that these individuals' favoured mode of connecting to fiction is absorption into the narrative world, rather than engaging with specific characters. In Studies 1-3, the overall pattern of results suggested that attachment anxiety was a positive predictor of the tendency to be transported into

narratives, but only when levels of attachment avoidance were high as well. Moreover, these effects were observed after controlling for broad-level personality traits, which increases our confidence that this moderation effect is a function of individual differences in attachment.

What attachment needs could be responsible for this observed effect? One possible clue comes from Study 3, in which we examined how attachment is related to distinct facets of narrative transportation. We found that the interaction between anxiety and avoidance predicted emotional involvement with the narrative, but did not predict other aspects of narrative engagement (i.e., attentional focus, narrative understanding, and narrative presence). One possibility is that transportation into narratives allows individuals who are high in both anxiety and avoidance to satisfy their competing goals with respect to emotional intimacy: both approach and avoidance. Engaging with narratives on a broader, story-world level may allow these people to be a part of a social world (in line with the hyperactivating strategies characteristic of attachment anxiety), while at the same maintaining some distance from any given character (in line with the deactivating strategies characteristic of attachment avoidance). In other words, narrative transportation may allow these individuals to experience social closeness or contact with other social agents, but from a distance safe from rejection.

Another possibility is that narratives might help these individuals to process some emotions related to attachment and relationships, without becoming too overwhelmed by them. Those who are high in both anxiety and avoidance tend to experience the poorest relationship and mental health outcomes (Shaver & Clarke, 1994; Mikulincer & Shaver, 2007). They endure a great deal of anxiety and yearn for others' support and protection,

but simultaneously fear abandonment and rejection, which compounds their distress and leads to hyper-aroused emotions, intrusive thoughts, and poor coping skills. Oatley (1999) suggests that narratives may provide a safe environment for individuals to work through difficult emotional experiences, by permitting control over emotional distance. Emotions experienced through narrative engagement occur at arm's length because they take place in response to events happening to others. Consequently, these affective states may be less threatening. In addition, consumers of stories can always moderate their level of emotional engagement by closing the book or pausing the show. In other words, narratives may provide a safe middle ground for processing difficult emotional content. This makes stories especially attractive for individuals high in both anxiety and avoidance, who have simultaneous and competing desires to amplify and quell the experience of emotion.

Limitations and Future Directions

Despite this dissertation's contribution to the attachment and media psychology literatures, our studies do contain a number of limitations. For example, four of the six studies presented in this dissertation relied on samples consisting solely of university students, and therefore, there is a possibility that these results may not generalize to other populations. In addition, although we hypothesize that insecurely-attached individuals engage with fictional narratives and characters in order to fulfill attachment-related needs, the correlational designs of our studies preclude us from concluding whether this is in fact unequivocally the case. Future studies should more formally examine what psychological mechanisms underlie the association between insecure attachment and story engagement, and whether such engagement can lead to need fulfillment. For

example, a qualitative approach could be applied to interview participants about their motivations to engage with characters and identify common themes. Once core needs and needs have been identified, researchers could apply an experimental approach and randomly assign participants to watch either their favourite character or a non-favourite character, subsequently comparing need fulfillment across the two experimental conditions.

Similarly, we theorized that insecurely-attached individuals utilize fictional narratives and characters as an emotion-regulation tool to quell distress and gain a temporary sense of safety. However, we are unable to determine whether engaging with narratives can in fact lead to reductions in negative affect or improvements in well-being based on our current results. Future research should investigate the implications of narrative exposure and engagement with respect to well-being outcomes, including interpersonal functioning. For example, longitudinal methods could be used to study the development of parasocial relationships and identification over time. Doing so could shed some light on the precursors and the consequences of these processes, enabling us to better understand this behaviour. For instance, a daily diary study could be employed to identify whether narrative and character engagement intensify following stressful events and whether such engagement has a calming effect on individuals' mood. Employing longitudinal methods could also provide insight into whether engaging with narratives and characters can improve emotion regulation and/or reduce attachment insecurity over time. In addition, this type of research could explore the interplay between character engagement and interpersonal functioning (e.g., do parasocial relationships have a detrimental or beneficial influence on one's real world relationships?)

Another limitation of our studies is their primary reliance on self-report questionnaires. It is possible that participants' habitual attachment behaviour influenced their responses to these measures in biased ways (e.g., avoidant individuals tend to under-report feelings of intimacy and to suppress attachment-related memories; Fraley, Davis, & Shaver, 1998). This has the potential of introducing noise to our analyses and increasing measurement error, making the detection of true effects more difficult. Future studies may benefit from supplementing self-report measures with methodologies that allow for indirect assessment of these constructs. For example, implicit measures such as the Implicit Association Test could be used to examine whether avoidant individuals associate their favourite character with friendship, as an implicit measure of parasocial tendencies. Doing so could potentially bypass avoidant defenses that might otherwise bias the responses of avoidant respondents when asked directly. Furthermore, future work should examine the effects of actual exposure to favourite characters, as our studies primarily focused on participants' retrospective accounts of the ways in which they engage with these characters, which may be susceptible to bias or distortion.

Lastly, it is important to point out that the effect-sizes we observed could be seen as relatively small. To put them into context, the average effect-size for social psychology has been estimated to be equivalent to an *r* of .21 (*SD* = .15, *Mdn* = .18; Richard, Bond, & Stokes-Zoota, 2003) with the average effect-size for personality psychology quite similar (*r* = .24, *SD* = .17, *Mdn* = .21; Fraley & Marks, 2007). Moreover, although our effects range from small to average, one cannot infer the practical significance of an effect based on its magnitude (Meyer et al., 2001; Fraley & Marks, 2007). Even small effects can be important when predicting meaningful outcomes

(and large effects can be unimportant depending on the context and outcome). In light of the importance that intimate social relationships have for our well-being, we would argue that the effects reported here should be of broad interest.

Applications

Overall, this dissertation demonstrates that the ways in which individuals engage with narratives is a reflection of their underlying attachment needs, goals, and motivations. The current program of research has the potential of informing the development of future interventions for insecurely-attached individuals. There is currently a growing interest in the use of simulation-based interventions (e.g., e-health) as a cost-effective method of delivering mental health services to individuals who would otherwise have limited access due to geographic, income, or mobility limitations (e.g., Falconer et al., 2016). In New Zealand, for example, residents have free access to an evidence-based online video game developed by a team of researchers and clinicians to help individuals with depression, stress, and anxiety (Merry et al, 2012), and efforts are currently underway to adapt this game to support Canada's Inuit youth (Mueller, 2018). Although development in this area is fairly recent, the evidence to date seems to support the efficacy of such therapeutic modalities and their broader clinical potential. Our findings suggest that a simulation-based intervention may be an effective avenue for treating insecurely-attached individuals given their tendency to engage with narratives and characters.

To give a better sense of what such an intervention might resemble, it's important to start with the fact that fictional narratives are one type of simulation-based intervention that is frequently used in the context of health behaviour (e.g., Kreuter, Holmes, Alcatraz,

Kalesan, Rath, Richter, et al., 2010; Williams, Green, Houston, & Allison, 2011). Narratives can act as a social simulation that can enable people to gain access to a wider range of social experiences than they might encounter in their own lives (Gerrig, 1993; Oatley, 1994, 1999; Mar & Oatley, 2008). With respect to insecurely-attached individuals, fictional narratives could serve to change people's attitudes about relationships by exposing them to positive relationship models in which both partners are supportive and responsive. If it is the case that reading or watching fictional narratives elicits social simulations, then greater engagement during this experience might enhance the degree to which individuals simulate and learn from the story world. Consistent with this idea, there is growing evidence that readers who are absorbed in a story are more likely to shift their attitudes and beliefs to be consistent with those beliefs embedded in the story (explicitly or implicitly), relative to those who are less absorbed (e.g., Green & Brock, 2000; Vaughn, Hesse, Petkova, & Trudeau, 2009; Appel & Richter, 2010). This may be especially beneficial for insecurely-attached individuals, who hold rigid views of themselves and others, which can frequently be difficult to target directly to facilitate change (Cobb & David, 2009). For example, a narrative-based intervention may be able to bypass avoidant defenses and produce temporary shifts towards attachment security. Such an intervention may employ a story centered around a highly autonomous character (to encourage identification) who becomes more trusting and others-oriented as the story progresses. Avoidant individuals who have identified with this character from the outset might then experience a parallel shift in their own sense of trust towards others.

Gillath and colleagues (2008) have also suggested that immersive virtual environment technology could be used for therapeutic purposes. Interestingly, research

has already shown that attachment processes can be observed in immersive virtual environments (Schönbrodt & Asendorpf, 2012; Kane, McCall, Collins, & Blascovich, 2012; Symons et al., 2015). Not only do people's attachment styles affect how they behave towards virtual spouses (Schönbrodt & Asendorpf, 2012), but the behaviour of virtual partners has also been shown to influence people's own attachment behaviour (Kane, McCall, Collins, & Blascovich, 2012). Specifically, participants who crossed a virtual cliff in the presence of a supportive and attentive virtual partner rated the task as being less stressful than those who crossed the cliff alone or in the presence of an unsupportive and inattentive virtual partner. Moreover, having a responsive virtual partner inspired feelings consistent with attachment security (e.g., feeling safe, secure, understood, etc.), whereas having an unresponsive virtual partner elicited behaviours consistent with attachment insecurity (e.g., being more vigilant while crossing the cliff, keeping more physical distance from their partner). Although further research is necessary to examine the extent to which virtual interactions can boost attachment security, these findings do suggest that simulations that allow people to interact with responsive and attentive social targets could have benefits for insecurely-attached individuals, at least temporarily.

In addition, it is possible that our findings could be employed to boost the effectiveness of persuasive campaigns (e.g., advertising, public policy, etc.). Recent research has revealed that the efficacy of persuasive messages can be enhanced by increasing the fit between the framing of the message and the characteristics of its intended audience. For example, advertisements are more effective when they are tailored to appeal to individual's core needs (e.g., need for efficiency in individuals high in

Conscientiousness, need for excitement in individuals high in Extraversion; Hirsh et al., 2012). Consistent with this idea is the practice of segmentation, in which heterogeneous markets are broken down into homogenous sections (Canhoto, Clark, & Fennemore, 2013). Segmentation helps differentiate marketing strategies to tailor advertisement efforts to specific groups, thus increasing the efficacy of targeting and audience engagement. Our results may help optimize segmentation efforts by taking into account the attachment patterns of target audiences. For example, it is possible that persuasive campaigns could be improved by creating a better fit between the recipient's attachment orientation and the individual delivering the message. Specifically, efforts to engage avoidant audiences may benefit from employing a spokesperson whose persona emphasizes autonomy. Along similar lines, campaigns targeting anxious individuals may consider recruiting a celebrity who is high in sociotropy and who is known for creating intimate bonds with fans.

Conclusion

We examined whether individual differences in attachment tendencies extend beyond the real world and into the realm of fictional narratives. Across six studies, we provided evidence that attachment insecurity is related to a greater tendency to engage with fiction, although the process through which this occurs varies as a function of the different types of attachment insecurity. Individuals high in attachment anxiety tend to form friendship-like bonds with fictional characters who are deeply invested in others, whereas individuals high in attachment avoidance tend to identify with characters who are highly autonomous. Lastly, those high in both anxiety and avoidance tend to become deeply absorbed into the broader story world, rather than engaging with a specific

character. We hypothesize that these divergent associations are driven by the distinctive attachment needs that underscore each style of attachment insecurity and their respective emotion-regulation strategies.

Overall, this dissertation demonstrates that the ways in which individuals engage with narratives is a reflection of their underlying social needs, goals, and motivations. In a recent review paper, Costabile and colleagues (2018) have argued that narratives can satisfy the five core universal motives of social behaviour and cognition: belonging, understanding, controlling, self-enhancement, and trust (Fiske, 2004). The results of this dissertation dovetail nicely with this theoretical framework, as they demonstrate that individuals may be motivated to engage with narratives to satisfy differing needs. Anxious individuals, who crave stable relationships and connection with others, might use narratives to satisfy belongingness needs. Conversely, avoidant individuals, who tend to minimize their weaknesses and reliance on others, might use narratives to satisfy self-enhancement needs. Thus, this program of study highlights the social role of narratives and underscores the need for further work exploring the interplay between narrative consumption and psychological processes.

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Table 1

Studies 1-3: Descriptive statistics of measures.

Measure	Min.	Max.	Mean	*SD*	Cronbach's α
Study 1					
IRI-Fantasy	1.14	5.00	3.49	0.74	.79
ECR-R-Anxiety	1.00	6.17	3.35	1.12	.93
ECR-R-Avoidance	1.00	6.00	2.97	1.01	.94
BFI-Extraversion	1.38	4.88	3.33	0.65	.82
BFI-Agreeableness	2.00	5.00	3.72	0.53	.77
BFI-Conscientiousness	1.56	5.00	3.36	0.55	.78
BFI-Neuroticism	1.00	4.88	3.03	0.71	.82
Study 2					
Transportability	2.05	8.8	6.04	1.09	.88
ECR-R-Anxiety	1.00	6.61	3.69	1.11	.92
ECR-R-Avoidance	1.06	6.50	3.13	1.05	.92
BFI-Extraversion	1.38	5.00	3.22	0.74	.81
BFI-Agreeableness	1.89	5.00	3.79	0.57	.74
BFI-Conscientiousness	1.67	5.00	3.43	0.62	.78
BFI-Neuroticism	1.12	4.62	2.83	0.76	.81
Study 3					
Attachment Anxiety	1.51	5.79	3.32	0.98	.95
Attachment Avoidance	1.22	5.88	3.47	0.75	.93
BFI-Extraversion	1.63	5.00	3.27	0.66	.79
BFI-Agreeableness	2.22	5.00	3.79	0.58	.75
BFI-Conscientiousness	1.67	5.00	3.46	0.67	.82
BFI-Neuroticism	1.00	4.75	2.96	0.73	.80
Narrative Engagement					
Total Score	1.17	7.00	5.10	0.88	.77
Narrative Understanding	1.00	7.00	5.62	1.43	.83
Attentional Focus	1.00	7.00	5.38	1.43	.87
Narrative Presence	1.00	7.00	4.61	1.50	.81
Emotional Engagement	1.00	7.00	4.80	1.24	.68

Table 2

Studies 1-3: Inter-correlations between measures of attachment, transportation, and the Big Five traits related to attachment.

Study 1

Measure	2	3	4	5	6	7
1. IRI-Fantasy	.15*	-0.02	.11*	0.04	-.14*	.17*
2. ECR-R-Anxiety		.47*	-.21*	-.17*	-.23*	.41*
3. ECR-R-Avoidance			-.24*	-.26*	-.19*	.21*
4. BFI-Extraversion				.14*	.21*	-.32*
5. BFI-Agreeableness					.29*	-.26*
6. BFI-Conscientiousness						-.36*
7. BFI-Neuroticism						

Study 2

Measure	2	3	4	5	6	7
1. Transportability	.11	-.10	.06	-.01	.01	.15*
2. ECR-R-Anxiety		.38*	-.16*	-.20*	-.28*	.42*
3. ECR-R-Avoidance			-.29*	-.21*	-.19*	.19*
4. BFI-Extraversion				.12^	.09	-.34*
5. BFI-Agreeableness					.35*	-.40*
6. BFI-Conscientiousness						-.25*
7. BFI-Neuroticism						

Study 2

Measure	2	3	4	5	6	7	8	9	10	11
1. Attachment Anxiety	.31*	-.28*	-.29*	-.39*	.57*	-0.03	-0.10	-.22*	.16*	0.10
2. Attachment Avoidance		-.42*	-.37*	-0.08	.24*	-.14*	-0.07	-.16*	0.01	-.14*
3. BFI-Extraversion			.21*	.20*	-.22*	.15*	0.12	.16*	0.03	0.07
4. BFI-Agreeableness				.29*	-.30*	.19*	-0.01	.21*	0.09	.20*
5. BFI-Conscientiousness					-.30*	0.12	0.03	.13*	0.05	0.09
6. BFI-Neuroticism						-0.12	-0.10	-.23*	0.04	-0.02
7. Narrative Engagement (Total)							.58*	.65*	.66*	.63*
8. Narrative Understanding								.37*	0.03	0.05
9. Attentional Focus									0.13	0.11
10. Narrative Presence										.51*
11. Emotional Engagement										

* $p < .05$ ^ $p = .05$

Table 3

Study 1: Examining the effects of attachment anxiety, avoidance, and their interaction on trait transportation, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*B*	*SE*	β	*t*
Model 1	Anxiety	0.13	0.04	0.20	3.25*
R^2 = .03	Avoidance	-0.08	0.05	-0.11	-1.78
F (2, 331) = 5.31*					
Model 2	Anxiety	0.14	0.04	0.22	3.50*
R^2 = .04	Avoidance	-0.07	0.05	-0.10	-1.57
F (3, 330) = 4.84*	Anxiety × Avoidance	0.08	0.04	0.11	1.95^
Model 3	Anxiety	0.10	0.04	0.14	2.13*
R^2 = .07	Avoidance	-0.05	0.05	-0.06	-0.99
F (15, 318) = 2.76*	Anxiety × Avoidance	0.07	0.05	0.10	1.52
	Extraversion	0.20	0.07	0.18	3.04*
	Agreeableness	0.15	0.08	0.11	1.83
	Conscientiousness	-0.16	0.08	-0.12	-2.04*
	Neuroticism	0.18	0.07	0.17	2.62*
	Anxiety × Extraversion	0.04	0.07	0.04	0.61
	Anxiety × Agreeableness	0.09	0.08	0.07	1.15
	Anxiety × Conscientiousness	0.07	0.09	0.06	0.77
	Anxiety × Neuroticism	0.06	0.06	0.07	0.97
	Avoidance × Extraversion	0.06	0.08	0.06	0.83
	Avoidance × Agreeableness	-0.06	0.08	-0.05	-0.70
	Avoidance × Conscientiousness	-0.04	0.09	-0.03	-0.41
	Avoidance × Neuroticism	0.01	0.07	0.02	0.20

* $p < .05$ ^ $p = .05$

Table 4

Study 2: Examining the effects of attachment anxiety, avoidance, and their interaction on trait transportation, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.16	0.06	0.17	2.64*
R^2 = .03	Avoidance	-0.17	0.07	-0.16	-2.52*
$F(2, 282)$ = 4.84*					
Model 2	Anxiety	0.21	0.06	0.21	3.38*
R^2 = .08	Avoidance	-0.17	0.06	-0.16	-2.60*
$F(3, 281)$ = 8.28*	Anxiety × Avoidance	0.18	0.05	0.22	3.83*
Model 3	Anxiety	0.13	0.07	0.13	1.84
R^2 = .14	Avoidance	-0.15	0.07	-0.14	-2.05*
$F(15, 269)$ = 3.07*	Anxiety × Avoidance	0.23	0.06	0.28	4.05*
	Extraversion	0.09	0.10	0.06	0.94
	Agreeableness	0.11	0.13	0.06	0.85
	Conscientiousness	0.04	0.11	0.02	0.37
	Neuroticism	0.30	0.10	0.21	2.92*
	Anxiety × Neuroticism	-0.00	0.09	-0.00	-0.04
	Anxiety × Extraversion	-0.06	0.09	-0.04	-0.66
	Anxiety × Conscientiousness	0.22	0.10	0.16	2.18*
	Anxiety × Agreeableness	0.10	0.12	0.06	0.87
	Avoidance × Neuroticism	-0.13	0.10	-0.11	-1.29
	Avoidance × Extraversion	0.07	0.09	0.06	0.82
	Avoidance × Conscientiousness	-0.06	0.11	-0.04	-0.56
	Avoidance × Agreeableness	-0.20	0.13	-0.13	-1.62

* $p < .05$

Table 5

Study 3: Examining the effects of attachment anxiety, avoidance, and their interaction on overall state transportation, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.02	0.06	0.02	0.26
R^2 = .02	Avoidance	-0.17	0.08	-0.15	-2.13*
F (2, 229) = 2.36					
Model 2					
R^2 = .02	Anxiety	0.02	0.06	0.02	0.28
F (3, 228) = 1.57	Avoidance	-0.17	0.08	-0.15	-2.10*
	Anxiety × Avoidance	0.01	0.08	0.01	0.15
Model 3	Anxiety	0.11	0.08	0.12	1.38
R^2 = .15	Avoidance	0.00	0.09	0.00	-0.05
F (15, 216) = 2.62*	Anxiety × Avoidance	0.21	0.10	0.17	1.99^
	Extraversion	0.18	0.10	0.14	1.90
	Agreeableness	0.22	0.11	0.14	1.94^
	Conscientiousness	0.13	0.10	0.10	1.31
	Neuroticism	-0.11	0.10	-0.09	-1.12
	Anxiety × Neuroticism	0.13	0.10	0.10	1.35
	Anxiety × Agreeableness	-0.14	0.11	-0.10	-1.34
	Anxiety × Extraversion	0.00	0.10	0.00	0.01
	Anxiety × Conscientiousness	-0.01	0.09	-0.01	-0.12
	Avoidance × Conscientiousness	0.03	0.12	0.02	0.28
	Avoidance × Neuroticism	-0.13	0.13	-0.08	-1.00
	Avoidance × Agreeableness	0.21	0.13	0.13	1.59
	Avoidance × Extraversion	0.32	0.11	0.22	2.82*

* $p < .05$ ^ $p = .05$

Table 6

Study 3: Examining the effects of attachment anxiety, avoidance, and their interaction on narrative understanding, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	-0.12	0.10	-0.09	-1.22
R2 = .01	Avoidance	-0.08	0.13	-0.04	-0.64
F (2, 229) = 1.32					
Model 2	Anxiety	-0.11	0.10	-0.08	-1.09
R^2 = .02	Avoidance	-0.07	0.13	-0.04	-0.53
F (3, 228) = 1.16	Anxiety × Avoidance	0.12	0.13	0.06	0.92
Model 3	Anxiety	-0.06	0.13	-0.04	-0.46
R^2 = .06	Avoidance	-0.08	0.16	-0.04	-0.49
F (15, 216) = .84	Anxiety × Avoidance	0.24	0.18	0.13	1.37
	Extraversion	0.24	0.17	0.11	1.42
	Agreeableness	-0.26	0.19	-0.11	-1.39
	Conscientiousness	0.03	0.16	0.01	0.17
	Neuroticism	-0.16	0.17	-0.08	-0.99
	Anxiety × Neuroticism	0.12	0.17	0.06	0.74
	Anxiety × Agreeableness	0.11	0.18	0.05	0.59
	Anxiety × Extraversion	-0.01	0.17	0.00	-0.04
	Anxiety × Conscientiousness	-0.15	0.16	-0.07	-0.92
	Avoidance × Conscientiousness	0.19	0.21	0.07	0.94
	Avoidance × Neuroticism	0.26	0.22	0.11	1.20
	Avoidance × Agreeableness	0.35	0.23	0.13	1.54
	Avoidance × Extraversion	0.04	0.19	0.02	0.20

* $p < .05$

Table 7

Study 3: Examining the effects of attachment anxiety, avoidance, and their interaction on attentional focus, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	-0.28	0.10	-0.19	-2.83*
R2 = .06	Avoidance	-0.19	0.13	-0.10	-1.49
F (2, 229) = 7.09*					
Model 2	Anxiety	-0.28	0.10	-0.19	-2.78*
R^2 = .06	Avoidance	-0.19	0.13	-0.10	-1.46
F (3, 228) = 4.71*	Anxiety × Avoidance	0.02	0.13	0.01	0.13
Model 3	Anxiety	-0.17	0.12	-0.11	-1.35
R^2 = .15	Avoidance	0.02	0.15	0.01	0.11
F (15, 216) = 2.54*	Anxiety × Avoidance	0.25	0.17	0.13	1.47
	Extraversion	0.19	0.16	0.09	1.19
	Agreeableness	0.33	0.18	0.13	1.81
	Conscientiousness	0.05	0.16	0.02	0.30
	Neuroticism	-0.18	0.16	-0.09	-1.15
	Anxiety × Neuroticism	0.17	0.16	0.08	1.07
	Anxiety × Agreeableness	-0.08	0.17	-0.03	-0.46
	Anxiety × Extraversion	0.06	0.16	0.03	0.41
	Anxiety × Conscientiousness	0.13	0.15	0.07	0.88
	Avoidance × Conscientiousness	-0.14	0.19	-0.05	-0.72
	Avoidance × Neuroticism	-0.16	0.20	-0.07	-0.78
	Avoidance × Agreeableness	0.07	0.22	0.03	0.34
	Avoidance × Extraversion	0.53	0.18	0.23	2.89*

* $p < .05$

Table 8

Study 3: Examining the effects of attachment anxiety, avoidance, and their interaction on narrative presence, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.26	0.10	0.17	2.49*
R2 = .03	Avoidance	-0.09	0.14	-0.05	-0.69
F (2, 229) = 3.11*					
Model 2	Anxiety	0.25	0.11	0.16	2.35*
R^2 = .03	Avoidance	-0.11	0.14	-0.06	-0.79
F (3, 228) = 2.35	Anxiety × Avoidance	-0.12	0.13	-0.06	-0.92
Model 3	Anxiety	0.31	0.13	0.20	2.39*
R^2 = .13	Avoidance	0.12	0.16	0.06	0.74
F (15, 216) = 2.17*	Anxiety × Avoidance	-0.02	0.18	-0.01	-0.12
	Extraversion	0.22	0.17	0.10	1.31
	Agreeableness	0.34	0.19	0.13	1.79
	Conscientiousness	0.23	0.16	0.10	1.41
	Neuroticism	-0.03	0.17	-0.02	-0.20
	Anxiety × Neuroticism	0.23	0.17	0.11	1.38
	Anxiety × Agreeableness	-0.35	0.18	-0.15	-1.94
	Anxiety × Extraversion	-0.09	0.17	-0.04	-0.53
	Anxiety × Conscientiousness	0.04	0.16	0.02	0.22
	Avoidance × Conscientiousness	-0.20	0.21	-0.07	-0.95
	Avoidance × Neuroticism	-0.12	0.22	-0.05	-0.54
	Avoidance × Agreeableness	0.45	0.23	0.16	1.96^
	Avoidance × Extraversion	0.36	0.19	0.15	1.83

* $p < .05$ ^ $p = .05$

Table 9

Study 3: Examining the effects of attachment anxiety, avoidance, and their interaction on emotional engagement, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.21	0.09	0.16	2.40*
R^2 = .05	Avoidance	-0.32	0.11	-0.19	-2.86*
F (2, 229) = 5.35*					
Model 2	Anxiety	0.21	0.09	0.17	2.42*
R^2 = .05	Avoidance	-0.32	0.11	-0.19	-2.79*
F (3, 228) = 3.59*	Anxiety × Avoidance	0.04	0.11	0.02	0.33
Model 3	Anxiety	0.33	0.10	0.26	3.20*
R^2 = .19	Avoidance	-0.07	0.13	-0.04	-0.57
F (15, 216) = 3.36*	Anxiety × Avoidance	0.36	0.14	0.21	2.50*
	Extraversion	0.10	0.13	0.06	0.77
	Agreeableness	0.46	0.15	0.22	3.04*
	Conscientiousness	0.19	0.13	0.10	1.46
	Neuroticism	-0.05	0.13	-0.03	-0.39
	Anxiety × Neuroticism	0.01	0.13	0.00	0.04
	Anxiety × Agreeableness	-0.25	0.15	-0.12	-1.68
	Anxiety × Extraversion	0.04	0.13	0.02	0.27
	Anxiety × Conscientiousness	-0.07	0.13	-0.04	-0.50
	Avoidance × Conscientiousness	0.28	0.16	0.12	1.69
	Avoidance × Neuroticism	-0.48	0.17	-0.23	-2.79*
	Avoidance × Agreeableness	-0.03	0.18	-0.01	-0.14
	Avoidance × Extraversion	0.35	0.16	0.18	2.25*

* $p < .05$

Table 10

Study 4: Descriptive statistics of measures.

Measure	Min.	Max.	Mean	*SD*	Cronbach's α
Attachment Anxiety	1.69	5.23	3.52	0.72	.82
Attachment Avoidance	1.94	5.50	3.62	0.61	.80
Character Identification	1.00	7.00	5.14	1.21	.88
Parasocial Relationships	1.53	4.93	3.46	0.69	.89
Parasocial Interaction	1.00	7.00	2.73	1.48	.95
Agreeableness	2.33	5.00	3.78	0.59	.75
Conscientiousness	1.56	4.78	3.32	0.56	.72
Extraversion	1.12	4.88	3.18	0.73	.81
Neuroticism	1.00	4.75	3.10	0.76	.81

Table 11

Study 4: Inter-correlations between measures of attachment, character engagement, and the Big Five traits related to attachment.

Variable	1	2	3	4	5	6	7	8
1. Attachment Anxiety								
2. Attachment Avoidance	.33*							
3. Character Identification	.07	.18*						
4. Parasocial Relationships	.24*	.12	.56*					
5. Parasocial Interaction	.23*	.24*	.31*	.59*				
6. Agreeableness	-.19*	-.34*	.10	.04	-.07			
7. Conscientiousness	-.27*	-.06	.09	-.07	-.07	.29*		
8. Extraversion	-.24*	-.38*	.03	.12	.04	.25*	.09	
9. Neuroticism	.61*	.17*	-.05	.11	.08	-.24*	-.32*	-.19*

* $p < .05$

Table 12

Study 4: Examining the effects of attachment anxiety and avoidance on character identification, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.01	0.14	0.01	0.07
R^2 = .03	Avoidance	0.36	0.17	0.18	2.12 *
F (2, 147) = 2.59					
Model 2	Anxiety	0.17	0.18	0.10	0.96
R^2 = .08	Avoidance	0.50	0.19	0.25	2.70*
F (6, 143) = 2.08	Agreeableness	0.30	0.18	0.15	1.61
	Conscientiousness	0.12	0.19	0.06	0.66
	Extraversion	0.15	0.15	0.09	1.01
	Neuroticism	-0.14	0.17	-0.09	-0.85

* $p < .05$

Table 13

Study 4: Examining the effects of attachment anxiety and avoidance on parasocial interaction, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Anxiety	0.33	0.17	0.16	1.93^
	Avoidance	0.43	0.20	0.18	2.15*
Model 2	Anxiety	0.43	0.22	0.21	1.98*
	Avoidance	0.54	0.23	0.22	2.41*
	Agreeableness	-0.02	0.22	-0.01	-0.07
	Conscientiousness	-0.08	0.23	-0.03	-0.33
	Extraversion	0.32	0.18	0.16	1.80
	Neuroticism	-0.11	0.20	-0.06	-0.56

* $p < .05$, ^ $p = .05$

Table 14

Study 4: Examining the effects of attachment anxiety and avoidance on parasocial relationships, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1 R^2 = .06 *F* (2, 147) = 4.60*	Anxiety	0.21	0.08	0.22	2.62*
	Avoidance	0.06	0.09	0.05	0.59
Model 2 R^2 = 0.11 *F* (6, 143) = 3.05*	Anxiety	0.25	0.10	0.27	2.55*
	Avoidance	0.17	0.10	0.16	1.69
	Agreeableness	0.11	0.10	0.10	1.10
	Conscientiousness	-0.06	0.10	-0.05	-0.54
	Extraversion	0.21	0.08	0.22	2.54*
	Neuroticism	-0.03	0.09	-0.03	-0.32

* $p < .05$

Table 15

Study 5: Means and standard deviations of measures.

Measure	Min.	Max.	Mean	*SD*	Cronbach's α
Viewer Anxiety	1.00	6.00	3.47	0.96	.90
Viewer Avoidance	1.44	5.88	3.63	0.73	.86
Viewer Agreeableness	1.00	5.00	3.65	0.68	.78
Viewer Conscientiousness	1.22	5.00	3.63	0.76	.85
Viewer Extraversion	1.00	5.00	2.69	0.93	.89
Viewer Neuroticism	1.00	5.00	3.02	0.91	.87
Favourite Character Avoidance	1.00	6.83	3.56	1.36	.81
Favourite Character Warmth	1.00	7.00	5.37	1.40	.92
Favourite Character Competence	1.67	7.00	5.99	1.11	.89
Favourite Character Sociotropy	1.00	5.46	3.38	0.88	.82
Favourite Character Autonomy	1.31	5.83	3.94	0.77	.67

Table 16

Study 5: Inter-correlations between measures of viewers' traits and favourite characters' traits.

Variable	1	2	3	4	5	6	7	8	9	10
1. Viewer Anxiety										
2. Viewer Avoidance	.45*									
3. Viewer Agreeableness	-.29*	-.50*								
4. Viewer Conscientiousness	-.47*	-.21*	.40*							
5. Viewer Extraversion	-.38*	-.46*	.25*	.27*						
6. Viewer Neuroticism	.68*	.35*	-.42*	-.44*	-.37*					
7. Favourite Character Avoidance	.04	.12*	-.14*	-.09	-.04	.06				
8. Favourite Character Warmth	-.05	-.12*	.18*	.13*	.14*	-.10*	-.42*			
9. Favourite Character Competence	-.09	-.03	.12*	.16*	.12*	-.02	.01	.22*		
10. Favourite Character Sociotropy	.19*	.08	-.03	-.01	.05	.11*	-.31*	.38*	-.25*	
11. Favourite Character Autonomy	.07	.18*	-.08	-.02	-.00	.11*	.54*	-.39*	.14*	-.03

* $p < .05$

Table 17

Study 5: Examining the association between attachment anxiety and avoidance in viewers and attachment avoidance in favourite TV characters, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1 R^2 = .01 *F* (2, 411) = 2.88	Viewer Anxiety	-0.02	0.08	-0.02	-0.32
	Viewer Avoidance	0.23	0.10	0.12	2.27*
Model 2 R^2 = 0.03 *F* (6, 407) = 1.82	Viewer Anxiety	-0.07	0.11	-0.05	-0.71
	Viewer Avoidance	0.16	0.12	0.09	1.32
	Viewer Agreeableness	-0.19	0.13	-0.09	-1.46
	Viewer Conscientiousness	-0.10	0.11	-0.06	-0.98
	Viewer Extraversion	0.03	0.08	0.02	0.33
	Viewer Neuroticism	0.01	0.11	0.01	0.10

* $p < .05$

Table 18

Study 5: Examining the association between attachment anxiety and avoidance in viewers and autonomy in favourite TV characters, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Viewer Anxiety	-0.01	0.04	-0.01	-0.24
R^2 = .03	Viewer Avoidance	0.19	0.06	0.19	3.41*
F (2, 411) = 6.86*					
Model 2	Viewer Anxiety	-0.06	0.06	-0.08	1.05
R^2 = 0.05	Viewer Avoidance	0.25	0.07	0.24	3.73*
F (6, 407) = 3.59*	Viewer Agreeableness	0.06	0.07	0.05	0.78
	Viewer Conscientiousness	0.00	0.06	0.00	0.08
	Viewer Extraversion	0.10	0.05	0.12	2.10*
	Viewer Neuroticism	0.12	0.06	0.15	2.07*

* $p < .05$

Table 19

Study 5: Examining the association between attachment anxiety and avoidance in viewers and sociotropy in favourite TV characters, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1 R^2 = .04 *F* (2, 411) = 7.52*	Viewer Anxiety	0.18	0.05	0.19	3.51*
	Viewer Avoidance	-0.01	0.07	-0.01	-0.12
Model 2 R^2 = 0.06 *F* (6, 407) = 4.22*	Viewer Anxiety	0.24	0.07	0.26	3.54*
	Viewer Avoidance	0.05	0.08	0.05	0.70
	Viewer Agreeableness	-0.01	0.08	-0.00	-0.07
	Viewer Conscientiousness	0.09	0.07	0.08	1.32
	Viewer Extraversion	0.14	0.05	0.15	2.65*
	Viewer Neuroticism	0.00	0.07	0.00	0.03

* $p < .05$

Table 20

Study 6: Descriptive statistics of measures.

Measure	Min.	Max.	Mean	*SD*	Cronbach's α
Attachment Anxiety	1.54	5.77	3.59	0.82	.85
Attachment Avoidance	1.38	5.38	3.62	0.63	.80
Parasocial Relationships	2.27	5.00	3.72	0.58	.83
Agreeableness	1.33	5.00	3.87	0.54	.67
Conscientiousness	1.56	5.00	3.47	0.61	.75
Extraversion	1.38	5.00	3.19	0.81	.84
Neuroticism	1.12	5.00	3.26	0.81	.82

Table 21

Study 6: Inter-correlations between measures of attachment, parasocial relationships, and the Big Five traits related to attachment.

Variable	1	2	3	4	5	6
1. Attachment Anxiety						
2. Attachment Avoidance	.42*					
3. Parasocial Relationships	.18*	.11*				
4. Agreeableness	-.23*	-.38*	.06			
5. Conscientiousness	-.33*	-.10	.06	.33*		
6. Extraversion	-.35*	-.29*	.11*	.20*	.17*	
7. Neuroticism	.59*	.28*	.07	-.27*	-.34*	-.21*

* $p < .05$

Table 22

Study 6: Examining the effects of attachment anxiety, avoidance, condition, and their interaction on parasocial relationships, controlling for Agreeableness, Conscientiousness, Extraversion, and Neuroticism.

	Variable	*b*	*SE*	β	*t*
Model 1	Condition	0.08	0.06	0.07	1.30
R^2 = .08	Anxiety	0.04	0.04	0.07	0.88
F (5, 329) = 5.37*	Avoidance	0.02	0.04	0.03	0.36
	Anxiety × Condition	0.17	0.07	0.19	2.47*
	Avoidance × Condition	0.03	0.07	0.04	0.50
Model 2	Condition	0.09	0.06	0.08	1.48
R^2 = .14	Anxiety	0.05	0.06	0.08	0.88
F (13, 322) = 4.00*	Avoidance	0.04	0.05	0.07	0.90
	Agreeableness	0.07	0.04	0.13	1.68
	Conscientiousness	0.02	0.05	0.03	0.38
	Extraversion	0.02	0.05	0.03	0.40
	Neuroticism	0.02	0.05	0.03	0.37
	Anxiety x Condition	0.22	0.09	0.24	2.55*
	Avoidance x Condition	0.05	0.07	0.05	0.62
	Agreeableness x Condition	-0.04	0.07	-0.04	-0.59
	Conscientiousness x Condition	0.06	0.07	0.07	0.87
	Extraversion x Condition	0.16	0.07	0.20	2.46*
	Neuroticism x Condition	-0.06	0.08	-0.07	-0.79

* $p < .05$

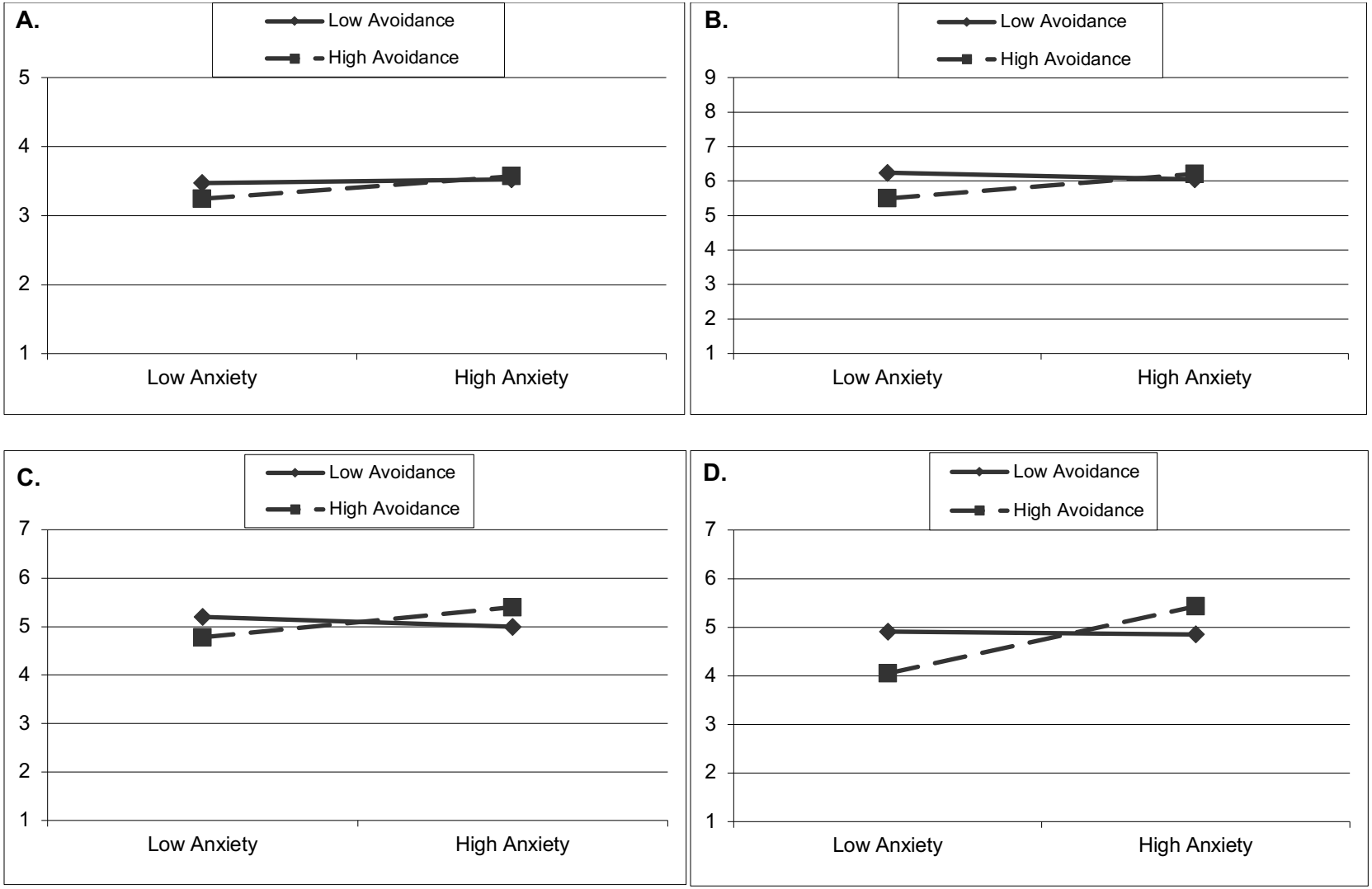

Figure 1. Transportation as a function of attachment anxiety and attachment avoidance, controlling for Extraversion, Agreeableness, Conscientiousness, and Neuroticism: A. Trait Transportation (Study 1); B. Trait Transportation (Study 2); C. Overall State Transportation (Study 3); D. Emotional Engagement Aspect of State Transportation (Study 3).

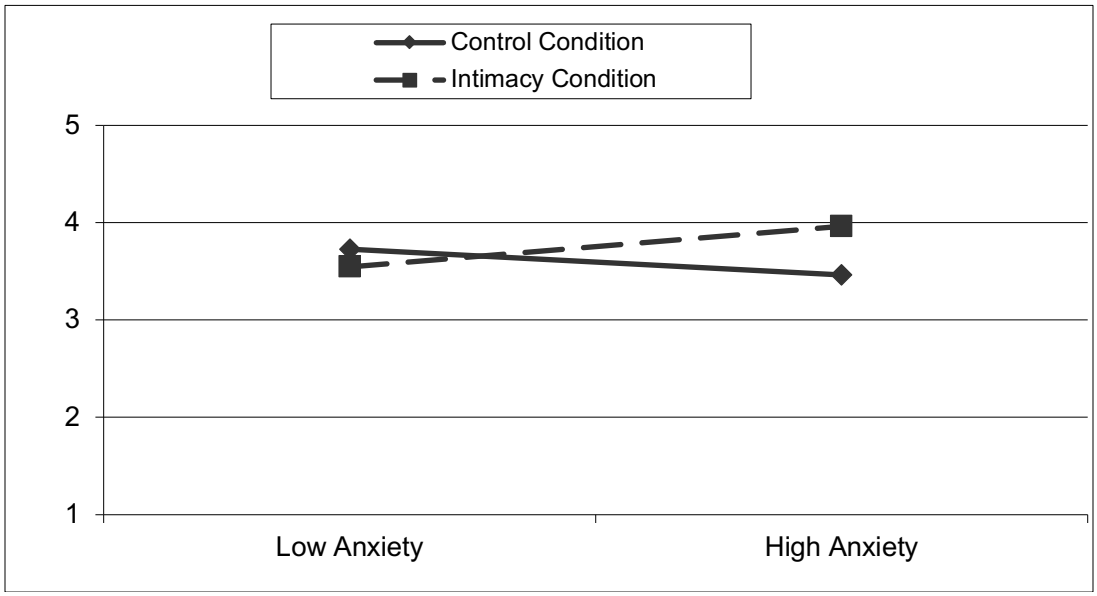

Figure 2. Parasocial relationship ratings as a function of attachment anxiety and condition (Study 6)

Footnotes

[1]Defined as (a) those who did not report that the statement ‘‘I generally sleep more than 3 hours a week’’ describes them well (i.e., those who selected 1 [*Does not describe me very well*] through 3 [*Somewhat describes me*], on the provided 5-point Likert scale) and (b) those who skipped multiple items in a row within questionnaires.

[2]Defined as those whose study completion times were over 3 *SD*s away from the sample mean.

[3]Removing this item (“I daydream and fantasize, with some regularity, about things that might happen to me”) reduced Cronbach’s alpha for the subscale (α =.78), as well as the strength of the observed effects, although the pattern of results remained very much the same. In other words, attachment anxiety remained a positive predictor of trait transportation, with this effect being marginally significant (*b*=.09, *p* =.06).

[4]Defined as (a) those who did not follow the instructions on either of two items designed to catch inattentive responding ("Please click on Disagree Strongly and proceed to the next question." and "Please click on Agree and proceed to the next question.") and (b) anyone with over 10% of responses missing.

[5]Defined as those whose study completion times were over 3 *SD*s away from the sample mean.

[6]Defined as (a) those who did not report that the statement ‘‘I generally sleep more than 3 hours a week’’ describes them well (i.e., those who selected 1 [*Does not describe me very well*] through 3 [*Somewhat describes me*], on the provided 5-point Likert scale) and (b) those who skipped multiple items in a row within questionnaires.

[7]In order to test whether the association between narrative engagement and the two attachment dimensions generalizes across the two different films, we first examined the interaction between Film Type and anxiety, and between Film Type and avoidance in a series of multiple regression analyses. In each of these analyses, the aggregate anxiety and avoidance scores were centered and entered into the first block. A centered Film Type term was also included in this block. Three two-way interaction terms (Anxiety x Avoidance, Anxiety x Film Type, Avoidance x Film Type) were entered in the second block, and a three-way interaction term (Anxiety x Avoidance x Film Type) was entered in the third block. None of the interactions were statistically significant ($ps > .23$), leading us to conclude that our results generalize across the two films used in our study. Therefore, the results presented in Study 3 collapse across both films.

[8]The interaction between anxiety and avoidance was also examined in an earlier model, however it was not statistically significant. Consequently, we report the simplified model (i.e., containing main effects only). The main effects for anxiety and avoidance remained practically unchanged when the interaction term was removed from the model.

[9]The interaction between anxiety and avoidance was also examined in an earlier model, however it was not statistically significant. Consequently, we report the simplified model (i.e., containing main effects only). The main effects for anxiety and avoidance remained practically unchanged when the interaction term was removed from the model.

[10]The interaction between anxiety and avoidance was also examined in an earlier model, however it was not statistically significant. Consequently, we report the simplified model (i.e., containing main effects only). The main effects for anxiety and avoidance remained practically unchanged when the interaction term was removed from the model.

[11]Due to the relatively high percentage of single participants in our study (73%), these responses were not analyzed.

[12]We conducted an exploratory regression analysis to examine how parasocial relationships may relate to well-being outcomes in insecurely-attached individuals. Specifically, we focused on mood anxiety, which was measured after participants completed the parasocial relationship section (in both conditions). Our model included five predictors: attachment anxiety (centered), attachment avoidance (centered), condition (dummy-coded), an interaction term between attachment anxiety and condition, and an interaction term between attachment avoidance and condition. Of these five variables, only attachment anxiety emerged as a significant unique predictor of mood anxiety ($b = 0.96$, $p < .001$).

[13]We expected that thinking about favourite characters would be soothing for anxiously-attached individuals, leading to a reduction is mood anxiety. Unfortunately, the design of this study makes it difficult to meaningfully interpret these results in relation to parasocial relationships. As mood anxiety was only measured once, following the parasocial questionnaire, we cannot determine whether exposure to one's favourite character leads to changes in mood. Moreover, because participants in both conditions were asked to think about their favourite characters prior to responding to the mood measure, we cannot examine how the source of emotional closeness (i.e., chat partner vs. fictional character) affects well-being. That being said, we did not observe condition differences in mood anxiety scores ($W = 13074$, $p = .33$, $r = .05$).

[14]Two cases were excluded from this analysis due to high Leverage and Cook's distance scores. The decision to remove these participants was made during the regression diagnostics

stage in an effort to maximize the robustness of our analysis and reduce the model's residual standard error.

[15]While inspecting regression diagnostics for this model, one participant was identified as a potential outlier due to having high standardized residual and Cook's distance values. Consequently, this participant's data was excluded from this analysis.

[16]Closeness ratings were unrelated to the parasocial measure, $r = -.01$, $p = .89$.

[17]Anxiety and avoidance also both predicted parasocial interaction tendencies, but we decided to pursue the unique associations for each attachment dimension and its respective character engagement style in order to better understand these attachment tendencies.

Appendix A

Relationship Closeness Induction Task (Sedikides et al., 1999)

List I

1. What is your first name?

2. How old are you?

3. Where are you from?

4. What year are you at the University of X?

5. What do you think you might major in? Why?

6. What made you come to the University of X?

7. What is your favourite class at the University of X? Why?*****

List II

1. What are your hobbies?

2. What would you like to do after graduating from the University of X?*****

3. What would be the perfect lifestyle for you?

4. What is something you have always wanted to do but probably never will be able to do?

5. If you could travel anywhere in the world, where would you go and why?

6. What is one strange thing that has happened to you since you've been at the University of X?

7. What is one embarrassing thing that has happened to you since arriving at University of X?

8. What is one thing happening in your life that makes you stressed out?

9. If you could change anything that happened to you in high school, what would that be?

10. If you could change one thing about yourself, what would that be?

11. Do you miss your family?*****

12. What is one habit you'd like to break?

List III

1. If you could have one wish granted, what would that be?

2. Is it difficult or easy for you to meet people? Why?

3. Describe the last time you felt lonely.

4. What is one emotional experience you've had with a good friend?

5. What is one of your biggest fears?

6. What is your most frightening early memory?

7. What is your happiest early childhood memory?

8. What is one thing about yourself that most people would consider surprising?

9. What is one recent accomplishment that you are proud of?*****

10. Tell me one thing about yourself that most people who already know you don't know.*****

***** Item was excluded from the study due to concerns over participant fatigue