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Avoiding more than Intimacy: Avoidant Attachment and the Avoidance of Positive Emotions

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Abstract

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Across four studies, I examine links between attachment avoidance and emotion experience and expression. In Studies 1 & 2 participants reported on their experience and expression of nine emotions: happiness, gratitude, empathic happiness, sadness, embarrassment, hurt, guilt, anxiety, and empathic distress, with participants in Studies 3 additionally reporting on anger. Study 4 specifically examined links between avoidant attachment and the experience and expression of happiness. Special attention is paid to the link between attachment avoidance and the experience and expression of positive emotion, as this carries with it a host of important outcomes for relationships (Algoe, 2012; Fredrickson; 2001). In Chapter 1 I discuss a study in which I find that avoidant attachment is associated with less frequent experience of positive emotion and less frequent expression of positive and negative emotion when assessed retrospectively. In Chapter 2 I discuss a daily diary study in which I replicate this finding and additionally find a link between avoidant attachment and social anhedonia, the absence of pleasure derived from social interactions (Chapman, et al., 1976). In Chapter 3 I extend the findings discussed in Chapter 2 by including romantic dyads in a daily diary study. Again, I replicate results showing that greater avoidant attachment is associated with less frequent experience and expression of positive emotion. This chapter also assesses

partner reports of emotions as well as the meta-perceptions avoidantly attached individuals have of their own and others' emotions. Finally, in Chapter 4 I discuss a dyadic in-lab study in which I find that greater avoidant attachment is associated with lowered experience and expression of happiness during a discussion of a happy event in an actors' own or their partner's life. In sum, in this dissertation I provide substantive evidence that avoidantly attached individuals are experiencing and expressing less positive emotion across different social contexts and timescales.

Avoiding More than Intimacy: Avoidant Attachment and the Avoidance of Positive Emotions

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General Introduction

Emotions are an integral part of our everyday lives. Both the experience and expression of emotion fulfill distinct functions for the building and strengthening of our relationships, and psychologists have been interested in the functions of emotions dating all the way back to William James (see Gendron & Barrett, 2009 for a review). Due to this historic interest and the centrality of emotions in our lives, there is a plethora of work on emotion including the perception of emotions in others (e.g. Ekman et al., 1980; Gendron et al., 2012; Krumhuber & Kappas, 2005; Niedenthal et al., 2002), the experience of (mostly negative) emotions (e.g. Healy & Williams, 1988; Joormann & Siemer, 2011; Newman et al., 2013), and the functions and outcomes of expressing emotion (Clark & Brissette, 2000; Rime, 2009; Von Culin et al., 2017).

Recent work has emphasized the importance of examining emotions within relational contexts (Clark et al., 2017a) as emotions are most commonly experienced (Berscheid & Ammazzalorso, 2001; Cskikzentmihalyi & Hunter, 2003) and expressed (Clark & Brissette, 2000; Rime, 2009; Von Culin et al., 2017) within the context of our close relationships. However, not everyone views their close relational partners as safe havens to express emotion. Individuals who are high in avoidant attachment view their relational partners as unreliable and they are uncomfortable with intimacy and vulnerability (Bartholomew & Horowitz, 1991; Fraley & Shaver, 2000). Due to these beliefs about relational partners, avoidantly attached individuals are thought to exhibit a hypo-regulation of their emotions such that they both experience (e.g., Mikulincer, et al., 2006) and express less emotion (Kerr, et al., 2003). In this dissertation I explore the ways

in which the experience and expression of emotion may differ for individuals who are high in avoidant attachment.

Taking a step back, let us first discuss the various functions of emotion in our daily lives. The experience of an emotion is a constructed phenomenon that serves as a signal to the self regarding the self's well-being as well as the state of one's relationships (Barrett, et al., 2007). For example, feeling fear is a clear signal that one might be in danger while feeling guilty may indicate that one's relationship is in jeopardy due to the harmful actions of the experiencer. On the other hand, expressing emotions serves numerous functions for the relationships one has with others such as conveying one's needs and desires in an attempt to elicit support (Clark, et al., 1987; Graham, et al., 2008; Simpson, et al., 1992). For example, expressing hurt feelings can elicit feelings of guilt and more positive actions from one's partner whereas expressing anger often leads to reciprocal anger and more destructive patterns within relationships (Lemay, et al., 2012). Additionally, the expression of positive emotions such as happiness can lead to capitalization from one's close others leading to increased positive affect (Gable, et al., 2004) and the expression of gratitude can lead one to feel a stronger connection to their relational partner (Algoe, 2012; Algoe, et al., 2013; Algoe, et al., 2008). However, there are two important factors that are often overlooked in studies of emotion.

The first factor, as pointed out by Clark and colleagues (2017a), is that the study of the construction of emotion experience should be situated in the context of one's relationships. Emotions are most frequently experienced in the context of interpersonal relationships (Berscheid & Ammazzalorso, 2001; Cskikzentmihalyi & Hunter, 2003) and when looking at emotion expression, it is obvious that we should be taking into account

relational context as people are most willing to express emotions to their close others (Clark & Brisette, 2000; Rime, 2009; Von Culin, et al., 2017) due to the functional nature of emotion expression for eliciting support from those close others (e.g., Clark et al., 1987). The second often overlooked factor is that in the study of emotion experience is often times inferred from expression or vice versa (e.g., Ekman, et al., 1980; Kraus, 2017). Emotion experience and expression are rarely both examined in the same study, yet it is important to consider them separately. Why might this lack of separation matter? Is it not the case that expression necessarily implies experience (or vice versa) and thus we can examine one from the other? This line of thinking has largely informed the research on emotions throughout the years starting with Darwin (1872) and continuing to more recent work (e.g., Gross & John, 2003). However, one may experience an emotion, but choose not to express it or express an emotion that is not felt to meet a social expectation. By not examining the experience and expression of emotion separately within the same study, these nuances are overlooked. In this dissertation I address these two points by presenting a series of studies in which emotion experience and expression are examined separately both in individual and dyadic contexts.

Clearly the experience and subsequent expression of emotion is important to the well-being of one's relationship, however as I discuss in this dissertation, not everyone chooses and/or is able to reap the rewards of emotion expression. As alluded to above, one such group of people who routinely do not reap these rewards appears to be those individuals with a strong avoidant attachment orientation.

Attachment Orientations

Attachment orientations are the general beliefs and expectations one holds about their relational others, specifically how they expect to be treated by them (Bretherton, 1985). Originally, attachment was studied in the context of infant attachment to their primary caregiver (Ainsworth, 1970; 1979; Bowlby, 1969). From these early studies, researchers were able to classify infants as either securely or insecurely attached. When left alone secure infants were initially distressed but calmed down and resumed playing when their caregivers returned. Insecure infants, on the other hand, showed a different set of behaviors. Some infants, labeled anxiously attached, became distressed when left alone, and remained distressed when their caregiver returned despite seeking and receiving comfort. Other infants, labeled avoidantly attached, became distressed when left alone, but when their caregiver returned refused attempts to be soothed by their caregiver. Though initially focused on infants, this work was later adapted to examine attachment orientations in adults (Hazan & Shaver, 1987).

Hazan and Shaver (1987) devised a way to have participants self-report on their attachment orientations and found that adults self-report secure, anxious, and avoidant attachment orientations in roughly the same percentages as infants were classified. This kicked off a plethora of work examining the ways in which adults view their (mostly romantic) relational others and how this impacts their behavior (e.g., Collins & Read, 1990; Fraley & Shaver, 2000; Mikulincer & Shaver, 2005; Simpson, 1990). Secure adults have formed models of the world in which social others are reliable and dependable, allowing them to feel comfortable to display intimacy and reach out for support (Fraley & Shaver, 2000). Insecure adults, similar to infants, either are anxiously or avoidantly attached. Anxiously attached adults deeply desire intimate relationships but are afraid of

being abandoned and unloved by their partners (Fraley & Shaver, 2000). Avoidantly attached adults have formed a model of the world in which relational others are unreliable and thus have a dislike of intimacy and closeness with others as they expect abandonment (Fraley & Shaver, 2000).

These differing orientations powerfully shape the ways in which avoidantly attached people interact with others and the world around them. For instance, avoidantly attached individuals are less likely to engage in behaviors that promote communal strength such as providing a secure base for their partner (Feeney, et al., 2013), providing affectionate touch (Chopik, et al., 2014), and using their partners as safe havens (Feeney & Collins, 2015). When avoidantly attached individuals do engage in intimate behaviors, such as having sex (Impett, et al., 2008) or providing affectionate touch (Jakubiak, et al., 2021), they often do so to avoid a negative consequence as opposed to doing so as ways to express love or affection (Feeney & Collins, 2003). Additionally, and importantly for this dissertation, numerous findings show that avoidantly attached individuals have different emotional lives than those who are less avoidantly attached as they both experience and express less emotion generally (e.g., Mikulincer, et al., 2006; Pietromonaco & Barrett, 1997; Rom & Mikulincer, 2003; Simpson, 1990; Tidwell, et al., 1996).

Overview of the dissertation

The purpose of this dissertation is twofold. First, I sought to replicate and synthesize prior work on avoidant attachment and the experience and expression of emotion. Second, I aimed to move beyond prior work by taking a closer look at the relationship between avoidant attachment and the experience and expression of positive

emotion both generally and specifically within the context of participants' romantic relationships. Additionally, the work presented in this dissertation begins to examine the meta-perceptions avoidantly attached individuals have about their own and others' emotions.

In the first chapter I present an online study, conducted in two waves. This study establishes a simple pattern of retrospective experience and expression of a wide array of positive and negative emotions for avoidantly attached individuals. In short, I find that more avoidantly attached individuals report experiencing less frequent positive emotion and that when an emotion is experienced, they report expressing both positive and negative emotions less frequently.

Chapter 2 is a description and discussion of a daily diary study intended to address the potential of a retrospective bias in avoidantly attached participants' reports of their emotions. Additionally, the study discussed in this chapter was designed to replicate and extend prior findings that avoidantly attached individuals experience greater social anhedonia, meaning lessened pleasure from social interactions (Assad & Lemay, 2018; Troisi, et al., 2010). In short, I find that in daily reported emotional experience and expression avoidantly attached individuals again report experiencing less frequent positive emotion and, when experienced, report expressing positive and negative emotions less frequently than do less avoidantly attached individuals. As will be discussed further in Chapter 2, I found no evidence for a retrospective bias in the reports of emotions for avoidantly attached individuals, indicating that the results discussed in Chapter 1 are not likely due to a memory bias. Finally, I replicated prior results and show that avoidantly attached individuals exhibit greater social anhedonia.

In Chapter 3 I discuss a study which sought to replicate the results from Study 2 and to extend them to a dyadic context. For that purpose, a dyadic daily diary was conducted in order to replicate daily patterns of emotional experience and expression, as well as to examine partner reports of avoidant actor emotions. Additionally, this study was the first to examine avoidantly attached participants' meta-perceptions of their own emotions compared to others. In short, I find that avoidant attachment is again associated with experiencing and expressing positive emotion less frequently in retrospective reports. When examining daily reports avoidant actors again report that when they experience a positive emotion, they express those emotions less frequently. Replicating results from Study 2, I again find that avoidant attachment is not associated with a retrospective bias in emotion reports but is significantly associated with greater self-reported social anhedonia. New to this study, I find that participants who are more avoidantly attached report that they are aware that they experience and express less positive emotion than other people. However, partners of avoidantly attached actors do not report that they perceive the avoidantly attached actors as experiencing or expressing a significantly different amount of positive emotion.

Finally, Chapter 4 moves beyond prior work to examine emotion expression within a truly dyadic context. Specifically, in Chapter 4 I describe and report the results from a dyadic in-lab study in which participants self-nominated happy events from their lives to discuss with their partners and subsequently reported on their experience and expression of happiness during these conversations. In short, I find that avoidantly attached actors report experiencing and expressing significantly less happiness during these conversations, regardless of who's topic is being discussed, than less avoidantly

attached actors. Replicating prior results, I also find that these individuals report that they experienced and expressed less happiness during these conversations than they thought other people would have experienced/expressed. Additionally I find that partners of more avoidantly attached actors only perceive those actors to be experiencing and expressing significantly less happiness during discussions of the partner's topic.

Chapter 1 – Examining the Patterning of Retrospective Reports of Emotion for Avoidantly Attached Individuals

Introduction

The functional nature of emotions for individual and social well-being cannot be overstated. Experiencing emotion conveys information about one's well-being and the state of one's relationships to the self (e.g., Schwarz, 2011) and expressing those emotions conveys that information to others (e.g., Clark et al., 1987). However, not everyone experiences and expresses emotions in the same way and for the same reasons. Thus, it is important to examine the individual differences that may influence these processes. In this chapter I discuss one study, conducted in two waves, focused on establishing evidence for a pattern of emotional experience and expression for individuals who are more (relative to less) avoidantly attached. More concretely, the research in this chapter will be guided by the question: Do avoidantly attached individuals experience and express emotion in similar frequencies to individuals who are less avoidantly attached? Of specific interest is the nature of the experience and expression of positive emotions for more avoidantly attached individuals. The experience and expression negative emotions for both avoidant and anxious individuals will be discussed as well.

Functions of Emotion Experience and Expression

Why might avoidantly attached individuals experience and express emotions differently than others? To answer that we must first discuss in greater detail the functional aspects of emotion experience and expression. As stated previously, emotion experience is functional in that it provides information about the self's well-being and the

world around them (Schwarz, 2011). Experiencing positive emotion can convey that one is safe and protected from harm, either through one's own competence or through the support of others. For example, happiness may indicate that good things are happening in one's life and may encourage one to continue to spend additional time with those who are contributing to that happiness (Fredrickson, 2001). Gratitude is an indicator that one's relationships are satisfying and may encourage one to strengthen ties with those to whom one feels grateful (Algoe, et al., 2013; Fredrickson, 2001; Kumar & Epley, 2018). On the other hand, experiencing negative emotions may signal that one needs change in their life as things are not going well. Fear may indicate an immediate threat or danger whereas experiencing an emotion like hurt may indicate that one's relational partner(s) has committed a transgression that needs to be rectified (Baumeister et al., 1994). Ultimately, whether positive or negative, the experience of emotion signals to the self how well the self is interacting with the surrounding world and, specifically, how they are treating, and being treated by, others.

Expressing emotions serves the purpose of conveying needs and desires to others (Bauminger, et al., 2008; Graham, et al., 2008; Reis & Shaver 1988). In the case of positive emotions, expressing an emotion such as happiness can elicit capitalization attempts from others in which they respond in a positive manner which, in turn, increases or prolongs the positive emotion one feels (Gable et al., 2004). Expressing positive emotions may also be beneficial for relationships. For example, expressing gratitude can signal that one values their partner and encourage their partner to continue behaving in ways that may ultimately confer benefits onto the self and strengthen the relationship (Algoe, et al., 2013; Kumar & Epley, 2018). On the other hand, expressing negative

emotions may elicit support from others when in need (Clark, et al., 1987; Graham, et al., 2008; Simpson, et al., 1992). Expressing sadness or anxiety may encourage others to provide support (Clark, et al., 1987) and expressing hurt to a close partner may encourage them to engage in relational repair (Lemay, et al., 2012). Additionally, expressing guilt may serve to repair a relationship that one has damaged (Baumeister, et al., 1994). Whether positive or negative, the expression of emotion is useful for eliciting the types of behaviors that will be most beneficial for oneself and one's relationships.

Taken together, one thing should be very clear: emotions are important for relationships. Emotions, whether positive or negative, are most often experienced with and expressed to our close others (Berscheid & Ammazzalorso, 2001; Csikzentmihalyi & Hunter, 2003; Clark & Brissette, 2000; Rime, 2009; Von Culin, et al., 2017). Indeed, merely being with a relational other may change the emotions we have, making negative things, such as an electric shock, seem less stressful (Coan, et al., 2006) and making positive things such as eating a piece of chocolate (Boothby, et al., 2014) or viewing a pleasant scene (Boothby, et al., 2017), more pleasurable. Researchers have thus argued that it is important to study emotions within the context of one's relationships (Clark et al., 2017a). One way in which relational context has been accounted for in the study of emotions is through the lens of the attachment orientations individuals bring to their relationships.

Avoidant Attachment and Emotion

There is a plethora of work showing that avoidantly attached individuals both experience (e.g., Kerr et al., 2003) and express (e.g., Roger & Najarian, 1989) emotions in different amounts than do others due to a tendency to hypo-regulate their emotions.

When looking at emotion experience, avoidantly attached individuals are known to feel less gratitude toward responsive partners (Mikulincer, et al., 2006) and report feeling less positive emotion more generally when interacting with others compared to those low in avoidance (Pietromonaco & Barrett, 1997; Rom & Mikulincer, 2003; Tidwell, et al., 1996). Though positive emotions are beneficial for the self, it is likely that the chronic discomfort with intimacy and distrust of others (Mikulincer & Shaver, 2005) is leading these individuals to experience less positive emotion directed at others. Indeed, researchers have shown that avoidantly attached individuals are more likely to exhibit social anhedonia, indicating that they are experiencing less pleasure from social interactions (Assad & Lemay, 2018; Troisi et al., 2010) than others do.

When one considers emotion expression, the theoretical implications of attachment avoidance are clear. Expressing emotion encourages intimacy and dependency (Bauminger, et al., 2008; Graham, et al., 2008; Reis & Shaver 1988), clearly conveys the expressers' state of well-being (or lack thereof), and prompts partners to provide support when needed (Clark, et al., 1987; Graham, et al., 2008) and to capitalize upon a person's good fortunes when the expresser is happy (Gable, et al, 2004). Kerr and colleagues (2003) have shown that avoidantly attached individuals have lower trait emotional expressivity as measured by the scale developed by Kring, et al., (1994) than do those than those who are securely attached. The literature also suggests that avoidantly attached individuals are higher in emotion inhibition (Roger & Najarian, 1989) than those who are securely attached. These findings make sense, as avoidant persons wish to sidestep both intimacy and dependency. Thus, they ought to avoid expressing emotions,

both negative and positive, to facilitate keeping their needs to themselves and to avoid dependency on others.

Taken together, the work discussed here provides a picture of avoidantly attached individuals experiencing less positive emotion and expressing less emotion overall within their romantic relationships. Though extensive, the work on links between attachment orientations and emotional lives discussed here can and should be expanded upon in a number of ways. Most of the prior work only examines one emotion at a time (e.g., Mikulincer, et al., 2006) with sadness and anxiety receiving the most attention (e.g., Coyne, 1976; Gross & John, 2003). Additionally, this work has often focused on either the experience (e.g., Shiota, et al., 2006; Simpson, 1990) *or* the expression (e.g., Mikulincer & Shaver, 2005) of emotion as opposed to both at once with assumptions about experience often being inferred from the expression of emotion (e.g., Ekman, et al., 1980; Kraus, 2017).

The study described in this chapter extends prior work in two ways. First, I examine a wide range of both positive and negative emotions within a single study for each individual. By examining more than one emotion, I am able to assess the patterning of emotions for individuals who are high in avoidant attachment and to offer a more complete picture of the emotional lives of these individuals. Second, I examine experience and expression separately with participants reporting on their emotional expression only when they report experiencing an emotion. By taking a social constructivist approach (see Gendron & Barrett, 2009 for a review), and by assuming that the experience of emotion cannot necessarily be inferred from the expression I am able to

assess whether avoidantly attached individuals show differences in their experience of emotions independently from their expression of these same emotions.

Study 1 (a and b)

Through Study 1, I set out to establish a basic pattern of emotion experience and expression for avoidantly attached individuals. To that end, the study was conducted in two waves. An initial pilot study and a direct replication following it. Initially I predicted that avoidant attachment would be associated with less frequent expression of positive and negative emotion, while having no relationship with experience of either positive or negative emotions. However, based on the results of Study 1a, I hypothesized both for Study 1b and for the combined sample to be reported here, that avoidant attachment would be associated with less frequent experience of positive emotions and less frequent expression of both positive and negative emotions.

I also set forth secondary predictions about attachment anxiety such that attachment anxiety should be related to increased frequency of experiencing positive and negative emotion. These predictions were based on anxious attachment being characterized both by a strong desire to form relationships as well as a deep fear of being abandoned by those relationship partners (Collins, 1996). This suggests that these individuals would experience high levels of positive emotion when they see signs that they are liked by another person, but similarly exhibit high levels of negative emotion when they see signs of disinterest from others.

Method

Participants

For Study 1a I recruited 152 participants (65 Female; age: M = 36.54, SD = 11.29) using Amazon's Mechanical Turk worker pool. The sample was predominantly white (66%), 42% of the participants were married, and 27% were single. Participants were paid $1.50 for their participation in the survey. After examining the results of Study 1a which revealed that avoidant people experienced significantly less frequent positive emotion and supported my original predictions regarding avoidant persons' failure to express the emotions they feel, I conducted a direct replication (Study 1b). For Study 1b I recruited an additional 151 participants (49 Female; age: M= 35.59, SD= 10.44) again using Amazon's Mechanical Turk worker's pool making sure to exclude any MTurk worker who had participated in Study 1. The sample, again, was predominantly white (77%). 35% of the participants were married; 27% were single. Again, participants were paid $1.50 for their participation in the survey. I report the combined findings of Study 1a and b here.

Measures

Attachment Orientation. Attachment orientation was assessed using the Revised Experiences in Close Relationships Scale (ECR-R) (Fraley, et al., 2000). The ECR-R includes two 18-question subscales that measure attachment anxiety and attachment avoidance. A sample question on the anxiety subscale is "I am afraid that I will lose my close others' love." A sample question on the avoidance subscale is "I prefer not to be too close to romantic partners." Each question is on a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" and asks about general feelings towards relationships, rather than about a specific relationship.

Emotion Experience. Participants were asked about their experience of 9 emotions over the past week: sadness, anxiety, empathic distress, hurt, guilt, embarrassment, happiness, empathic happiness, and gratitude. Experience questions were framed as follows: "In the last week, how often did you feel sad?" Responses were made on 7-point Likert scales with choices ranging from "Never" to "Always".

Emotion Expression. If participants reported experiencing an emotion they were then asked about the expression of that emotion. Expression questions were framed as follows: "Of the times you felt sad, how often did you express your sadness to another person?" with answers ranging on a five-point Likert scale from "None of the times" to "Every time"[1].

All measures for this study can be found in Appendix A.

Procedure

The procedures for Studies 1a and 1b were identical. Participants were told that they would be taking a survey about human behavior and emotions. After reading an introduction and consenting to participate in the study, participants were asked a series of questions about how often they had felt 9 emotions (sadness, happiness, anxiety, empathic distress, empathic happiness, gratitude, guilt, embarrassment, and hurt) in the last seven days. *If* they had experienced a given emotion, I *then* asked how often they had expressed that emotion in the last seven days. The order of the emotions was randomized across participants, but the questions about experiencing the emotions always came first followed by questions about frequency of expression only *if* the emotion had been experienced.

[1] Following this, participants were asked about to whom they expressed the emotions. These results are not relevant to the hypotheses laid out here.

Progression through the series of questions was dependent upon the answer to the previous question. For example, if participants stated that they did not feel an emotion in the past week (indicated by selecting “Never” or by not answering the question) they were immediately directed to the series about the next emotion. If participants responded that they had felt one of the emotions in the past week (indicated by choosing any answer other than “Never”) they were immediately asked about frequency of expressing that emotion.

Following the series of questions about the nine emotions, participants responded to the ECR-R (Fraley, et al., 2000). The order in which the 36 items were administered was randomized for each participant.

Finally, participants provided demographic information (age, gender, ethnicity) in response to a final set of questions, were thanked for their time, and were paid through Amazon’s Mechanical Turk.

Results

I first calculated scores for each participant’s attachment anxiety (M = 3.17; SD = 1.45) and avoidance (M = 2.95; SD = 1.17) by taking the means of their scores for all avoidant questions and then for all anxiety questions on the respective two subscales of the ECR-R and then z-scored them. These z-scores were used as predictors for the experience and expression of emotions using multiple regressions. Next, I shifted the experience and expression scores so that the low end of the experience scales, “Never,” was scored as 0 and the low end of the expression scale, “None of the times” was scored as 0. The high end of the experience scale "Always" was scored as 6 and the high end of the expression scale, “Every Time” was scored as 4.

Following this shift, I calculated reliability measures for the indices of the experience and expression of the three positive emotions: happiness, empathic happiness, and gratitude (Experience α = .63; Expression α = .73) and for experiencing and expressing the six negative emotions: sadness, anxiety, empathic distress, guilt, embarrassment, and hurt (Experience α = .88; Expression α = .89). As these reliability scores were reasonably high, I calculated a mean score for each participant for experiencing positive emotion, expressing positive emotion, experiencing negative emotion, and expressing negative emotion and then z-scored those averages for analyses.

For descriptive purposes, I present the means and standard deviations of participants' reports of experiencing and expressing the composite emotion scores in Table 1. As can be seen, all emotions were reported as having been experienced at times and the variance in reports of having experienced and expressed each of the emotions were similar. I begin by discussing the results for avoidant attachment and then discuss anxious attachment separately but note that all regression models include both attachment avoidance and anxiety as well as the interactions between the two.

Table 1: Means and Standard Deviations of Experienced and Expressed Emotions

Experienced Emotion	**Mean**	**SD**
Positive	3.22	1.13
Negative	1.68	1.18

Expressed Emotion	**Mean**	**SD**
Positive	2.00	1.07
Negative	1.14	1.00

Avoidant Attachment Results

I predicted that being high in avoidant attachment would be associated with experiencing less frequent positive (but not less frequent negative) emotion and would be associated with expressing both positive and negative emotion less frequently. I also predicted, following the results of Study 1a, that participants high in anxious attachment would experience and express both positive and negative emotion more frequently. To examine these associations, I conducted multiple regressions predicting the experience and expression of positive and negative emotion.

The results for avoidant attachment appear in Table 2[2]. As predicted, individuals characterized by more (relative to less) avoidant attachment were no less or more likely than other individuals to experience negative emotion, $\beta = -0.03$; $p = .63$. Moreover, people high (relative to low) in avoidant attachment reported experiencing significantly less frequent positive emotion, $\beta = -0.41$; $p < .001$. Additionally, more avoidantly attached individuals reported expressing less frequent emotion, both positive, $\beta = -0.38$; $p < .001$, and negative, $\beta = -0.26$; $p < .001$, to others. The overall picture is one of avoidantly attached people experiencing negative emotion much as do less avoidantly attached people but experiencing less frequent positive emotion than less avoidantly attached people and expressing less emotion altogether than do others. Results for analyses examining emotions separately predicted by avoidant attachment can be found in Appendix B.

[2] All regressions reported include interactions with anxious attachment. The interaction between avoidance and anxiety was significant for the expression of negative emotions ($\beta = 0.21$, $p<0.01$) such that those individuals high in both anxiety and avoidance expressed negative emotion more frequently.

Table 2: Experienced & Expressed Emotion predicted by Avoidant Attachment. 95% Confidence Interval

Experienced Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.41	0.07	-6.07	<.001	0.13	-0.54	-0.27
Negative	-0.03	0.06	-0.49	.63	0.35	-0.14	0.09

Expressed Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.38	0.07	-5.71	<.001	0.11	-0.52	-0.25
Negative	-0.26	0.07	-3.70	<.001	0.12	-0.39	-0.12

Anxious Attachment Results

The results for anxious attachment appear in Table 3. As predicted, individuals who were more (relative to less) anxiously attached reported experiencing significantly more frequent positive, β = 0.20; p =.003 *and* negative, β = 0.61; p <.001, emotion. In addition, the overall results showed that more anxiously attached (relative to less anxiously attached) individuals also reported expressing significantly more frequent positive, β = 0.18; p =.006, and negative, β = 0.38; p <.001, emotion as well.

Table 3: Experienced & Expressed Emotion Predicted by Anxious Attachment. 95% Confidence Interval

Experienced Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	0.20	0.07	3.00	.003	0.13	0.07	0.32
Negative	0.61	0.05	10.87	<.001	0.35	0.50	0.72

Expressed Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	0.18	0.07	2.75	.006	0.11	0.05	0.31
Negative	0.38	0.07	5.67	<.001	0.12	0.25	0.51

Discussion

Avoidant Attachment and the Experience of Emotion

Individuals characterized by high, relative to low, avoidant attachment reported experiencing less frequent positive emotion. As predicted initially, participants who were high (relative to low) in avoidant attachment were no different than others in terms of reports of experiencing negative emotions in both waves of Study 1.

As to why avoidant individuals report experiencing less frequent positive emotion, I suggest this is due to avoidant individuals leading lives that avoid intimacy, dependence on others, and others' dependence on the self. As a result, I believe, they are less likely than others to reap many of the emotional benefits of social life. Giving benefits (Aknin, et al., 2012; 2013; Dunn et al., 2008), sharing experiences (Aron, et al., 2000; Reis, et al., 2017) and sharing and celebrating partner's successes (Dunn, et al., 2011; Gable, et al., 2004), are all behaviors that have been documented to boost positive emotions and are also behaviors that highly avoidant people may eschew to sidestep intimacy. By guarding themselves from these positive forms of interdependence with others, avoidant people may, unwittingly, decrease the amount of positive emotion they experience in day-to-day life.

Despite the lowered reported experience of positive emotions, avoidant individuals showed no difference in the reported experience of negative emotions. I had expected this as feeling these emotions intra-personally is as relevant to avoidant people as to anyone else. These emotions signal intra-individual needs and alert people, generally, to the need for self-care. It is possible that even feelings of guilt may not drop for avoidant people because they, like others who do feel comfortable with intimacy, may feel a need to ensure that others do not reject them for their wrong doings and may desire to avoid termination of the relationship. For avoidant people the need for care that is

signaled may lead them to self-care (or less effectively, perhaps to emotion suppression). Whereas for secure individuals the need for care that is signaled my lead to self-care and/or to expressing the emotion and turning to others for support. In both cases the experience of negative emotion remains an important signal.

Avoidant Attachment and the Expression of Emotion

Consistent with my hypothesis, more (relative to less) avoidant individuals reported expressing both positive and negative emotions significantly less frequently. This falls in line with prior research which has found that avoidance is associated with displaying less emotion while watching a pleasant film (Magai, et al., 2000) and in group interactions (Rom & Mikulincer, 2003). As I have discussed, the expression of emotion is indicative of inner needs, desires, and vulnerabilities which, once expressed, can be perceived as attempts to build intimacy (Clark, et al., 2017a; Reis & Shaver, 1988). On average it does appear that people tend to share emotions with close others (Rime, 2009) particularly when they have trust that others care for them (Von Culin, et al., 2017). However, the expression of emotion exposes vulnerabilities which can be ignored or even exploited, which can be threatening to avoidant people, which is why I believe avoidant people avoid expressing them. By not expressing their emotions due to active suppression or due to habitually never considering expression in the first place, more avoidant individuals may effectively avoid developing intimacy with and dependency upon others. Below I summarize the links between avoidant attachment and emotional experience and expression found in this first study (see Table 4).

Table 4: Summary of main findings for avoidant attachment

Emotion	**Finding**

Positive Experience	Avoidant attachment is associated with experiencing positive emotion less frequently.
Positive Expression	Avoidant attachment is associated with expressing positive emotion less frequently.
Negative Experience	Avoidant attachment is not significantly related to experiencing a different frequency of negative emotions.
Negative Expression	Avoidant attachment is associated with expressing negative emotions less frequently.

Anxious Attachment and the Experience and Expression of Emotion

I hypothesized that people characterized by high anxious attachment would report experiencing both positive and negative emotions more frequently. The data supported that hypothesis for both positive and negative emotions. Prior research has shown that anxiously attached people are both especially desirous of establishing and maintaining close relationships yet, simultaneously, especially fear failures in so doing (Mikulincer & Shaver, 2013). Their simultaneous fear of and desire for social connection should make them more reactive to both desired and undesired partner behaviors and thus more likely to experience both positive and negative emotions which would fit well with prior findings suggesting their hyper-reactivity to positive and negative relationship events (Clark, et al., 2010).

I further asked participants the extent to which, when they did experience a particular emotion, they had expressed it. For anxious attachment these questions were exploratory, and I found that individuals high (relative to low) in anxious attachment

reported expressing both the positive and negative emotions they had experienced more frequently. This finding, that anxious people reported expressing more negative emotion fits well with prior findings (Rholes, et al., 1999; Simpson, et al., 1996; Overall, et al., 2014) regarding individuals high (relative to low) in attachment anxiety expressing more anger, distress, and hurt. These results extend those earlier findings to show that anxious people also report feeling a greater variety of negative emotions more frequently as well including sadness, empathic distress, guilt, embarrassment. This finding is significant because expressions of anger, distress and hurt may all be seen as reactions to and complaints about another's behavior. Expressing sadness, guilt and embarrassment involves more vulnerability and expressing empathic distress involves expressing negative feelings as a result of others' misfortunes.

Limitations

The work presented here is all retrospective reports of emotion. While I contend that beliefs about our emotions in the past are important for shaping the way we experience and express emotion in the present it is possible that avoidantly attached individuals are biased in their recall of emotion and that such biases rather than actual experiences and expressions of emotion in the moment accounts for these results. Indeed, prior work has shown that avoidantly attached individuals have biased recall for support provision such that they tend to retrospectively report receiving less support than they do in the moment (Collins & Feeney, 2004). Thus, it is important to examine the emotional lives of these individuals across different timescales.

Chapter 2 – Assessing Retrospective Bias: Avoidant Attachment and Reports of Daily Emotion

Introduction

Given that emotions are, very often, reactions to, and influencers of, our social interactions it is important to examine them both in contemporaneous reports and in dyadic contexts. In Chapter 1, I presented evidence, from retrospective reports of emotion, that avoidantly attached individuals experience positive emotions less frequently and express positive and negative emotions less frequently. Moving forward, in this chapter I report and discuss the ways in which these patterns replicate and differ for more contemporaneous reports. Additionally, in this chapter I examine a potential explanation for the decreased positive emotions of avoidantly attached individuals, namely that they experience social anhedonia in particular due to their social avoidance. Specifically, I present a study in which I seek to address two questions: 1) Were the effects found in Study 1 due to people high in avoidance having retrospective biases in reporting experiences and expressions of emotion? 2) Are avoidantly attached individuals exhibiting greater social, but not physical, anhedonia than others?

Though beliefs about our past emotions may be important factors in shaping our current emotional states and interactions, it is possible that one's retrospective reports may be biased or inaccurate. Indeed, prior work has shown that avoidantly attached individuals specifically tend to show a bias in regard to reports of support provision (Collins & Feeney, 2004), as well as recall for attachment related information generally (Fraley & Brumbaugh, 2007) such that they tend to retrospectively report less of each than they do in more contemporaneous reports. Additionally, research has shown that

when reporting retrospectively on emotional reactions to interactions, avoidant people report less emotionality and less distress than when they immediately report on an interaction (Pietromonaco & Barrett, 1997). Thus, at least in regard to negative emotions and perhaps in regard to positive emotions as well, it may be that the avoidantly attached individuals in Study 1 exhibited some amount of retrospective bias. To assess this possibility, it is necessary to examine both retrospective and contemporaneous reports of experiences of emotion.

To my knowledge no studies have examined retrospective biases in positive emotion for avoidantly attached individuals. This is a common trend in research on emotions as the vast majority of both clinical and social psychological work on emotions has focused on negative emotions (e.g., Healy & Williams, 1988; Joormann & Siemer, 2011; Newman et al., 2013). Particularly within the realm of attachment avoidance, most work has focused on the heightened negative emotions within relationships (e.g., Rholes, et al., 1999; Simpson, 1990) as well as with the absence of positive emotion (Mikulincer, et al., 2006; Pietromonaco & Barrett, 1997; Rom & Mikulincer, 2003; Tidwell, et al., 1996). When a positive emotion is experienced, do they express it? Results from Study 1 indicate that they may not, but little work has discussed what happens in the rare instances when these individuals do experience positive emotions. Do these individuals experience positive emotion in response to the same events as less avoidantly attached individuals?

The majority of emotion (particularly positive) is experienced within and due to our close relationships (Algoe, 2012; Berscheid & Ammazzalorso, 2001; Cskikzentmihalyi & Hunter, 2003; Fredrickson, 2001). Due to their discomfort with

intimacy and unwillingness to express emotion to their close others (Bartholomew & Horowitz, 1991; Collins, 1996; Fraley & Shaver, 2000) it is likely that avoidantly attached individuals are not experiencing positive emotion in their social interactions nor reaping the rewards of positive emotion expression. As discussed previously, when a positive emotion is expressed, it allows for our close others to capitalize on that emotion through active constructive responses which further increases our felt emotion about the event and our positive emotions toward our partner(s) (Gable et al., 2004). By not expressing positive emotions that are experienced, avoidantly attached individuals miss out on these opportunities for capitalization and relationship strengthening, as well as increased and continued experience of their positive emotions. But what about their experience of positive emotion independent from capitalization?

A central point of concern with this dissertation is the separate examination of emotion experience and expression, and so we must also consider the possibility that avoidantly attached individuals are also experiencing less positive emotion due to differing or even lessened interaction with social others. Despite their discomfort with intimacy and distrust of others, research has shown that avoidantly attached individuals actually have a similar number and type of interactions with others as less avoidantly attached individuals do (Pietromonaco & Barrett, 1997). However, these interactions have been shown to yield less positive emotion for these individuals when compared to more securely attached participants (Kafetsios & Nezlek, 2002). Why might this be? One explanation is that avoidantly attached individuals are experiencing greater social anhedonia (Assad & Lemay, 2018; Troisi et al., 2010).

Anhedonia

Anhedonia is a construct often applied to clinically depressed populations and is described as an absence of pleasure (Klein, 1974). Many measures of anhedonia split the construct into physical and social anhedonia. Physical anhedonia is focused on the experience of pleasure related to things like physical activity or eating; social anhedonia is focused on the experience of pleasure derived from social interactions with others (Chapman, et al., 1976). Given that more avoidantly attached individuals dislike the intimacy that comes from responsiveness (both being responsive to and receiving responsiveness from others) with partners, it stands to reason that they also may derive less pleasure in these situations. Indeed, prior work has shown this link (Assad & Lemay, 2018; Troisi, et al., 2010). However, despite establishing a link between attachment avoidance and social anhedonia, neither study examined whether associations between avoidance and physical anhedonia also exist. Thus, it is unclear whether or not avoidantly attached participants are experiencing similar levels of positivity from engaging in things like physical exercise or eating a favorite meal. In this chapter I seek to address this hole in the literature by examining the relationship between avoidant attachment and both social and physical anhedonia.

Through the studies described in this chapter I seek to replicate and extend both the prior work in the field and the work discussed in Chapter 1 in two ways. First, I move toward examining patterns of emotional lives both retrospectively and in daily reports. Doing so will help to answer the question of whether the deficit in the experience of positive emotion avoidant people appear to show in Study 1 was due to a retrospective

bias in reports of emotion[3] or, instead, reflects a true difference in experiencing positive emotions. Second, I introduce measures of physical and social anhedonia to examine a potential mechanism for deficits in positive emotion experience among avoidantly attached individuals. Prior work has shown that avoidant individuals exhibit social anhedonia (Assad & Lemay, 2018; Troisi, et al., 2010) and here I seek to replicate this work and to extend and refine it by examining physical anhedonia as well. If the deficit in positive emotion appears only for positive emotion associated with social events, then explaining the Study 1 finding that people high in avoidance experience less positive emotion in terms of avoidant individuals' avoidance of social situations gains credence.

Study 2

Following the results of Study 1, I felt confident that the effects reported for avoidant attachment were consistent and theoretically meaningful. However, I wanted to assess the experience and expression of emotions using multiple methodologies and across different timespans. For this reason, I sought to examine emotion experience and expression on a daily basis as well as retrospectively. Though I did not expect to find a different pattern of results in a daily diary study, there was a possibility that the effects found in Study 1 were due to a retrospective bias whereby participants are only displaying these patterns when thinking back to past instances of emotional expression but not when experiencing the emotion concurrently.

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[3] Although I assert that it is important to investigate whether or not a retrospective bias may be at work, I also assert that retrospective assessments of emotional experience and expression *are* emotional life. Much of the discussions, thoughts, and consequences of emotional experience and expression likely center around past emotional experiences and expressions, thus this information may be even more important than emotions experienced in the moment.

To assess this potential bias, I conducted a daily diary survey in which participants reported on their experienced and expressed emotion each day for seven days. On the eighth day of the study, participants also reported retrospectively about their experience and expression across those seven days allowing me to compare the retrospective results (collected in a manner analogous to how such responses were collected in Study 1) with averaged contemporaneous reports which covered the same time period.

I also moved beyond Study 1 by including a measure of anhedonia, adapted from the Snaith-Hamilton Pleasure Scale (Snaith, et al., 1995) in Study 2. Given that more avoidantly attached individuals dislike responsiveness and intimacy with partners, I anticipated that they also may derive less pleasure in these social situations, leading me to predict that avoidant people would show higher levels of social anhedonia than others but not higher levels of non-social (i.e., physical) anhedonia. That is, I suspected that they would still enjoy other aspects of life as much as others.

Based on the evidence found in Study 1, I predicted that avoidant attachment would be related to less frequent experience of positive emotion and less frequent expression of both positive and negative emotion on a daily basis. With regard to the possible retrospective bias that might apply to the results of Study 1 but not of Study 2, I treated this issue as exploratory. I further predicted that more avoidantly attached individuals would show increased social anhedonia, meaning that they would derive less pleasure from social interactions with close others than individuals who are less avoidantly attached, but would show no differences in physical anhedonia.

With regard to anxious attachment, past literature and the results of Study 1 led me to expect that more (relative to less) anxiously attached individuals would report experiencing more positive and negative emotions. Again, I made no predictions with regard to how anxious attachment might be linked to expressions of emotion. Rather I waited to see if I would replicate the expression results of Study 1 showing that anxious people expressed more positive and negative emotion. These hypotheses are of secondary concern for this dissertation (See Table 5 for a list of primary hypotheses.)

Table 5: Primary hypotheses for Study 2

Primary hypotheses for Study 2
1. Avoidant attachment will be associated with less frequent experience of positive emotion.
2. Avoidant attachment will be associated with less frequent expression of positive and negative emotions.
3. Avoidant attachment will be associated with greater social anhedonia.

Method

Participants

112 participants were recruited from the greater New Haven area via online advertisements. Following data collection, data from seven participants were excluded from all analyses as they had completed less than half of the daily surveys and data from an additional five participants were excluded for completing the pre-survey in such a short amount of time (i.e. less than 2 minutes) that it was not plausible they had considered the questions thoughtfully. This left a total sample of N=100, but data from an additional 8 of these 100 participants were excluded from analyses due to not completing

the post-survey. Of the 92 remaining participants (66 Female; age: M = 21.92; SD = 5.46) 40.2% were Asian, 31.5% were White, 8.7% were Latino/a, 7.6% were Black, and 12% were of more than one race. 40.2% of the sample were single, 33.7% were seriously dating one person, and 6.5% of the sample were married. Participants were paid for completion of the survey on a tiered basis. Completion of the pre-survey and at least 4 daily surveys (the minimum number to be included in the sample) resulted in a payment of $10 total. Each daily survey after the fourth was worth an additional $5 and if the participant completed the pre-survey, all daily surveys, and the post-survey they were paid an additional $10, resulting in a total possible payment of $35. All payments were made via Amazon gift cards.

Measures

Attachment Orientation. Attachment orientation was assessed in a pre-survey using the ECR-R (Fraley et al., 2000) as in the previous study (see Appendix A).

Anhedonia. Anhedonia was assessed using an adapted version of the Snaith-Hamilton Pleasure Scale (SHAPS) (Snaith, et al. 1995). The version used here was adapted into a 14-item scale with two subscales, one focused on physical and one focused on social anhedonia. A sample item from the physical anhedonia subscale is “I get pleasure from eating my favorite meal.” and a sample item from the social anhedonia subscale is “I get pleasure from spending time with my family or close others.” These items were assessed on 7-point Likert scales ranging from “Strongly Disagree” to “Strongly Agree” where higher scores indicate less anhedonia (i.e., more pleasure) (See Appendix C for the full scale).

Emotion Experience. Emotion experience was assessed on a daily basis for seven days using an adapted version of the experience questions from Study 1. The same nine emotions from Study 1 were assessed: sadness, anxiety, empathic distress, hurt, embarrassment, guilt, happiness, empathic happiness, and gratitude. The questions were phrased as "Over the last 24 hours how often did you feel sad?" and were assessed using 7-point Likert scales ranging from "Never" to "Always." As with the prior study the experience questionnaire showed high internal reliability for both positive ($\alpha = 0.79$) and negative ($\alpha = 0.88$) emotion experience.

Emotion experiences also were assessed retrospectively using the same measures as used in Study 1. Retrospective assessments were made following the conclusion of all daily surveys in order to test for accuracy and the possibility of a retrospective bias. The internal reliabilities for this measure were high for both positive ($\alpha = 0.75$) and negative ($\alpha = 0.77$) emotion experience.

Emotional Expression. Emotional expressions were assessed on a daily basis for seven days using an adapted version of the experience questions from Study 1. As with emotion experience, the same nine emotions from Study 1 were assessed. The questions were phrased as "Of the times you felt sad how often did you express your sadness to another person?" and were assessed using 5-point Likert scales ranging from "None of the times" to "Every time." As with prior studies the experience questionnaire showed high internal reliability for both positive ($\alpha = 0.80$) and negative ($\alpha = 0.75$) emotion expression.

Emotional expressions also were assessed retrospectively using the same measure as used in Study 1. This was assessed following the daily surveys in order to replicate the

results of Study 1 and also to assess the possibility of a retrospective bias relative to our daily diary measures. The internal reliability for this measure was high for negative (α= 0.68) emotion expression and reasonable for positive (α = 0.58) emotion expression.

All measures new to this study can be found in Appendix C.

Procedure

Participants were told that they would be completing surveys about their daily thoughts and feelings on various aspects of human behavior and relationships. Participants first completed a pre-survey including the measures of attachment orientation and anhedonia discussed previously[4]. Demographic information was also collected at this time.

Following completion of the pre-survey, participants were sent a link to a survey at 4 p.m. which expired at midnight. This occurred once daily for a total of 7 days. These surveys assessed daily emotional experience and expression[5]. The emotional experience and expression questions followed the same progression as in Study 1, that is, all participants were asked about their experience of every emotion, but each person only reported on their expression of emotion *if* that person had reported experiencing that emotion in the prior 24-hour period.

On the day following completion of the seventh daily survey, participants were sent a link to a post-survey which assessed retrospective reports about their experienced

[4] Other measures assessed at this time include optimism and self-esteem. These measures are not relevant for the hypotheses discussed in this dissertation.

[5] Other measures assessed at this time include daily responsiveness and sacrifice from close others. These measures are not relevant for the hypotheses discussed in this dissertation.

and expressed emotion over the past seven days. Again, the questions followed the same progression as in Study 1.

Following completion of the final survey, participants were thanked and remunerated by the researchers.

Results

I again calculated scores for each participant's attachment anxiety (M = 3.70; SD = 1.12) and avoidance (M = 3.05; SD = 0.98) and z-scored them. Next, I calculated the mean and standard deviation for the experience and expression of each emotion, which can be seen in Table 6. Given the high alphas for positive and for negative emotions, I again created positive and negative experience and expression scores for each individual, this time by averaging across all 7 days. Next, I created retrospective recent experience and expression scores by averaging the negative emotion scores and, separately, the positive, emotion scores together (see Table 7 for means and standard deviations). Following this I calculated difference scores between retrospective reports and the daily reports of experienced positive (M = 0.20; SD = 0.65) and negative (M = 0.58; SD = 0.69) emotion and expressed positive (M = 0.11; SD = 0.54) and negative (M = 0.11; SD = 0.49) emotion. This score was calculated by subtracting the average daily reports from the average retrospective reports of positive and negative emotion. For these difference scores, positive numbers indicate more emotion in retrospective reports and negative numbers indicate more emotion in daily reports. I then calculated scores for participants' physical (M = 6.11; SD = 0.5) and social (M = 6.21; SD = 0.59) anhedonia where higher scores indicate more pleasure elicited from events. Results for avoidant attachment will be discussed first followed by the results for anxious attachment.

Table 6: Means and Standard Deviations of Daily Experienced and Expressed Emotions

Experience	Mean	SD
Positive	4.40	0.77
Negative	2.71	0.85

Expression	Mean	SD
Positive	2.86	0.74
Negative	2.05	0.66

Table 7: Means and Standard Deviations of Retrospective Experienced and Expressed Emotions

Retrospective Experience	Mean	SD
Positive	4.59	1.02
Negative	3.28	0.97

Retrospective Expression	Mean	SD
Positive	2.97	0.87
Negative	2.16	0.75

Primary Hypotheses

Experience and expression of emotion. First, I tested to see whether, on a daily basis, more avoidantly attached individuals report experiencing less frequent positive emotion and expressing less frequent positive and negative emotion. Four regressions were run using attachment orientation to predict the experience and expression of both positive and negative emotion[6]. Consistent with hypotheses and with the results of Study 1, but this time measured on a daily basis, more avoidantly attached individuals report experiencing less frequent positive emotion, $\beta = -0.19$; $p = .03$, and expressing less

[6] Interactions between attachment avoidance and anxiety were included in all regressions but were not significant and thus not reported here.

frequent positive, β = -0.27; p = .002, and negative, β = -0.28; p <.001, emotion (Table 8). Results for analyses examining emotions separately predicted by avoidant attachment can be found in Appendix D.

Table 8: Daily Experienced and Expressed Emotion predicted by Avoidant Attachment. 95% Confidence Interval

Experienced Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.19	0.09	-2.20	.030	0.16	-0.37	-0.02
Negative	0.19	0.1	1.93	.056	0.16	-0.14	0.13

Expressed Emotion	**β**	**SE**	***t***	***P***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.27	0.08	-3.28	.002	0.2	-0.44	-0.11
Negative	-0.28	0.07	-3.80	<.001	0.19	-0.43	-0.13

Following this I examined whether there was a retrospective bias for avoidantly attached individuals. To do this, I ran four regressions predicting the difference scores for participants' retrospective and in the moment reports of experience and expression of positive and negative emotion by their attachment style. No significant differences emerged for more avoidantly attached individuals in their reports of daily experienced and expressed positive and negative emotion and the analogous retrospective reports (Table 9).

Table 9: Retrospective bias in Experienced & Expressed Emotion predicted by Avoidant Attachment. 95% Confidence Interval

Experienced Emotion	**B**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.01	0.08	-0.13	.90	-0.02	-0.17	0.15
Negative	0.002	0.08	0.03	.98	0.04	-0.17	0.17

Expressed Emotion	B	SE	*t*	*p*	Adjusted R^2	CI (Low)	CI (High)
Positive	0.1	0.07	1.54	.13	0.03	-0.03	0.23
Negative	0.03	0.06	0.53	.60	-0.01	-0.09	0.16

Anhedonia. I conducted two regressions predicting scores of physical and social anhedonia by participants' attachment style. Consistent with my hypothesis, results show that more (compared to less) avoidantly attached individuals reported significantly less pleasure from social interactions, $\beta = -0.28$; $p < .001$. The difference in their reports of pleasure from physical sources, did not reach significance (Table 10). However, the difference in physical pleasure did come close to being significant ($p = .052$).

Table 10: Anhedonia predicted by Avoidant Attachment. 95% Confidence Interval

Anhedonia	B	SE	*t*	*p*	Adjusted R^2	CI (Low)	CI (High)
Physical	-0.12	0.06	1.97	.052	0.10	-0.23	0.001
Social	-0.28	0.07	-4.27	<.001	0.19	-0.41	-0.150

Overall, significant effects emerged in Study 2 which are consistent with those that emerged in Study 1 for avoidant attachment.

Anxious Attachment Results

Experienced and expressed emotion. Turning to the results for anxious attachment some results were inconsistent with the results obtained in Study 1. When looking at daily experienced emotions, more anxiously attached individuals report experiencing less positive emotion (unlike what was found in Study 1) and more negative emotion (as was the case in Study 1) (see Table 11). Further, more (relative to less) anxiously attached individuals did not report expressing more negative emotion (unlike

Study 1) and reported significantly less expression of positive emotion (unlike Study 1) (Table 11).

Table 11: Experienced and Expressed Emotion predicted by Anxious Attachment. 95% Confidence Interval

Experienced Emotion	**β**	**SE**	***t***	***P***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.18	0.09	-1.99	.050	0.16	-0.35	-0.0002
Negative	0.23	0.1	2.32	.023	0.16	0.03	0.42

Expressed Emotion	**β**	**SE**	***t***	***P***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.10	0.08	-1.25	.021	0.2	-0.27	0.06
Negative	-0.03	0.07	-0.39	.70	0.19	-0.18	0.12

Moving on to the difference scores between currently experienced and expressed emotion and retrospective reports, more anxiously attached individuals do not show a retrospective bias in their experience of emotion but do show a retrospective bias in their reports of their expression of positive emotion (see Table 12). The negative beta here indicates that these individuals retrospectively report expressing less positive emotion than they reported expressing in the moment.

Table 12: Retrospective bias in Experienced & Expressed Emotion predicted by Anxious Attachment. 95% Confidence Interval

Experienced Emotion	**β**	**SE**	***t***	***p***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	0.04	0.08	0.51	.61	-0.02	-0.12	0.21
Negative	0.15	0.08	1.75	.08	0.04	-0.02	0.32

Expressed Emotion	**β**	**SE**	***t***	***P***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Positive	-0.13	0.07	-1.99	.050	0.03	-0.26	-0.0002
Negative	-0.06	0.06	-0.95	.34	-0.01	-0.18	0.06

Anhedonia. When examining the relationship between anhedonia and anxious attachment, I find that more anxiously attached individuals do not show a significant difference in either physical or social anhedonia (Table 13).

Table 13: Anhedonia predicted by Anxious Attachment. 95% Confidence Interval

Anhedonia	**β**	**SE**	***t***	***P***	**Adjusted R^2**	**CI (Low)**	**CI (High)**
Physical	-0.08	0.06	1.40	.16	0.10	-0.20	0.03
Social	0.01	0.07	0.17	.86	0.19	-0.12	0.14

Discussion

The primary goal of the study reported in this chapter was to address the possibility of a retrospective bias in avoidantly attached individuals reports of their emotions. When examining emotion experience and expression in a more contemporaneous fashion, by using daily reports, I find significant results that replicate patterns from Study 1. Additionally, I do not find evidence for a retrospective bias, when comparing to more contemporaneous daily reports, in the reports of emotion by more avoidantly attached individuals. A second goal of this chapter was to examine the association between avoidant attachment and anhedonia, both social and physical. Here I predicted that avoidantly attached individuals would exhibit greater social, but not physical, anhedonia. See Table 14 for a summary of significant findings regarding primary hypotheses.

Table 14: Summary of significant results for primary hypotheses in Study 2

Significant results for primary hypotheses in Study 2
1. Avoidant attachment is associated with experiencing less frequent positive emotion on a daily basis.

2. Avoidant attachment is associated with expressing less frequent positive and negative emotion on a daily basis.
3. Avoidant attachment is associated with greater social anhedonia.

Avoidant Attachment

Consistent with my hypotheses and with the findings of Study 1, more avoidantly attached individuals reported, across seven days, less frequent experience of positive emotion and less frequent expression of both positive *and* negative emotion compared to less avoidantly attached individuals. Additionally, this study shows that there were no significant differences in the reports of emotions experienced and expressed in the daily diary study and the retrospective reports of the same for more avoidantly attached individuals. It is worth noting that though daily reports are more contemporaneous than asking participants to report across the previous seven days, they are still retrospective. Thus, even though these results suggest that there may not be a retrospective bias, I cannot fully rule out this possibility without comparing to in the moment reports. However, these results are still important as they show that the decreased reports in the experience and expression of emotion in previous studies, my own and others, are likely not due to a retrospective bias for avoidantly attached individuals. Instead, these individuals are fairly accurate in their recall of emotional experiences and expressions and are not simply misreporting fewer instances when comparing across reports from different timescales.

Finally, this study shows that there is an association between avoidant attachment and social anhedonia, such that more avoidantly attached individuals report receiving less

pleasure from social interactions with their close others relative to more avoidantly attached individuals. This suggests a possible mechanism for the findings from Study 1 and adds nuance to those findings (and to those reported by Horppu & Ikonen-Varila, 2001; Pietromonaco & Barrett, 1997; Rom & Mikulincer, 2003; Tidwell, et al., 1996). Specifically, it suggests (as I had suspected) that the decrease is likely primarily due to higher levels of avoidance being linked to having less intimate and enjoyable social interactions with others rather than an across-the-board decrease in pleasure. Whereas more avoidantly attached individuals may have relationships they describe as close, they do not derive the same amount of positive emotion from these relationships as do those lower in avoidant attachment. Interestingly, these findings show that highly avoidant people not only experience less frequent positive emotion than do others, but they also express the positive emotions that they do feel less frequently. This lowered experience of positive emotion from social relationships combined with their lowered expression indicates that they are not fully reaping the social benefits of positive emotions (Algoe, 2012; Fredrickson, 2001; Gable et al., 2004).

Anxious Attachment

Whereas, in both studies, more anxiously (relative to less anxiously) people reported experiencing more negative emotion, in Study 1 higher anxious attachment predicted experiencing more positive emotional experience and in Study 2 it predicted less. In addition, in Study 1 higher anxious attachment predicted expressing more positive and more negative emotion whereas in Study 2 it predicted expressing less positive and negative emotion. Moreover, only one of the discrepant findings can easily be accounted for by those high in anxiety having biased retrospective reports. More anxiously attached

individuals report a bias in their retrospective reports such that they remember expressing less positive emotion than they actually reported on a daily basis.

I can only speculate on what these results regarding links between anxious attachment and the experience and expression of emotion mean and hesitate to do so. I feel it unwise to draw any firm conclusions with regard to how anxious attachment relates to the experience and expression of emotion given the overall mixed nature of the findings with the exception that anxious people tend to experience more negative emotion. However, I do find the fact that, in Study 2, the retrospective reports of feeling positive emotion by more anxious people were significantly lower than their concurrent reports in the diary study to be intriguing. Perhaps anxious people retrospectively downplay the positive emotions they felt in daily social interactions in a self-protective manner lest they drop self-protective vigilance going forward, though this is just speculation.

Conclusion

The results from this study provide preliminary evidence that avoidantly attached individuals are likely not exhibiting a retrospective bias when comparing across different timescales (e.g., past 7 days and daily reports) in the reports of their emotion. Avoidantly attached individuals again report that they are less happy and less willing to express emotions of any kind to other people generally. Moving forward, in the next two chapters of this dissertation I discuss two studies which replicate and extend this work to a dyadic context by examining partner perceptions of actor emotions (Studies 3 & 4) as well as expression of emotions directly to one's romantic partner (Study 4). See Table 15 for a

summary of significant findings of primary hypotheses for avoidantly attached individuals across Studies 1 & 2.

Table 15: Summary of significant findings of primary hypotheses for avoidantly attached participants across Studies 1 & 2

Variable	**Study 1 (Retrospective)**	**Study 2 (Daily)**
Experience of Positive Emotion	Less frequent	Less frequent
Expression of Positive Emotion	Less frequent	Less frequent
Social Anhedonia	NA	Greater

Chapter 3 – Moving Toward Dyadic Context: Avoidant Attachment and Reports of Daily Emotion

Introduction

So far in this dissertation I have presented two studies the results of which converge to illustrate a consistent relationship between attachment avoidance and individuals' lowered experience and expression of positive emotion as well as lowered expression of negative emotions. Whether reports of experienced and expressed emotion are examined in retrospection, or in contemporaneous, daily, reports, the results are the same. Additionally, the results of Study 2 indicate that there does not appear to be a retrospective bias in the reports of positive emotion for these individuals. However, more work is needed to verify and to extend these effects.

Importantly, the replicability of the absence of retrospective bias must be tested. Though I am confident in the findings of Study 2, the possibility of this being a one-off effect of the specific sample cannot be ignored. Thus, in this chapter I discuss a second daily diary study intended to replicate the effects of Study 2 as well as provide answers to two new questions: 1) Will the partners of avoidantly attached individuals pick up on the different frequencies with which they are experiencing and expressing emotion, thereby corroborating participants' own reports? 2) Are avoidantly attached individuals aware of their emotional deficits?

The relationships we have powerfully shape the emotions we experience and express (see Clark et al., 2017a). As I discuss in the prior chapters of this dissertation, merely the orientations toward and beliefs about the relationships we have, captured in

my own work in terms of attachment orientations, can influence the emotions we experience and express to others. Thus, moving toward the use of dyadic studies is an important step for the line of work I conduct. By assessing actor reports of emotions and including partner reports of actor emotions, Study 3 allowed me to better assess the nature of bias in avoidantly attached participants' reports of their own emotions. If partners are agreeing that avoidantly attached actors experience, and especially express, significantly less frequent positive emotion it lends credence to the actor reports themselves.

New to this study I include measures of participants' meta-awareness of their own emotional states. Are avoidantly attached individuals aware that they experience and express less positive emotion compared to less avoidantly attached individuals? If so, how does this influence their perception of the positive emotions other people experience and express? Understanding whether or not avoidantly attached individuals are exhibiting this meta-awareness will help to better contextualize their interactions with their social others. For example, if avoidantly attached individuals are unaware that they are living different emotional lives then they may be reinforcing their model of others as unreliable and unsupportive (e.g., Collins, 1996). However, if they are aware that they experience and express less emotion two possibilities emerge. First, it is possible that they feel as though others are experiencing and expressing too much emotion or possibly even faking their emotions, thus reinforcing a negative view of others. On the other hand, they may feel inward negativity about their lack of, particularly positive, emotion. The study presented in this chapter takes a first step at examining these possibilities.

Study 3

In conducting Study 3 I sought to replicate and extend the findings of Study 2 in a number of ways. Though Study 2 established a clear pattern of results for avoidant attachment and concurrent reports of emotion experience and expression, replicating these effects would increase my confidence in them. Additionally, the lack of a retrospective bias as well as the association between avoidant attachment and anhedonia were effects that I wished to replicate. Study 3 is thus another daily diary study, this time including romantic dyads, aimed at replicating these effects.

In total there are nine primary hypotheses for this study which may be found in Table 16. The first six hypotheses are predictions that I will replicate results from Studies 1 and 2. Specifically, I predicted that avoidant attachment would be associated with 1) less frequent retrospective reports of positive emotion experience, 2) less frequent retrospective reports of expression of positive and negative emotions, 3) less frequent daily reports of experience of positive emotion, 4) less frequent daily reports of expression of positive and negative emotion, 5) no relationship with retrospective bias in emotion experience or expression, and 6) greater reported social (but not physical) anhedonia. Two new hypotheses for this study concern the meta-perceptions avoidantly attached individuals have about their emotions. Specifically, I was curious as to whether avoidantly attached individuals are aware that they experience and express less frequent positive emotion than others. Thus, I included a measure assessing perceptions of one's emotion experience and expression compared to others. I predicted that avoidantly attached individuals would be aware that they experience and express less frequent positive emotion than others do. Prior work, though unpublished, supports this hypothesis as it has been found that avoidantly attached participants are more likely to engage in

affect worsening interpersonal emotion regulation strategies (Gable, et al., in prep), indicating that they have a desire to decrease the positive affect of other people. One possible reason for this is that they desire others to be on the same emotional wavelength as themselves, although this is just speculation. A final new prediction in this study regards the judgments avoidantly attached individuals have about the happiness of other people. Due to this potential desire to have others on the same emotional wavelength as themselves I predicted that more avoidantly attached individuals would view the happiness of others in a negative light.

Table 16: Primary hypotheses regarding avoidant attachment for Study 3

Primary Hypotheses for Study 3
1. Avoidant attachment will be associated with less frequent retrospective positive emotion experience
2. Avoidant attachment will be associated with less frequent retrospective positive and negative emotion expression
3. Avoidant attachment will be associated with less frequent daily positive emotion experience
4. Avoidant attachment will be associated with less frequent daily positive and negative emotion expression
5. Avoidant attachment will <u>not</u> be associated with a retrospective bias in reports of emotion experience and expression

6. Avoidant attachment will be associated with greater social anhedonia
7. Avoidant attachment will be associated with participants perceiving others to experience more frequent positive emotion than themselves
8. Avoidant attachment will be associated with participants perceiving others to express more frequent positive emotion than themselves
9. Avoidant attachment will be associated with participants perceiving the happiness of others as negative

In addition to these primary hypotheses, I have several questions to exam in this study in an exploratory manner. A first question to be tested in this data was about expression of emotion that is not experienced. Is there an association between avoidant attachment and reports of expressing an emotion one did not experience? This is an important and understudied aspect of emotional lives; however, it is unclear theoretically what to predict about avoidantly attached individuals in this case. It is possible that they express emotions they do not experience in an attempt to please others or smooth over interactions that would otherwise be uncomfortable if they did not express emotion. On the other hand, it is also possible that these individuals find any emotion expression, including false expression, to be uncomfortable and so do not express emotions they do not feel. For these reasons this will be examined in an exploratory manner.

Additional exploratory questions for this study involve partner perceptions of emotion. With regard to perceptions of emotion these analyses will be entirely exploratory. Prior work indicates that people project their own emotional states onto others (Clark, et al., 2017b). However, it is unclear how much of this (if any) will be

moderated by attachment style. Therefore, this will be examined in an exploratory manner. Due to the inconsistent desires of anxiously attached individuals (to both approach and avoid partners) as well as the inconsistent prior results obtained in Studies 1 and 2 with regard to anxious attachment, I examine links between attachment anxiety and emotion experience and expression in an exploratory manner in Study 3.

Method

Participants

I recruited 84 romantic couples (168 individuals; 78 Female; M_{age} = 30.13; SD_{age} = 5.60) from the greater New Haven area via Craigslist. 72% of the sample was White, 13% was Black, 5% was Hispanic, 4% was Native American, 1% was Asian, and the remaining 5% indicated they identified with multiple races. All participants were in romantic relationships with 33% being married, 31% were engaged, 24% were seriously dating one person, 6% were casually dating one person, 1% were seriously dating more than one person, 1% were casually dating more than one person, and 2% indicated having multiple relationship statuses. The average relationship length was 32.40 months (SD = 35.19), however due to a measurement error not all participants reported on their relationship length. This information is missing from 80 of our 168 participants.

Procedure

Pre-Survey. Participants were told that they and their romantic partner would be filling out surveys examining their behaviors, beliefs, and feelings in their daily lives. After reading an introduction and consenting to participate, participants reported on their experience and expression of emotion as well as their expression of emotion not

experienced. Participants reported on a total of 10 emotions: sadness, empathic distress, hurt, guilt, embarrassment, anxiety, anger, happiness, gratitude, and empathic happiness. Presentation of emotions was randomized across participants. As with prior studies, expression of experienced emotion was only reported on if participants reported experiencing some amount of that emotion. A separate measure was used to assess the expression of emotions that were specifically *not* experienced by participants.

Following this, participants reported on their perception of their partner's emotion experience, expression, and expression of emotion not experienced across the past week. Participants reported on all 10 emotions and again only reported on the expression of their partner's emotions if the reported that they perceived their partner as experiencing an emotion. The presentation of these emotions was randomized for each participant.

Next participants reported on their experienced and expressed emotions compared to what they thought others experienced and expressed. Participants first reported on the experience of all 10 emotions followed by the expression of each of the 10 emotions they had experienced. Following this, participants reported on their judgments of the happiness of others, social and physical anhedonia, relationship satisfaction, communal strength, perceived partner responsiveness, attachment orientations, as well as their perception of their partner's communal strength, relationship satisfaction, and perceived partner responsiveness. These measures were all presented to participants in a random order. Finally, participants filled out a set of demographic questions.

Daily Surveys. Participants were sent a survey each day for a total of 7-days at 5pm EST. Each survey included the same measures in the same way. First, participants were instructed to think about the emotions they experienced and expressed within the

last 24 hours. They then reported on the experience and, if experienced, the expression of the ten emotions within the past 24 hours. As in the presurvey, expression of experienced emotion was only assessed *if* participants reported experiencing that emotion within the last 24 hours. Following this, participants were asked about the frequency with which they expressed emotions they had not experienced. Participants reported on this expression for each of the ten emotions. The ten emotions assessed were the same as in the presurvey. The order of the emotions was randomized across participants.

Following this, participants reported on their perception of the experience and, if experienced, the expression of emotion, as well as the expression of emotion not experienced by their romantic partner within the last 24 hours. Again all 10 emotions were the same as in Study 3 and were presented in a random order across participants.

Post-Survey. After completing the final survey participants were sent a post-survey on the next day at 5pm EST. This survey first instructed participants to think back about their emotion experience and expression across the last 7 days. Following this, participants reported on their experienced and, if experienced, their expressed emotion as well as their expressed emotion that was not experienced across those 7 days. The emotions assessed were the same as in the daily survey. After reporting on their own emotions, participants reported on their perception of their partner's emotion experience, expression, and expression of emotion not experienced across the last 7 days. As with their self-reports, participants reported on all 10 emotions in a randomized order and only reported on perceptions of their partner's emotion expression if they reported that they perceived their partner as experiencing an emotion.

Finally, participants were asked if they would like to be contacted about future studies, thanked, and debriefed about the nature of the study.

Pre-Survey Measures

Attachment Orientation. Attachment orientation was assessed using the ECR-R as in prior studies (Fraley, et al., 2000). The order of the questions in this scale was randomized for each participant.

Emotion Experience. Participants were asked about their experience of 10 emotions over the past week. 9 of the emotions were the same as in prior studies with the addition of anger as the tenth emotion. Responses were made on a 7-point Likert scale ranging from “Never” to “Extremely Often”.

Emotion Expression. If participants reported experiencing an emotion they were then asked about the expression of that emotion in the same way as in prior studies. Anger was again added to the set of 9 emotions. Responses were made on a 7-point Likert scale ranging from “None of the times” to “Every time”.

Emotion Expression which were not Experienced. Participants reported on emotions they expressed but did not report experiencing. All 10 emotions were assessed for each participant with the question “To what extent did you express sadness you did not feel?” with reports made on 7-point Likert scales ranging from “Not at all” to “A great deal”.

Emotion Experience Compared to Others. Participants reported on their experience of emotion across the past seven days compared to what they thought other people experienced. Questions were framed as: “To what extent did you experience

sadness compared to other people generally?" with all 10 emotions being assessed. Reports were made on a 7-point Likert scale ranging from "A great deal less" to "A great deal more".

Emotion Expression Compared to Others. Participants reported on their expression of emotion across the past seven days compared to what they thought other people expressed. Questions were framed as: "To what extent did you express sadness compared to other people generally?" with all 10 emotions being assessed. Reports were made on a 7-point Likert scale ranging from "A great deal less" to "A great deal more".

Happiness Judgments. Participants reported on their judgments of the happiness of other people. This was a 6-item scale created by the researchers ($\alpha = 0.87$) which assessed how participants felt about the happiness of other people. A sample item from the scale is "Other people's happiness makes me uncomfortable". Responses were made on 7-point scales ranging from "Strongly disagree" to "Strongly agree".

Anhedonia. Participants responded to the same adapted anhedonia scale from prior studies. This assessed their levels of physical ($\alpha = 0.80$) and social anhedonia ($\alpha = 0.86$).

Relationship Satisfaction. Participants reported on their own relationship satisfaction using a 7-item scale developed by Hendrick (1988). An example item from the scale is "How well does your partner meet your needs?". Responses were made on a 5-point scale where higher scores indicate higher levels of satisfaction. Results for these analyses may be found in Appendix F.

Communal Strength. Participants reported on their communal strength toward their partner using a 10-item scale developed by Mills, and colleagues (2004). An example item from the scale is “How far would you be willing to go to visit your partner?”. Responses were made on 10-point scales ranging from “Not at all” to “Extremely” where higher scores indicate greater communal strength. Results for these analyses may be found in Appendix F.

Perceived Partner Responsiveness. Participants reported on the perceived responsiveness of their partner using an 18-item scale developed by Reis and colleagues (2006). This scale assesses the felt understanding, validation, and care received from one’s partner. An example item from the scale is “My partner is an excellent judge of my character”. Responses were made on a 7-point scale ranging from “Not at all true” to “Very true” where higher scores indicate greater perceived responsiveness. Results for these analyses may be found in Appendix F.

Partner Perceptions. Participants also reported on their perceptions of their partner’s: emotion experience, emotion expression, emotion expression not experienced, relationship satisfaction, communal strength, and perceived partner responsiveness. These scales were adapted from the one’s presented above with the change being that the questions were now phrased as being about their partner rather than about themselves. For example, in asking about partner’s emotion experience the questions were framed as “In the last week, how often did your partner feel sad?”. Reports on all perception measures were made on the same Likert scales as for the actor measures.

All measures new to this study can be found in Appendix E.

Daily Measures

Daily Emotion Experience. Participants were asked about their experience of 10 emotions over the past 24 hours. Questions were framed as "Over the last 24 hours how often did you feel sad?". Responses were made on 7-point Likert scales ranging from "Never" to "Extremely Often".

Daily Emotion Expression. If participants reported experiencing an emotion, they were then asked about the expression of that emotion over the past 24 hours. Questions were framed as "Of the times you felt sad how often did you express your sadness to another person?". Responses were made on a 7-point Likert scale ranging from "None of the times" to "Every time".

Daily Emotion Expression which were not Experienced. Participants reported on emotions they expressed but did not report experiencing over the last 24 hours. All 10 emotions were assessed for each participant with reports made on a 7-point Likert scale ranging from "Not at all" to "A great deal". Questions were framed as "To what extent did you express sadness you did not feel?".

Daily Perception of Partner Emotions. Participants reported on their perception of the experience, expression, and expression of emotion not experienced of their partners across the last 24 hours. These were modified versions of the self-report scales presented above with the only difference being that they were framed as "In the last 24 hours, how often did your partner feel sad?".

All measures new to this study can be found in Appendix E.

Post-Survey Measures

Experience and Expression of Emotion. Participants reported on their experience and expression of positive and negative emotions utilizing the same measure from the pre-survey. The only difference here is that the post-survey covered the seven days that participants reported on in their daily surveys.

Perception of Partner Emotion Experience and Expression. Participants reported on their perception of their partner's experience and expression of emotion using the same scale from the pre-survey.

All measures new to this study can be found in Appendix E.

Results

We first calculated scores for each participant's attachment avoidance (M = 3.16; SD = 0.66) and anxiety (M = 4.39; SD = 1.11) by taking the means of their scores on the two subscales of the ECR-R which were then z-scored. These scores were then used as predictors in a series of Actor-Partner Interdependence Models (Kenny, et al., 2006) testing both primary and exploratory hypotheses. Because the analyses presented in this chapter use ratings from both partners of established dyads, I account for each participant being nested within the dyad of their relationship using multilevel modeling techniques based on those established by Kenny and colleagues (2006). All models include the interaction of actor attachment avoidance and anxiety as well as the interaction for partner avoidance and anxiety. Results for attachment avoidance will be presented first, followed by those for attachment anxiety, and results for the pre-survey measures will be presented followed by those for the daily surveys.

Tests of Primary Hypotheses Pre-Survey

Attachment scores were used in models as predictors of actor experiences of emotion (positive and negative), actor expressions of emotion (positive and negative), actor emotion experiences compared to others, actor emotion expressions compared to others, actor judgments of the happiness of others, and actor physical and social anhedonia.

Emotion experience and expression. As predicted and as found in both Study 1 and Study 2, higher scores of actor avoidance were associated with significantly less frequent experience of positive emotions $\beta = -0.21$; $p = .03$ (Figure 1). When a positive emotion was experienced, higher scores of actor avoidance were associated with significantly less frequent expression of positive emotion $\beta = -0.20$; $p = .04$ (Figure 2) again as found in Study 1 and Study 2. When looking at negative emotions, higher scores of actor avoidance were associated with significantly more frequent experience of negative emotions $\beta = 0.18$; $p = .007$ (Figure 3) and, when a negative emotion was experienced, actor avoidance had no relationship with the expression of those negative emotions to others $\beta = 0.10$; $p = .13$ (Figure 4). These last two results do not parallel earlier results in Study 1 and Study 2. Results for actor avoidant attachment predicting each emotion separately can be found in Appendix F.

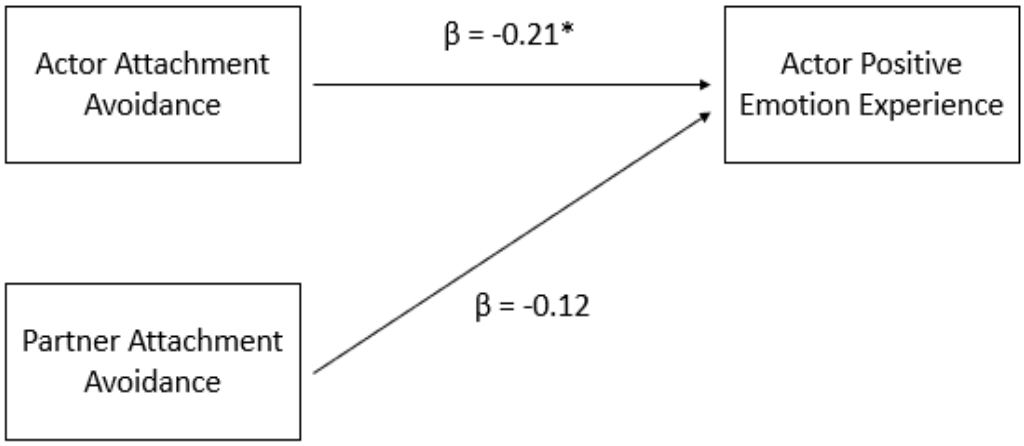

Figure 1: Positive Emotion Experience Predicted by Actor and Partner Attachment Avoidance

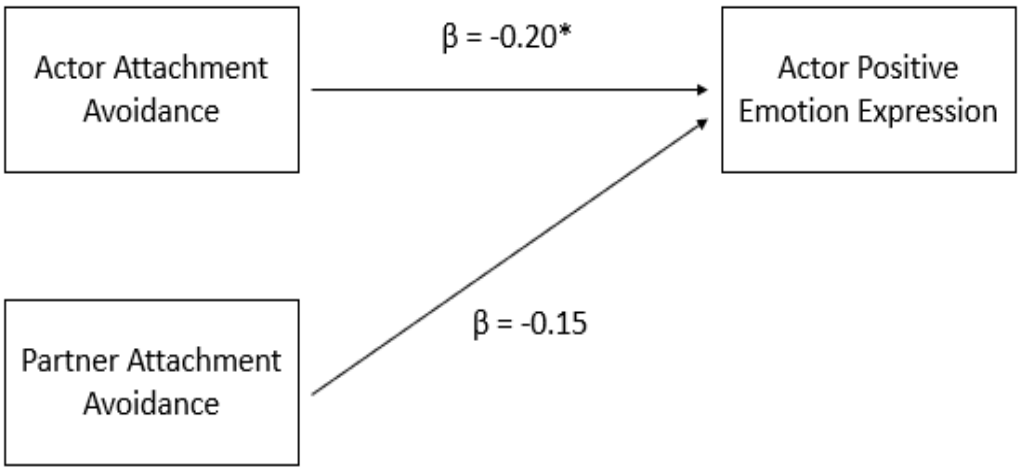

Figure 2: Positive Emotion Expression Predicted by Actor and Partner Attachment Avoidance

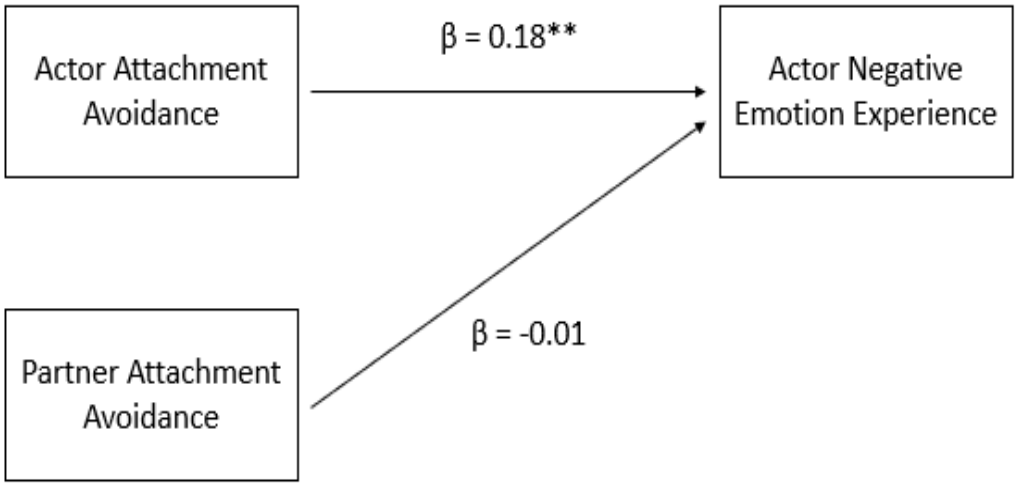

Figure 3: Negative Emotion Experience Predicted by Actor and Partner Attachment Avoidance

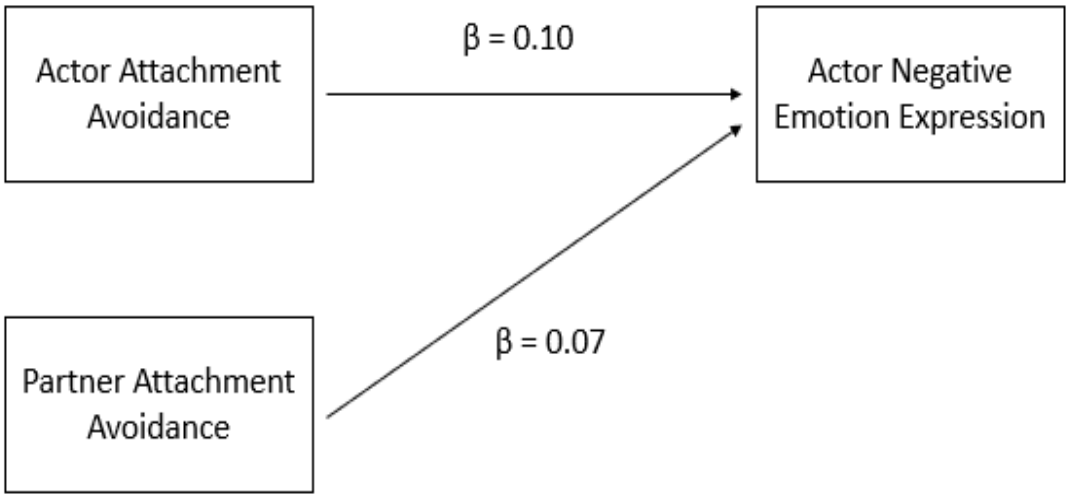

Figure 4: Negative Emotion Expression Predicted by Actor and Partner Attachment Avoidance

Emotions compared to the emotions of others. As predicted, greater attachment avoidance in actors was related to self-reports that they experienced less positive emotion than other people generally $\beta = -0.26$; $p = .007$ (see Figure 5) and that when a positive

emotion was experienced, they also self-reported that they were significantly less likely to express that positive emotion than other people would β = -0.22; p = .03 (Figure 6).

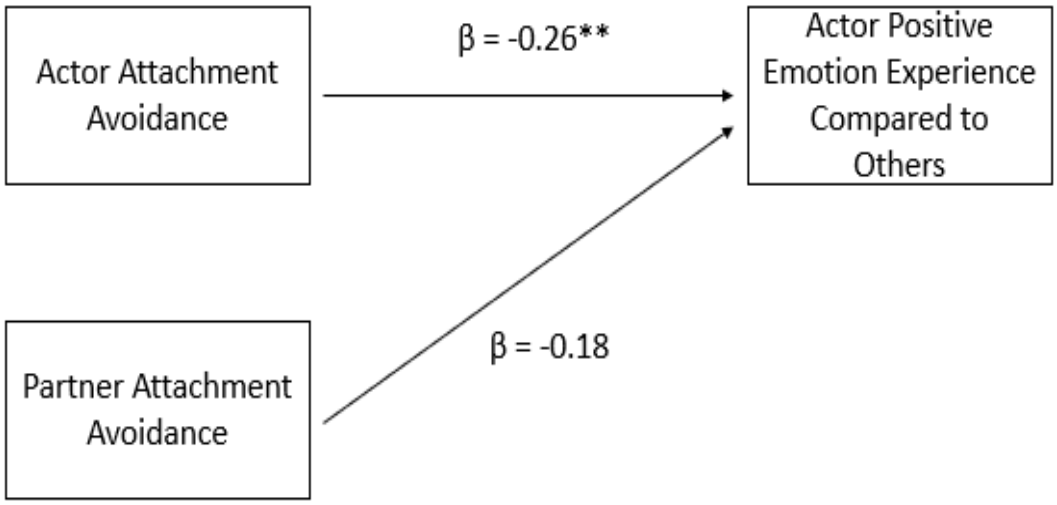

Figure 5: Actor positive emotion experience compared to others predicted by actor and partner attachment avoidance

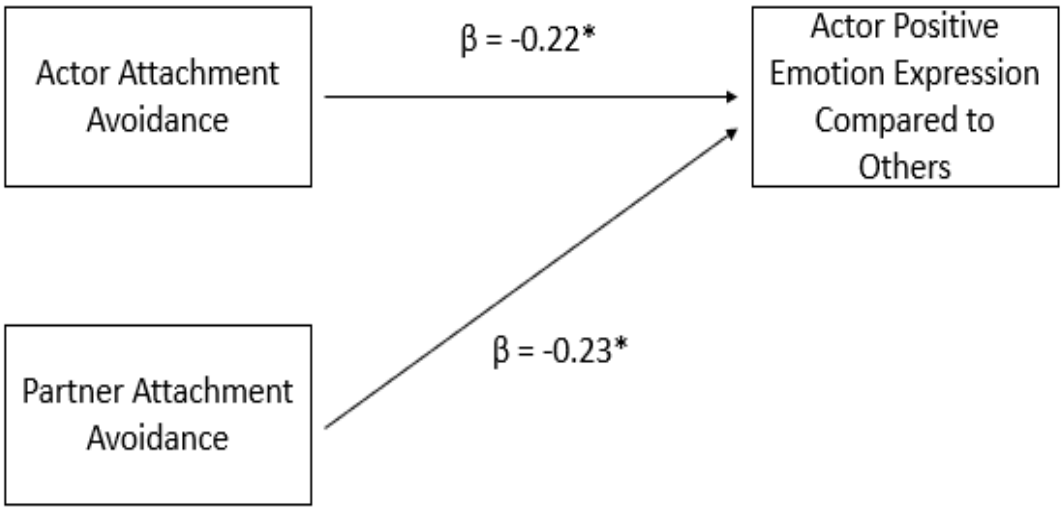

Figure 6: Actor positive emotion expression compared to others predicted by actor and partner attachment avoidance

When examining the relationship between avoidant attachment and negative emotions compared to others, the opposite pattern emerged. That is, actors with greater self-reported avoidant attachment reported that they both experienced, $\beta = 0.19$; $p = .009$ (See Figure 7) and expressed, $\beta = 0.19$; $p = .008$ (See Figure 8), significantly more negative emotion than they thought others did.

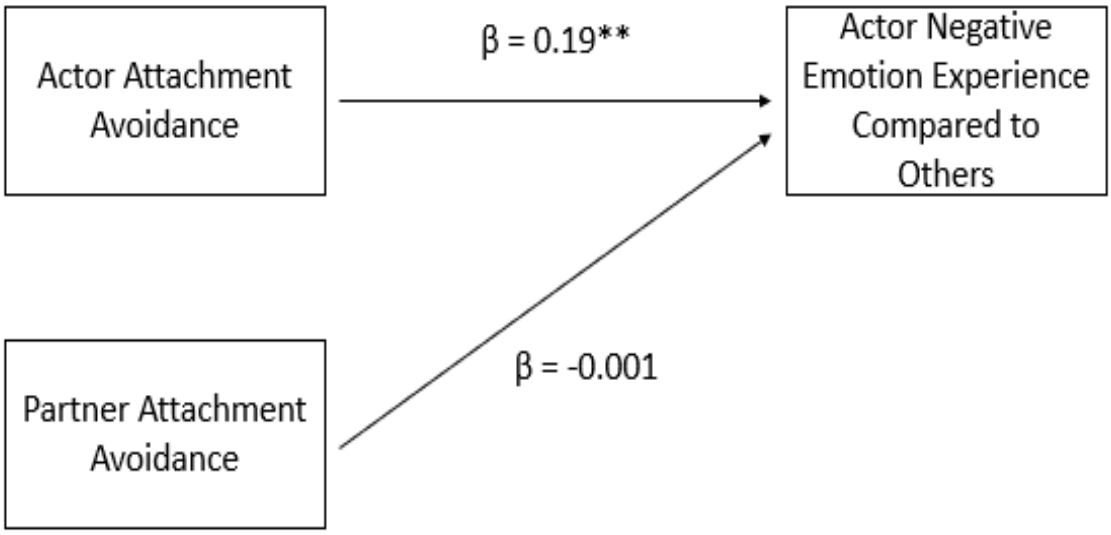

Figure 7: Actor negative emotion experience compared to others predicted by actor and partner attachment avoidance

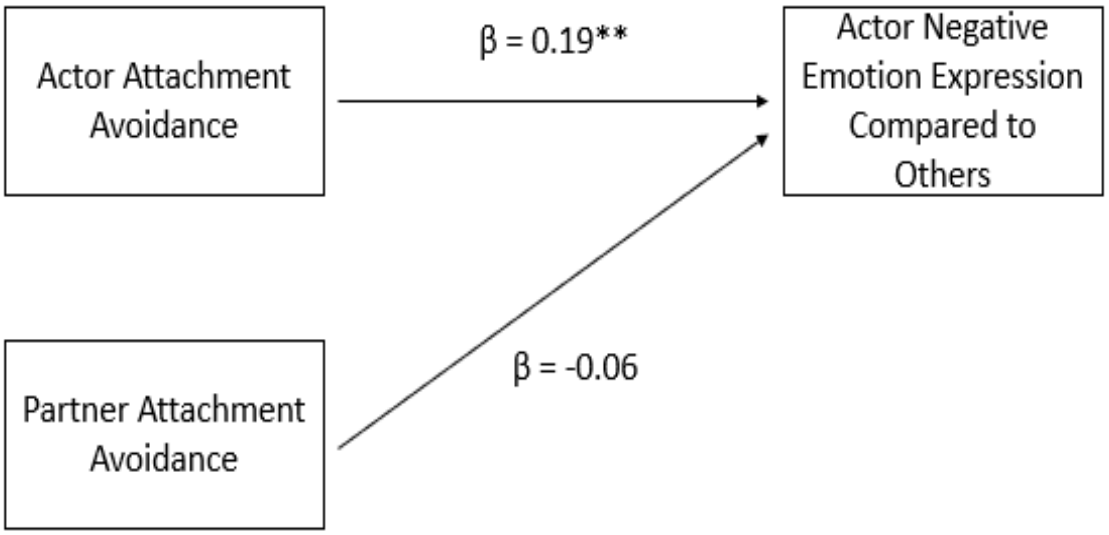

Figure 8: Actor negative emotion expression compared to others predicted by actor and partner attachment avoidance

Happiness judgements. The next association to be tested was the association between attachment avoidance and judgements of others' happiness. Though it was predicted that greater avoidant attachment would be associated with more negative judgments of others' happiness, analyses showed that there was no significant relationship between actor attachment avoidance and judgments of the happiness of others, $\beta = -0.06$; $p = .44$.

Anhedonia. Finally, when looking at anhedonia, greater actor attachment avoidance was associated with increased social anhedonia as predicted $\beta = 0.26$; $p < .001$ (see Figure 9). Counter to predictions however, greater actor attachment avoidance was also associated with greater physical anhedonia $\beta = 0.16$; $p = .03$ (see Figure 10)[7].

[7] Analyses for social anhedonia were conducted controlling for actor physical anhedonia and vice versa.

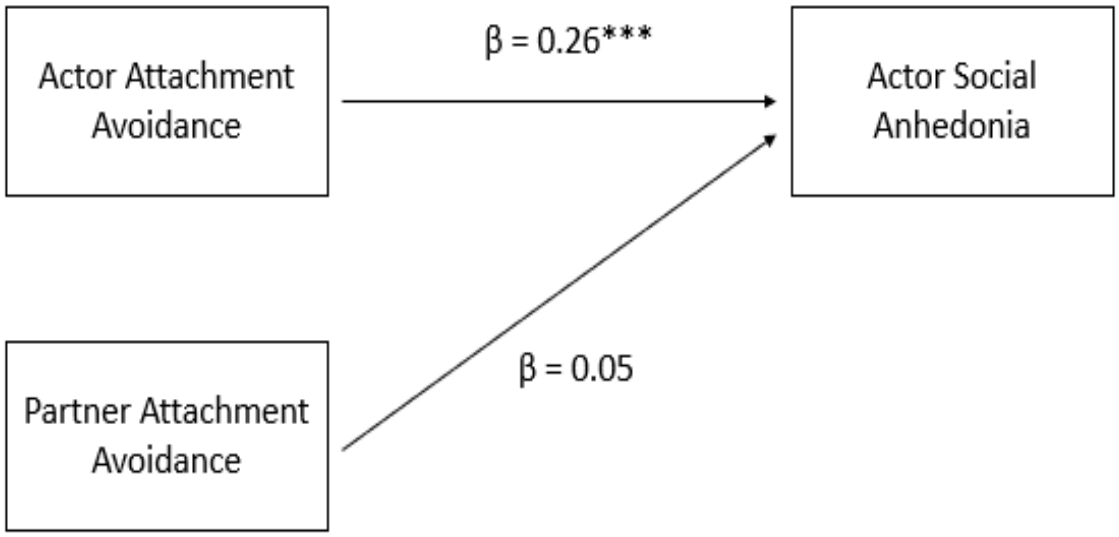

Figure 9: Actor social anhedonia predicted by actor and partner attachment avoidance

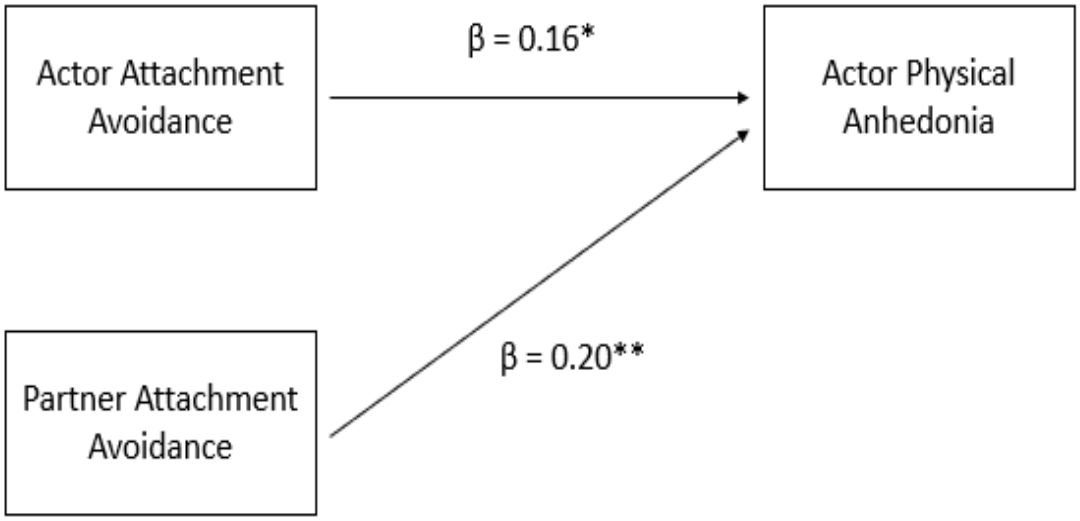

Figure 10: Actor physical anhedonia predicted by actor and partner attachment avoidance

Anxious Attachment Results

Emotion experience and expression. Moving onto anxious attachment a consistent series of findings emerged. Starting with positive emotions, higher actor

anxiety was associated with reports of experiencing significantly more frequent positive emotion $\beta = 0.30$; $p = .003$. Additionally, when a positive emotion was experienced, actors with greater anxious attachment reported expressing that emotion significantly more frequently than those who scored lower on anxious attachment $\beta = 0.27$; $p = .006$. When looking at negative emotions a similar pattern emerges wherein actors higher in anxious attachment report experiencing negative emotions more frequently $\beta = 0.45$; $p < .001$ and subsequently report expressing those emotions to others more frequently $\beta = 0.56$; $p < .001$ as found in Study 1.

Actors with higher anxious attachment also report that they experience, $\beta = 0.48$; $p < .001$ and express positive emotions, $\beta = 0.45$; $p < .001$ more frequently than they believe others do. These patterns hold for beliefs about negative emotion experience, $\beta = 0.60$; $p < .001$, and expression, $\beta = 0.59$; $p < .001$, as well.

Anhedonia. Finally, when compared to actors with lower reported anxious attachment, greater actor attachment anxiety was associated with significantly less physical anhedonia $\beta = -0.18$; $p = .01$, but these individuals showed no significant difference in their reported social anhedonia $\beta = -0.11$; $p = .13$.

Tests of Exploratory Questions Pre-Survey

Attachment scores were used to test a number of exploratory questions including expression of emotion (positive and negative) the actor did not experience. Additionally, attachment scores were used as predictors in models predicting actor's perceptions of their partner's emotion experience, expression, and expression of emotion that was not experienced.

Expression of emotion not experienced. Analyses involving the expression of emotion that was not experienced showed that greater avoidant attachment was associated with reports of expressing significantly more frequent negative emotion that was not experienced than those actors who scored lower in avoidant attachment, $\beta = 0.26$; $p < .001$. When looking at positive emotion that was expressed but not experienced there was no significant relationship with actor attachment avoidance, $\beta = 0.08$; $p = .30$.

Partner perception of actor emotions. Next, I examined partner perceptions of actor's emotions predicted by the actor's attachment avoidance. The APIM models run included interactions between actor attachment anxiety and avoidance as well as interactions between partner attachment anxiety and avoidance. When looking at positive emotions, partners of more avoidantly attached actors did not perceive those actors to be experiencing, $\beta = -0.09$; $p = .35$, or expressing, $\beta = -0.10$; $p = .30$, emotions in a significantly different frequency than partners of actors who were lower in avoidant attachment. Additionally, actors higher in attachment avoidance had partners who did not perceive them to be expressing positive emotions they did not experience at a significantly different frequency, $\beta = 0.03$; $p = .66$, than those actors lower in avoidant attachment. When looking at negative emotions, partners of more avoidantly attached actors did not perceive their partner's to be experiencing, $\beta = 0.12$; $p = .06$, or expressing, $\beta = 0.02$; $p = .80$, negative emotions in a significantly different way than partners of less avoidantly attached actors. Partners of more avoidantly attached actors similarly did not perceive those actors as expressing negative emotion not experienced in a significantly different way, $\beta = 0.10$; $p = .11$.

Anxious Attachment Results

Expression of emotion not experienced. Attachment anxiety was also associated with a number of significant results. Starting with emotions that were expressed but not experienced, actors who reported greater anxious attachment report that they express both positive, $\beta = 0.43$; $p < .001$ and negative, $\beta = 0.52$; $p < .001$, emotions that they do not experience more frequently than those individuals who reported lower attachment anxiety.

Happiness judgments. When looking at the judgments of other people's happiness, actors who report higher anxious attachment report having greater negative judgments of the happiness of others when compared to those who scored lower in anxious attachment, $\beta = 0.58$; $p < .001$.

Partner perception of actor emotions. Next, I examined partner perceptions of actor emotions predicted by actor anxious attachment. The APIM models run here include interactions between actor attachment anxiety and avoidance as well as interactions between partner attachment anxiety and avoidance. When looking at positive emotions, partners of more anxiously attached actors perceived them to be experiencing, $\beta = 0.39$; $p < .001$, and expressing, $\beta = 0.34$; $p < .001$, emotions significantly more frequently than partners of actors who were lower in anxious attachment. Additionally, actors higher in attachment anxiety had partners who perceived them to be expressing positive emotions they did not experience significantly more frequently, $\beta = 0.32$; $p < .001$, than partners of actors lower in anxious attachment. When looking at negative emotions, partners of more anxiously attached actors perceived those actors to be experiencing, $\beta = 0.46$; $p < .001$, expressing, $\beta = 0.46$; $p < .001$, and expressing emotion

not experienced, $\beta = 0.43$; $p < .001$, significantly more frequently compared to partners of less anxiously attached actors.

Tests of Primary Hypotheses - Daily and Post Surveys

Attachment scores were used to test a number of primary hypotheses including actor daily experience of emotion (positive and negative), actor daily expression of emotion (positive and negative), actor retrospective experience of emotion (positive and negative), actor retrospective expression of emotion (positive and negative), and discrepancies between retrospective and daily reports of actor emotion experience and expression (positive and negative). In all models, actor avoidance, anxiety, and the interaction between the two as well as partner avoidance, anxiety, and the interaction were entered simultaneously.

Though I hypothesized that there would be a significant relationship between actor attachment avoidance and the daily experience of positive emotions, here I found no significant association between the two, $\beta = -0.10$; $p = .17$. Though this does not reach significance, it is important to note that it trends in the same direction as results in Studies 1 & 2. As predicted, when a positive emotion was experienced, actors with greater attachment avoidance reported expressing those positive emotions significantly less frequently than those actors who reported lower attachment avoidance, $\beta = -0.19$; $p = .02$ (see Figure 11). When looking at daily negative emotions, there was no significant relationship between actors' attachment avoidance and their reported experience, $\beta = 0.03$; $p = .66$, or expression of negative emotion, $\beta = 0.05$; $p = .51$. Results for actor avoidant attachment predicting each emotion individually can be found in Appendix F.

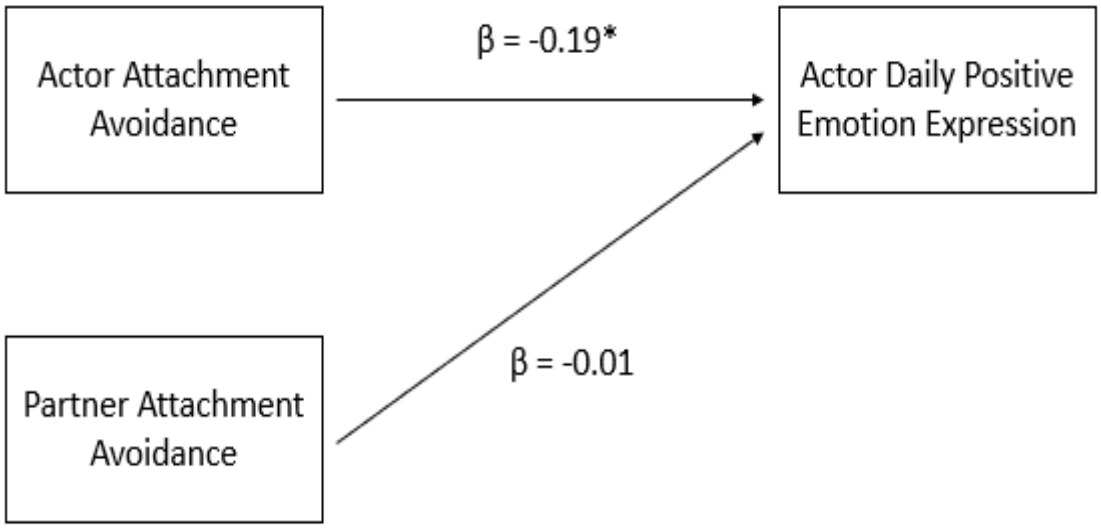

Figure 11: Actor daily positive emotion expression predicted by actor and partner attachment avoidance

Moving on to retrospective reports, in line with my predictions, actors with greater reported attachment avoidance reported experiencing positive emotions significantly less frequently over the prior 7-day period than those actors lower in avoidant attachment, $\beta = -0.22$; $p = .02$ (see Figure 12). However, when a positive emotion was experienced, participants higher in attachment avoidance reported no significant difference in the frequency of their expression when thinking back on the prior week, $\beta = -0.13$; $p = .15$. Again, though this finding does not reach significance, it trends in the same direction as prior results in Studies 1 & 2. When looking at retrospective reports of negative emotion I found no significant association between actors' attachment avoidance and their reports of experiencing, $\beta = 0.03$; $p = .70$ or expressing, $\beta = 0.05$; $p = .54$, negative emotions over the prior week. Results for actor avoidant attachment predicting each emotion individually can be found in Appendix F.

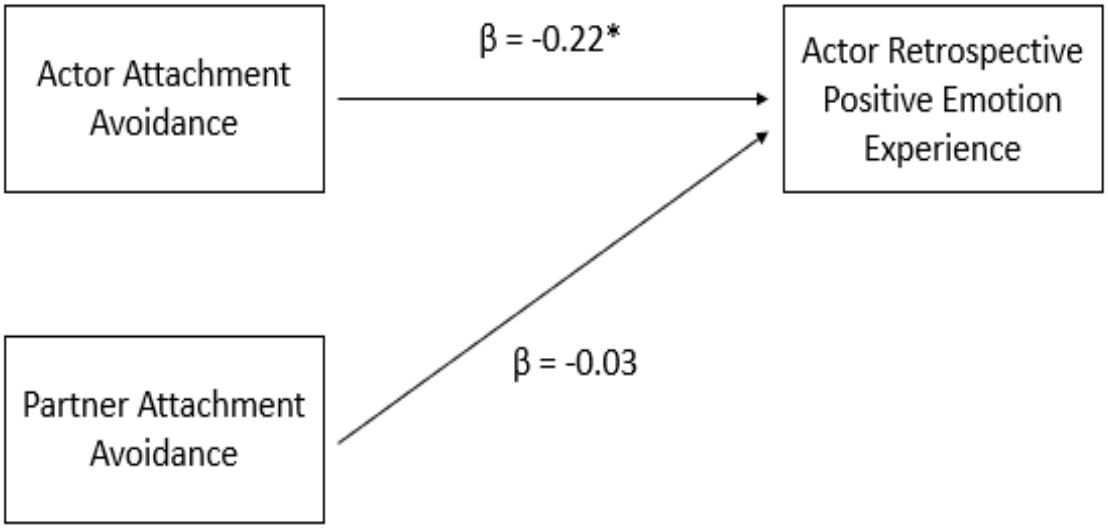

Figure 12: Actor retrospective positive emotion experience predicted by actor and partner attachment avoidance

Finally, to test whether there was a difference between retrospective reports and daily reports of emotion I calculated a difference score between the retrospective reports and entered this as the outcome variable in an APIM model where actor and partner attachment style were the predictor variables as well as daily experience/expression as a control variable. To create this difference score I subtracted the daily aggregates from the retrospective scores of emotions. When examining this association, a clear pattern of results emerges suggesting no retrospective biases. For positive experience, $\beta = -0.20$; $p = .07$, and expression, $\beta = -0.03$; $p = .77$, as well as negative experience, $\beta = -0.01$; $p = .93$, and expression, $\beta = 0.02$; $p = .85$, there was no significant association between attachment avoidance and the difference scores that were calculated.

Anxious Attachment Results

Next the results for anxious attachment will be discussed. Starting with positive emotions, more anxiously attached actors reported on a daily basis that they experienced

significantly more frequent positive emotion than those actors who were lower in anxious attachment, $\beta = 0.41$; $p < .001$. Additionally, when a positive emotion was experienced, actors who reported greater anxious attachment also reported expressing that positive emotion to others more frequently, $\beta = 0.38$; $p < .001$. When looking at negative emotions a similar pattern emerges. Actors who reported greater anxious attachment reported both experiencing, $\beta = 0.45$; $p < .001$, and expressing, $\beta = 0.52$; $p < .001$ negative emotions more frequently than those actors who reported having lower anxious attachment.

Moving on to retrospective reports, anxious attachment was associated with a similar pattern as was shown in the daily reports. That is to say that actors with greater anxious attachment reported experiencing, $\beta = 0.31$; $p = .001$, and expressing, $\beta = 0.46$; $p < .001$ positive emotions more frequently than those actors who were lower in anxious attachment. Additionally, when compared to actors lower in anxious attachment, actors high in anxious attachment reported both experiencing, $\beta = 0.50$; $p < .001$, and expressing, $\beta = 0.47$; $p < .001$, more negative emotions in their retrospective reports than those individuals lower in anxious attachment.

Finally, tests of the difference scores revealed only one significant difference between retrospective and daily emotions. Actors higher in anxious attachment reported that they expressed greater positive emotion in their retrospective reports than they did in their daily reports when compared to those actors lower in anxious attachment, $\beta = 0.34$; $p = .009$. Reports of positive emotion experience, $\beta = 0.02$; $p = .87$, negative emotion experience, $\beta = 0.22$; $p = .11$, and negative emotion expression, $\beta = 0.13$; $p = .35$, were not significantly different for those higher in anxious attachment.

Tests of Exploratory Questions - Daily and Post Surveys

Attachment scores were also used as predictors in a series of models predicting: daily expression of emotion not experienced (positive and negative), retrospective expression of emotion not experienced (positive and negative), differences between retrospective and daily reports of emotion expression that was not experienced (positive and negative), actor perception of partner daily emotion experience (positive and negative), actor perception of partner daily emotion expression (positive and negative), actor perception of partner daily emotion expression not experienced (positive and negative), actor perception of partner retrospective emotion experience (positive and negative), actor perception of partner retrospective emotion expression (positive and negative), and actor perception of partner emotion expression that was not experienced (positive and negative). As with the primary hypotheses I will first discuss results for attachment avoidance and then attachment anxiety.

Expression of emotion not experienced. First when looking at emotion expression that was not experienced a clear pattern of results emerges for avoidant attachment. When controlling for actual reported expression, actors who report greater attachment avoidance report expressing more frequent positive emotions that they did not experience on a daily basis, $\beta = 0.18$; $p < .001$, than those individuals lower in avoidant attachment. When looking at daily negative emotions there is no significant difference in expression for avoidantly attached individuals, $\beta = 0.07$; $p = .07$. Moving to retrospective reports, avoidantly attached individuals did not report expressing positive, $\beta = 0.10$; $p = .15$, or negative, $\beta = 0.05$; $p = .24$, emotion that they did not experience in a significantly different way. Finally, when looking at differences between daily and retrospective reports, avoidantly attached individuals report no difference in their expression of

positive, β = -0.17; p = .20, or negative, β = -0.03; p = .80, emotions that they did not report experiencing.

Partner perception of actor emotions. Next, I examined partner's perceptions of actor's daily emotions. The APIM models run here include interactions between actor attachment anxiety and avoidance, interactions between partner attachment anxiety and avoidance, and control for actor's reported experience/expression of emotion. When looking at positive emotions, partners of more avoidantly attached actors did not perceive those actors to be experiencing, β = 0.09; p = .11, or expressing, β = 0.09; p = .24, emotions in a significantly different frequency on a daily basis than partners of actors who were lower in avoidant attachment. Additionally, actors higher in attachment avoidance had partners who did not perceive them to be expressing positive emotions they did not experience at a significantly different frequency, β = 0.01; p = .79, than those actors lower in avoidant attachment. When looking at negative emotions, partners of more avoidantly attached actors did not perceive those actors to be experiencing, β = 0.02; p = .70, expressing, β = 0.02; p = .80, or expressing negative emotions they did not experience, β = 0.02; p = .71, in significantly different frequencies when compared to partners of less avoidantly attached actors.

Finally, I examined partner's retrospective perceptions of the actor's emotions as predicted by actor attachment avoidance. Starting with positive emotions, there is no significant relationship between actor avoidance and their partner perceiving them to be experiencing, β = -0.008; p = .93, expressing, β = -0.04; p = .69, or expressing emotion not experienced, β = 0.05; p = .46, in a significantly different frequency than partners of less avoidantly attached actors. When looking at negative emotions, partners of actors

higher in attachment avoidance do not report perceiving those actors as experiencing a significantly different frequency of negative emotions, β = -0.01; p = .88. Additionally, when compared to partners of actors lower in avoidance, partners of actors high in avoidance do not perceive those actors as expressing a significantly different frequency of negative emotions, β = -0.06; p = .46, nor do they perceive those actors as expressing a significantly different frequency of negative emotions they did not experience, β = -0.01; p = .86.

Anxious Attachment Results

Expression of emotion not experienced. When looking at daily reports of emotions that were expressed but not experienced a clear pattern emerges. These analyses were conducted controlling for participant's daily expression of emotions they did experience. Participants higher in anxious attachment reported that they were expressing both positive, β = 0.30; p < .001, and negative emotions they did not experience significantly more frequently, β = 0.10; p = .02, when compared to participants lower in anxious attachment. Moving on to retrospective reports, more anxiously attached actors similarly report expressing positive, β = 0.27; p <.001, and negative, β = 0.10; p = .04, emotions they were not experiencing more frequently when compared to participants lower in anxious attachment.

Partner perception of actor's emotions. All APIM analyses here control for actors actual reported emotion experience/expression. Partners of actors higher in anxious attachment show no significant difference in their perception of the actor's daily positive emotion experience, β = 0.02; p = .77, expression, β = 0.04; p = .66, or expression of positive emotions not experienced, β = 0.02; p = .71, when compared to partners of actors

lower in anxious attachment. When looking at perceptions of daily negative emotions, partners of anxiously attached actors show no significant difference in their perception of the actor's negative experience, $\beta = 0.007$; $p = .88$, expression, $\beta = -0.05$; $p = .46$, or expression of negative emotion not experienced, $\beta = 0.01$; $p = .80$, when compared to partners of actors lower in anxious attachment.

Finally, I examined the association between actor's anxious attachment and their partner's perception of their emotions retrospectively. Starting again with positive emotions a similar pattern to the daily reports emerges. Specifically, partners of actors high in anxious attachment report no significant difference in their perception of the actor's retrospective positive emotion experience, $\beta = 0.18$; $p = .06$, expression, $\beta = -0.04$; $p = .70$, or expression of emotion not experienced, $\beta = 0.10$; $p = .21$, when compared to partners of actors lower in anxious attachment. Moving to negative emotions, partners of actors higher in anxious attachment did not show a significant difference in their perceptions of the actor's retrospective negative emotion experience, $\beta = -0.01$; $p = .88$, expression, $\beta = 0.06$; $p = .53$, or expression of emotion not experienced, $\beta = -0.02$; $p = .86$, when compared to partners of actors lower in anxious attachment.

Discussion

The primary goals of this chapter were to replicate the results discussed in prior chapters and to assess the meta-perceptions avoidantly attached individuals have of their own emotions. On both fronts this chapter accomplishes those goals. The results for Study 3 provide a more in depth look at the emotional lives of avoidantly attached individuals than either Study 1 or 2. For the most part, the results of Study 3 replicate those from Study 1 and 2 and extend them by adding partner reports of emotion as well

as reports of meta-perceptions of emotions. I will begin by discussing the primary hypotheses of the study and then move on to discussing the exploratory hypotheses. See Table 17 for a summary of significant findings regarding the primary hypotheses.

Table 17: Summary of significant results for primary hypotheses in Study 3

Significant results for primary hypotheses in Study 3
1. Avoidantly attached actors reported experiencing less frequent positive emotion retrospectively
2. Avoidantly attached actors reported expressing less frequent positive emotion retrospectively
3. Avoidantly attached actors reported expressing less frequent positive emotion daily
4. Avoidantly attached actors showed no significant retrospective bias in their positive emotion experience or expression
5. Avoidantly attached actors reported greater social anhedonia
6. Avoidantly attached actors reported that they believed other people experienced more positive emotion than they did
7. Avoidantly attached actors reported that they believed other people expressed more positive emotion than they did

Primary Hypotheses

Avoidant Attachment and the Experience and Expression of Positive Emotion. When looking at the first two primary hypotheses for this study a somewhat inconsistent pattern emerges. Here I predicted that avoidantly attached individuals would

report that they both experience and express less frequent positive emotion in both retrospective and daily reports. Replicating results from prior studies, when participants who were more avoidantly attached reported on their positive emotions in the pre-survey they reported that they both experienced, and subsequently expressed positive emotion less frequently when compared to those individuals lower in avoidant attachment. Interestingly, when looking at daily reports of emotion avoidantly attached individuals reported no significant difference in their experience of positive emotion. However, as stated previously, it is important to note that this effect, though not significant, does trend strongly in the same direction as prior findings. As in prior studies, when experienced, avoidantly attached individuals still reported that they were then less likely to express those positive emotions to others. Finally, when looking at retrospective reports of emotion over the seven days they reported on, more avoidantly attached individuals reported that they experienced significantly less frequent positive emotion, but when an emotion was experienced, they reported no significant difference in their frequency of expression.

Taken together these findings are a bit puzzling. While the overarching patterns across the different timescales mirror those found in prior studies, the specifics of each timescale vary somewhat. Though speculative, there are a few reasons why this could be occurring. First, it could be the case that when one asks every day about participant emotions, they become more aware of what they are actually experiencing/expressing and thus report more accurately. Another possibility from this heightened awareness is that participants become more conscious of and thus uncomfortable with their emotional patterns and take active steps to change them over time. In daily reports these participants

still report that they express less frequent positive emotion, however they show similar frequencies of experiencing positive emotions indicating that they might be engaging in more activities that make them feel positively. A third possibility is that the nature of this being a dyadic study is influencing participant reports. Though participants were not reporting about experiencing and expressing emotion specifically in the context of their relationships it is possible that simply participating in the study with their partners influenced actor reports of their emotion by leading them to think about their partners more. This possibility is supported by prior work illustrating that within the context of dyadic studies avoidantly attached participants show increased experience of negative emotion (Rholes, et al., 1999; Simpson, 1990), but this is not the case when studies, including Studies 1 & 2 in this dissertation, are conducted on individuals. A final possibility here is that avoidantly attached individuals are exhibiting retrospective biases in their recall of emotions both in the pre and post surveys. However, this is somewhat ruled out by the lack of significant results regarding the difference scores. As predicted, when examining the difference score between retrospective and daily reports of emotion I find no significant results for positive emotion experience or expression based on an actor's avoidant attachment. Thus, it seems unlikely that the inconsistencies between daily and retrospective reports are due to these individuals reporting in a significantly biased way. Though again it is important to note that while more contemporaneous, daily reports are still retrospective in nature and thus cannot fully rule out the possibility of a retrospective bias.

Avoidant Attachment and the Experience and Expression of Negative Emotion. Regarding negative emotions I predicted that individuals who were more

avoidantly attached would report expressing these emotions less frequently across all three timescales. However, when looking at negative emotions, results do not support my prediction. Specifically, across all timescales the only significant result to emerge regarded retrospective reports of negative experience in the pre-survey. When reporting on their emotions retrospectively about the seven days before participating in the study, participants higher in avoidant attachment reported that they experienced negative emotions more frequently than those individuals who were less avoidantly attached. However, when experienced there was not a significant difference in their expression of these negative emotions. Across daily reports and retrospective reports in the post-survey these individuals did not report a significant difference in their experience or expression of negative emotion when compared to those lower in avoidant attachment.

Though not predicted, the increased experience of negative emotions is consistent with prior dyadic work on avoidant attachment (e.g., Rholes, et al., 1999). However, the lack of significant results regarding the experience and expression of negative emotions across the various timescales raises some interesting questions. Is it the case that these individuals actually are experiencing and expressing negative emotions in similar frequencies or is this a misrepresentation of their emotional lives? How might expressing negative emotions at a similar amount but expressing positive emotions less frequently impact their relationships? Even though it is generally beneficial to express negative emotions, the results here likely indicate something negative for their relationships. It is unclear why these individuals are expressing their negative emotions and so it is possible that they are not expressing sadness or hurt as ways to bring people closer to them but rather expressing anger as a way to push others away and maintain their independence.

However, this seems unlikely given the lack of significant differences found when examining emotions separately (see Appendix F). Similar to positive emotions, it is interesting that merely being in a dyadic study seems to have some influence on participant reports of their emotional lives and requires further study.

Avoidant Attachment and Anhedonia. The results for anhedonia partially support my prediction and replicate prior work. Here we see that avoidant attachment was associated with significantly more social and physical anhedonia. Though I only predicted the association with social anhedonia, I have some speculations regarding the physical anhedonia results. As with prior work (e.g., Assad & Lemay, 2018), avoidantly attached individuals again show increased social anhedonia, meaning that they are not experiencing as much pleasure from social interactions. This is likely due to a combination of not finding intimacy with social others pleasurable (and actually finding it uncomfortable) and because avoidantly attached individuals are hesitant to express their positive emotions. By not expressing positive emotions these individuals are not reaping the rewards of social interactions such as capitalization (see Gable, et al., 2004). Thus, it makes sense that avoidantly attached individuals exhibit greater social anhedonia.

However, inconsistent with the results from Study 2, avoidantly attached individuals in this study also exhibit greater physical anhedonia. One possibility for this is that these individuals are thinking about the activities in this scale as social activities. For example, one item reads “I get pleasure from eating my favorite meal”. Though intended to be about the physical act of eating, participants could be interpreting this to mean enjoyment from a meal as an event which often includes social others. Thus, it is possible that the association between avoidant attachment and physical anhedonia is

coming from an assumed sociality. Future studies should address this by making it explicit that these things are done alone.

Avoidant Attachment and Perception of Emotion Compared to Others. In this study I was interested in whether or not avoidantly attached individuals had an awareness of how their emotions differed from other people's. Given their strong discomfort with intimacy, as well as prior work showing that these individuals engage in a similar number and type of social interactions (Pietromonaco & Barrett, 1997), I predicted that avoidantly attached individuals would be aware that other people experience and express more positive emotion than they do. Results from this study show that these individuals are well-aware that they experience and express less positive emotion than other people do. This finding requires further exploration, but this likely has implications for their relationships and their own well-being.

If avoidantly attached individuals are aware that other people are happier than them it could lead to negative feelings towards others. For example, avoidantly attached individuals may become jealous that other people are happier than they are, especially if the happiness is perceived to be coming from an important domain to the avoidant individual. Another possibility is that this recognition of another's greater positive emotion leads to contempt and scorn. Yet another possibility is that an avoidantly attached individual may look down upon another person's happiness and feel that it is unwarranted or fake. Though this is a possibility, the lack of a significant association for avoidantly attached individuals regarding negative judgments of the happiness of others makes this somewhat unlikely. A final possibility is that the recognition of other's positivity creates a feedback loop that makes the avoidant individual feel worse about

themselves, increasing negative emotions such as sadness. Knowing that they are not as happy as others may lead avoidantly attached individuals to question why this is the case and to feel bad about themselves as a result. Though all these explanations are possible, they are all speculation and require further testing.

Happiness judgments. In this study I sought to extend my work by assessing how avoidantly attached individuals feel about other people's emotions a topic that is under researched. As noted above, these individuals experience and express less positive emotion and they are aware that they do so compared to other people. However, this tells us nothing about how they feel about this knowledge. Here I hypothesized that avoidantly attached individuals would have negative judgments of the happiness of other people, believing the happiness to be unwarranted or an exaggeration of what was appropriate. However, contrary to my prediction, there was no significant association between avoidant attachment and the judgments of others' happiness. Thus, it seems that even though they recognize that other people are happier than them they don't feel any more negativity towards others than individuals who are low in attachment avoidance. This is the first finding that does not have a clear negative implication for avoidantly attached individuals. Additionally, this finding leaves open the possibility that avoidantly attached individuals feel negativity toward the self for their lack of happiness. In other words, they are aware that other people are happier than themselves and they do not begrudge them that happiness, however it is possible that these individuals are subsequently experiencing greater negativity aimed at the self, such as sadness or disappointment for not feeling more positive emotion. This speculation requires further testing.

Exploratory Questions

Study 3 contained a number of variables which allowed me to test a series of exploratory hypotheses. Among these include how actor avoidant attachment relates to emotions that were expressed but not experienced and partner perceptions of actor emotions.

Avoidant attachment and the expression of emotion not experienced. New to this study I sought to test whether avoidantly attached individuals were expressing emotions that they did not actually experience. Prior work typically has assumed that expression of emotion indicates experience (e.g., Ekman et al., 1980) and even the prior studies discussed in this dissertation only recorded expression of emotion specifically when an emotion was experienced. Due to this focus, it is possible that researchers, including myself, have overlooked expressions of "fake" emotions from these individuals, either by counting them as actually experienced emotions or, in my case, not assessing them at all. I had no clear predictions about this variable. Thus, the results were examined in an exploratory manner.

In the pre-survey participants who were more avoidantly attached reported that they expressed negative emotion that they do not feel significantly more frequently than those individuals lower in avoidant attachment. However, this significant effect does not emerge in the daily or post surveys. It is possible that these individuals, despite not wanting to build deep intimate connections, still have a desire to belong (Carvallo & Gabriel, 2006) and thus want to maintain relationships through expressions of negative emotion, even if those relationships are held at arm's length, though this is just speculation. Given the consistent lack of significant results for both positive emotions I hesitate to speculate on what this could mean.

Partner perception of actor emotions. When looking at the relationship between actor attachment avoidance and their partner's perception of their emotions an interesting series of findings emerge. In the pre-survey measure partners of more avoidantly attached actors perceived those actors to be expressing significantly less frequent negative emotion that they were not experiencing than partners of actors lower in avoidant attachment. No other significant findings emerged from the pre-survey regarding partner perception of actor emotions. Additionally, partners of actors higher in attachment avoidance did not show significantly different perception of the actors' frequency of emotion experience, expression, or expression of emotion not experienced for positive or negative emotions in either the daily or retrospective (post-survey) reports.

The one significant result here illustrates that partners are potentially knowledgeable about the avoidant tendencies of their partner in regard to negative emotions. It is possible that partners of more avoidantly attached actors are accustomed to them not expressing negative emotions and finding it uncomfortable when they do so. If this is the case, then they may logically assume that those partners are not going to put themselves in situations to build that intimacy even more by falsely expressing emotion. Though this is possible, it is just speculation and requires more study.

Interestingly, partners of avoidantly attached actors are largely not agreeing that those actors are experiencing and expressing emotions (either positive or negative) in different frequencies than do others. One potential explanation for this is that avoidantly attached actors are misreporting their own emotions in order to create an image of an emotionally distant persona. However, given the consistency of the findings across numerous studies I think this explanation is unlikely. A more likely possibility is that

partners of avoidantly attached actors are projecting their own emotions onto their partners. This is something that people do frequently in relationships as they construct their own emotions (Clark et al., 2017b). Additionally, it is possible that specifically with regard to positive emotions, people expect their partners to be happy and feeling gratitude when good things happen to them so the partners may actually be positively biased in their reporting of the actor's positive emotions, though this is just speculation.

Importantly this inaccuracy of emotion perception by the partners of avoidant people likely has important implications for the relationships of these individuals. By misperceiving the avoidant person's emotions, partners are potentially engaging in behaviors that could both harm and help the relationship. For example, by perceiving avoidant actors as expressing negative emotions (even if they are not actually expressing them) partners may be offering support which can help avoidant individuals when they need it. On the other hand, this support may feel like forced intimacy if avoidant individuals do not feel like they have requested it through emotion expression, thus putting a strain on the relationship. The potential benefits and consequences of this misperception of emotion require further study.

Conclusion

This chapter provides a preliminary look into the importance of examining emotions within a strictly dyadic context. Though this study includes partner reports of actor emotions, it did not constrain the emotions that are experienced or expressed to contexts in which one's romantic partner is involved. By leaving the experience and expression of emotion to more general circumstances I was better able to replicate prior results. However, in order to assess the role of attachment avoidance on emotion

expression as it plays out within romantic relationships, I needed to constrain the expression of emotion. Thus, moving forward the next chapter of this dissertation will discuss the expression of emotion specifically to one's romantic partner and examine how this is influenced by avoidant attachment. See Table 18 for a summary of consistent findings across studies so far.

Table 18: Summary of significant findings for avoidantly attached participants across Studies 1, 2, and 3

Variable	**Study 1 (Retrospective)**	**Study 2 (Daily)**	**Study 3 -Dyadic (Retrospective and Daily)**
Experience of Positive Emotion	Less frequent	Less frequent	Less frequent
Expression of Positive Emotion	Less frequent	Less frequent	Less frequent
Self-Reported Experience of Positive Emotion Compared to Others	NA	NA	Less frequent
Self-Reported Expression of Positive Emotion Compared to Others	NA	NA	Less frequent
Social Anhedonia	NA	Greater	Greater
Physical Anhedonia	NA	Not related	Greater

Chapter 4 – Avoidant Attachment in a Dyadic Context: The Experience and Expression of Happiness to Romantic Partners

Introduction

It is an understatement to say that our romantic relationships are an important aspect of our lives. These relationships are often our closest meaning they are those in which we have our highest levels of communal strength (Mills et al., 2004), we are most vulnerable and dependent (see Clark & Mills, 2011) and are those in which we are most likely to experience (Berscheid & Ammazzalorso, 2001; Cskikzentmihalyi & Hunter, 2003) and most willing to express emotion (Clark & Brissette, 2000; Rime, 2009; Von Culin, et al., 2017). Thus, in choosing to conduct a series of studies addressing emotion experience and expression it is only natural that I should examine how romantic partners factor into emotional experience and expression. Obviously, I am far from the first researcher to consider this. Numerous studies have been conducted which illustrate that avoidantly attached individuals experience more negative emotion in their intimate relationships (e.g., Rholes et al., 1999; Simpson, 1990) and express less positive emotion, such as gratitude, to their partner (Mikulincer, et al., 2006). Building off this as well as my own prior work, in this chapter I discuss a study specifically aimed at addressing the relationship between attachment avoidance and positive emotion within the context of an interaction with one's romantic partner.

In the prior chapters of this dissertation, I have discussed four important and consistent findings from my research. First, avoidant attachment is associated with experiencing and expressing less frequent positive emotion. Second, this finding extends across different timespans, specifically it applies to both retrospective and daily reports.

Third, avoidantly attached individuals appear to be aware of the discrepancy between their positive emotions compared to other people, even though their partners are not. Finally, avoidantly attached individuals tend to exhibit greater social anhedonia, meaning that social interactions are less pleasurable for them. In the study presented in this chapter I replicate and extend these findings in a number of ways.

In this chapter I have four central aims. First, I focus specifically on the association between avoidant attachment and positive emotion. Though all emotions are functional and important to study, the consistent pattern within my own work regarding the lowered experience and expression of positive emotion for avoidantly attached individuals requires specific focus. Clearly avoidantly attached individuals are avoiding intimacy by avoiding the expression of their positive emotions. Gratitude builds and strengthens relationships (Algoe, 2012) and happiness invites others to share in and amplify the experience with you (Gable et al., 2004) but it appears that people high in avoidant attachment feel it is best to avoid expressing much positive emotion. This subsequently feeds back into the experience, or lack thereof, of their positive emotions as they are not strengthening the very relationships that are most likely to elicit positive emotions for most people. As these emotions are cornerstones for building and maintaining our close relationships (e.g., Algoe, 2012; Fredrickson, 2001) it is essential to understand the differences in the ways in which people experience and express these emotions within a romantic context. Additionally, I sought to move toward even more contemporaneous reports of emotion. By collecting reports of emotion within the context of a lab-based task I was able to further rule out the potential that the associations

between attachment avoidance and lowered positive emotion were solely due to a retrospective bias in reporting.

Second, through Study 4 I sought to further examine the association between attachment avoidance and anhedonia, both social and physical. With regard to social anhedonia, I sought to observe this association in a more behavioral way in addition to the self-report measures I previously had collected. Though the evidence for more avoidantly attached individuals exhibiting greater social anhedonia is consistent in Studies 2 & 3 of this dissertation, self-report scales are potentially subject to reporting bias. Thus, I sought to examine these associations in additional ways, such as self-nominating events that made oneself happy, which would allow for an indirect measure of social anhedonia. Additionally, in this study I sought to examine associations with physical anhedonia when these events were specifically labeled as being engaged in alone. This clarification helps to rule out any ambiguity surrounding the events and their level of sociality.

A third aim of this chapter is to further examine partner reports of actor emotion. In Study 3 reports from participants' partners were collected but partner reports did not corroborate the consistent results that emerged from self-reports. For many reasons this is unsurprising and does not necessarily invalidate individuals' self-reports. After all, partners do not have direct access to individuals' emotional experiences nor direct access to their decisions to suppress or express emotions. Moreover, people are known to project their own emotions onto their partners (Clark, et al., 2017b). However, given the lack of consistency between actor and partner reports I sought to replicate these findings in another sample.

The fourth aim of this chapter is to examine experience and expression of positive emotion in a more targeted way than in prior studies. So far, the studies presented in this dissertation have been focused on the experience and expression of emotions generally. In this chapter I discuss a study that addresses emotion within the context of an interaction with one's romantic partner. Why might this make a difference? Avoidantly attached individuals are uncomfortable with intimacy, however they still seek out romantic relationships, an act that inherently involves intimacy (Clark et al., 2019). These individuals still have a need to belong (Carvallo & Gabriel, 2006) and thus still have a need to reap rewards from relationships. Given that close relationships are the ones in which one is most likely to express their emotions (e.g., Clark & Brissette, 2000) it makes sense that when expression is targeted to one's romantic partner an avoidant individual may be more willing to express emotions. This possibility gains plausibility considering the findings that avoidantly attached individuals may become more secure over time in their relationships (see Cozzarelli, et al., 2003). However, there is also plenty of evidence to suggest that avoidantly attached individuals are less likely to express positive emotions felt toward their partner, such as gratitude, to their partner (e.g., Mikulincer et al., 2006). Thus, I sought to examine what would happen when the experience of the positive emotion was separate from one's romantic partner (meaning it was not caused by that partner) but could still be expressed to the partner. Though expressing positive emotion of any kind may build intimacy, it is possible that this is a less threatening act when one's experience is not tied to the person one is expressing to. Second, I examine the experience and expression of happiness regarding an event in a participant's life as well as their experience and expression of happiness in response to a

positive event in their partner's life. This allowed for me to target differences between expressing one's own happiness versus providing capitalization to one's partner.

Unfortunately, pandemic restrictions prevented in lab behavioral observations of emotional behavior for most of the time during which this dissertation work occurred. Thus, as pandemic restrictions eased, I sought to examine this association both through self-report and, importantly, through more observational methods. When thinking about what events in their life have made them happy, and actually listing them, do more avoidant individuals list fewer events than do less avoidantly attached people? Do they list fewer social events in particular than less avoidantly attached people? When happiness is experienced through social events is it as intense as happiness felt from non-social events? When actually discussing positive events with their partners are avoidantly attached individuals likely to end discussions earlier than less avoidantly attached individuals? Might this be truer for social than for non-social events? And will these measures parallel self-report data that are also collected? I hypothesized that the answers to each of these questions would be yes.

Study 4

In this chapter I address these questions by discussing an in-lab dyadic study focused on expressing positive emotions felt outside of the relationship to one's partner. Participants self-nominated events in their life that made them happy and subsequently had discussions with their partner regarding these events. The work discussed in previous chapters, though thorough, lacks the immediacy of an in-lab study and thus is susceptible to some form of retrospective bias despite my best efforts to address it. The present study constrains the report of emotions participants experience and express to an interaction

with their partner in the moment and thus is further removed from memory bias. Additionally, by separating the emotional experience from the relationship itself I am able to extend prior work by examining whether avoidantly attached individuals are hesitant to express positive emotions to their partner when the partner is not the source of the emotion. Due to their self-reported lowered positive emotional experience and expression I predicted that more avoidantly attached individuals would list fewer positive emotion experiences than less avoidantly attached people and would be less likely to experience and express happiness during these discussions. Importantly, these discussions would be of positive events that they and their partner had self-nominated and rated as generating a moderate amount of happiness. I further expected to replicate my prior findings regarding avoidantly attached individuals' perception of their own emotions compared to others. Specifically, I predicted that more avoidantly attached individuals would report that they experienced and expressed less positive emotion in a discussion with their partner than they believed other people would have during a similar discussion.

This study further extends prior work by addressing anhedonia in a more observational way. By allowing participants to self-nominate events in their life that made them happy I was able to assess whether more avoidantly attached individuals would be more likely to avoid social topics. Given the greater social anhedonia these individuals tend to report (Assad & Lemay, 2018; Troisi, et al., 2010) it would make sense for them to be less likely to generate social topics as sources of positive emotion. Thus, I predicted that avoidantly attached individuals would be less likely to nominate social events as sources of happiness than individuals lower in avoidant attachment.

Additionally, I predicted that these individuals, due to their less frequent experience of happiness generally, would nominate fewer topics of discussion overall when compared to less avoidantly attached individuals. Finally, I predicted to replicate prior results regarding self-reported anhedonia. Specifically, I predicted that more avoidantly attached individuals would self-report greater social anhedonia compared to individuals lower in avoidant attachment. See Table 19 for a summary of primary hypotheses.

Table 19: Primary hypotheses for Study 4

Primary Hypotheses for Study 4
1. Avoidant attachment will be associated with less positive emotion experience during a discussion with one's partner.
2. Avoidant attachment will be associated with less positive emotion expression during a discussion with one's partner.
3. Avoidant attachment will be associated with believing that others experience more happiness during discussion of positive topics than themselves.
4. Avoidant attachment will be associated with believing that others express more happiness during discussion of positive topics than themselves.
5. Avoidant attachment will be associated with generating fewer topics of discussion regarding positive events.
6. Avoidant attachment will be associated with generating fewer social topics of discussion regarding positive events.
7. Avoidant attachment will be associated with reporting greater social anhedonia.

The study presented in this chapter allows for the continued exploration of several variables as well. Specifically, the dyadic nature of this study allowed me to examine partner's perceptions of actor's emotions in order to assess any discrepancies between self and partner reports. As with prior studies, results for anxious attachment are explored as well.

Method

Participants

For Study 4 I recruited 41 romantic couples (82 individuals; 37 Female; age: M = 21.21; SD = 3.08)[8]. These dyads were recruited by posting flyers around New Haven, posting ads in online groups on sites such as Facebook, and by passing out fliers on campus. Participants have been in a romantic relationship and together for at least 2 months to participate in the study. Of the 82 participants 45% were White, 20% were Asian, 4% were Black, 4% were Latinx, and the remaining 15% reported more than one race. The majority of the sample (93%) reported that they were seriously dating one person with the remaining 7% being married (3%), casually dating one person (3%), or dating multiple people (1%) (relationship length in months: M = 13.75; SD = 11.37). Participants were each paid $30 via an Amazon gift card for participating in this study.

Procedure

[8] Initially I had proposed and intended to collect 100 romantic dyads (200 individuals) for participation in this study. However due to pandemic related delays and lab closures, as well as the general hesitance of participants to come into the lab, I had to end data collection at just 41 couples.

Participants were told they would be completing surveys about their thoughts and behaviors as well as having a few short conversations with their romantic partners. Participants were brought into our lab space and sat facing each other across a table. After reading and signing a consent form, participants first completed a survey assessing their emotion experience and perception of their partner's emotional experience. Following this, participants were given forms used to nominate potential topics of discussion. Participants were instructed to list as many recent life events as they could think of that made them happy and did not include their romantic partner. Additionally, participants were instructed to give each event a rating between 1-10 indicating how happy the event made them. Participants were given 5 minutes to complete these forms.

After completing the topic nomination, the experimenter collected the forms and selected the first topic of discussion for participants. The experimenter was instructed to select the first topic that was rated as a 7. If no topic received a rating of a 7 then the experimenter was instructed to select the next highest rated topic. The experimenter then instructed participants on how to begin their first conversation. The order in which participants discussed their personal topics was randomly assigned. Participants were given the following instructions:

Alright for the first discussion you will be discussing [Topic]. Please discuss this as you normally would. Please discuss this topic as much or as little as you want until it reaches its natural conclusion. I will leave the room but if you finish the discussion before I return you can ring the bell in the center of the room to signal that you have finished. I will stop the discussion after 5 minutes if you have not already rung the bell. Do you have any questions before you begin?

Following this the experimenter left the room and began a timer. The experimenter was instructed to return to the room at the sound of the bell or after 5 minutes had passed. When the experimenter returned to the room they instructed participants to complete another survey via Qualtrics. This second survey assessed the emotions that were experienced and expressed by participants during the conversation they just had. Additionally, participants completed measures of their beliefs about their emotions compared to what they thought others would experience/express, perceptions of their partner's emotional experience/expression, and perceptions of their partner's emotional experience and expression compared to what they thought others would have experienced/expressed.

After this, the experimenter instructed participants to discuss the second topic chosen. This topic was nominated by the partner whose topic was not discussed during the first discussion. The instructions for this portion of the study were exactly the same as before. The experimenter left the room and returned at the sound of the bell or after 5 minutes had elapsed.

Upon returning to the room the experimenter instructed participants to complete a third survey via Qualtrics. Participants again reported on their own emotions as well as their perception of their partner's emotions. Additionally, participants reported on their attachment orientation. Following this, participants reported on their level of anhedonia, perceived partner responsiveness, relationship satisfaction, and communal strength. These four measures were randomized across participants. After this, participants reported on their perception of their partner's relational satisfaction, communal strength,

and perceived partner responsiveness. These three measures were randomized across participants. Finally, participants provided demographic information.

Following the completion of the survey participants were handed back their topic nomination forms and instructed to indicate whether each event was social or non-social. Once completed, the experimenter collected the forms and informed the participants that the study was completed. Participants were given a debriefing form, paid, and given time to ask any questions they had about the study.

Pre-Interaction Measures (In Lab)

The following measures were all completed after providing consent and before participants had their first conversation.

Emotion Experience. Participants reported on their current experience of six emotions: happiness, excitement, contentment, embarrassment, discomfort, and anger. Reports were made using a slider ranging from 0 “Not at all” to 100 “A great deal”. The sliders were not marked for participants other than the two ends. An example question is as follows: “To what extent do you feel happy?”.

Partner Emotion Experience. Participants reported on their partner’s current experience of six emotions: happiness, excitement, contentment, embarrassment, discomfort, and anger. Reports were made using a slider ranging from 0 “Not at all” to 100 “A great deal”. The sliders were not marked for participants other than the two ends. An example question is as follows: “To what extent does your partner feel happy?”.

All measures new to this study can be found in Appendix G.

Topic Nomination. Participants were given a form used to nominate potential topics of discussion with their partners. The instructions given to participants were as follows:

Please use this form to nominate potential topics of discussion for you and your partner. You should think of life events that have happened within the last few months, are personally relevant to you, and that made you feel happy. Please choose events that do not involve your romantic partner. These topics can include things like an event at work or school, a personal success, a hobby, or a relationship with a close other who is not your romantic partner (e.g. family member or friend). You may list as many or as few topics as you would like but please list at least one. Additionally, please indicate the rating out of 10 the topic scores in terms of positive emotion.

Participants were given 5 minutes to complete this form.

Topic Category. Participants indicated whether each event was social or non-social. Specifically, participants were told that social events are those in which the primary source of happiness was another person, an interaction with another person, or influenced by another person. Participants were told that a non-social event would be something that made them feel happy but did not involve another person, however other people could still be physically present. The example given to clarify this was as follows:

If you were to go to a coffee shop with a friend and have a cup of coffee and a nice conversation that would be a social event. If you were to go to a coffee shop alone and enjoy the experience of drinking coffee alone that would be a non-social event even if there were other people in the shop.

This measure was collected at the end of the study after all other measures were collected.

Topic Time. We recorded how long participants discussed each topic. All conversations were ended at 5 minutes, but if participants finished before this, they were instructed to ring a bell. At which point the experimenter returned to the room.

All measures new to this study can be found in Appendix G.

Post-Conversation 1 Measures

The following measures were all collected immediately following the first conversation participants had.

Emotion Experience. Participants reported on the emotions they experienced during the conversation they had with their partner. The emotions were the same as in the baseline measure and were measured the same way. An example question is as follows: "To what extent did you feel happy?".

Emotion Expression. Participants reported on the emotions they expressed during the conversation they had with their partner. The emotions were the same as in the baseline measure and were measured on the same scale ranging from 0 "Not at all" to 100 "A great deal". An example question is as follows: "To what extent did you express happiness?".

Emotion Experience Compared to Others. Participants reported on their beliefs about how they experienced emotions during the conversation with their partner compared to what they think other people would have experienced. The emotions

assessed were the same six as in the general experience measure: happiness, excitement, contentment, embarrassment, discomfort, and anger. Participants made their reports on a 7-point scale ranging from 1 “A great deal less” to 7 “A great deal more”. An example question is as follows: “To what extent did you feel happy compared to what others would have experienced?”.

Emotion Expression Compared to Others. Participants reported on their beliefs about how they expressed emotions during the conversation with their partner compared to what they think other people would have expressed. The emotions assessed were the same six as in the general expression measure: happiness, excitement, contentment, embarrassment, discomfort, and anger. Participants made their reports on a 7-point scale ranging from 1 “A great deal less” to 7 “A great deal more”. An example question is as follows: “To what extent did you express happiness compared to what others would have expressed?”.

Partner Emotion Experience. Participants reported on the emotions that they perceived their partner to experience during the conversation they had. The emotions were the same as in the baseline measure and were measured the same way. An example question is as follows: “To what extent did your partner feel happy?”.

Partner Emotion Expression. Participants reported on the emotions that they perceived their partner to express during the conversation they had. The emotions were the same as in the baseline measure and were measured on the same scale ranging from 0 “Not at all” to 100 “A great deal”. An example question is as follows: “To what extent did your partner express happiness?”.

Partner Emotion Experience Compared to Others. Participants reported on their beliefs about how their partner experienced emotions during the conversation compared to what they thought other people would have experienced. The emotions were the same six as before and were measured on a 7-point scale ranging from 1 “A great deal less” to 7 “A great deal more”. An example question is as follows: “To what extent did your partner feel happiness compared to what others would have experienced?”.

Partner Emotion Expression Compared to Others. Participants reported on their beliefs about how their partner expressed emotions during the conversation compared to what they thought other people would have expressed. The emotions were the same six as before and were measured on a 7-point scale ranging from 1 “A great deal less” to 7 “A great deal more”. An example question is as follows: “to what extent did your partner express happiness compared to what others would have expressed?”.

All measures new to this study can be found in Appendix G.

Post-Conversation 2 Measures

The following measures were collected immediately following the second conversation participants had.

Emotion Experience. Participants reported on the emotions they experienced during the conversation they had with their partners. This was the same measure as before.

Emotion Expression. Participants reported on the emotions they expressed during the conversation they had with their partners. This was the same measure as before.

Emotion Experience Compared to Others. Participants reported on their beliefs about how they experienced emotions during the conversation with their partner compared to what they thought others would experience. This was the same measure as before.

Emotion Expression Compared to Others. Participants reported on their beliefs about how they expressed emotion during the conversation with their partner compared to what they thought others would express. This was the same measure as before.

Partner Emotion Experience. Participants reported on the emotions they perceived their partner to experience during the conversation they had. This was the same measure as before.

Partner Emotion Expression. Participants reported on the emotions they perceived their partner to express during the conversation they had. This was the same measure as before.

Partner Emotion Experience Compared to Others. Participants reported on their beliefs about how their partner experienced emotions during the conversation they had compared to what they thought others would experience. This was the same measure as before.

Partner Emotion Expression Compared to Others. Participants reported on their beliefs about how their partner expressed emotions during the conversation they had compared to what they thought others would express. This was the same measure as before.

Attachment Orientations. Attachment orientation was measured using the ECR-R (Fraley et al., 2000) as in prior studies.

Anhedonia. Anhedonia was measured using the same adapted anhedonia scale as in prior studies. One change was made to specify that physical anhedonia events (i.e. non-social events) were specifically done alone. An example of the new version is as follows: “I get pleasure from watching my favorite television show or movie alone.”

Perceived Partner Responsiveness. Perceived partner responsiveness was measured using the 18-item scale developed by Reis and colleagues (2006) as in Study 3. Results for these analyses may be found in Appendix H.

Relationship Satisfaction. Relationship satisfaction was measured using the same 7-item scale (Hendrick, 1988) as in Study 3. Results for these analyses may be found in Appendix H.

Communal Strength. Communal Strength was measured using the Mills and colleagues (2004) measure used in Study 3. Results for these analyses may be found in Appendix H.

Partner Perceptions. Participants reported on their perceptions of their partner’s perceived partner responsiveness, relationship satisfaction, and communal strength, using the same adapted measures as in Study 3. Results for these analyses may be found in Appendix H.

All measures new to this study can be found in Appendix G.

Results

We first calculated scores for each participant's attachment avoidance (*M* = 2.39*; SD* = 0.89) and anxiety (*M* = 2.79; *SD* = 1.06) by averaging each of the two subscales of the ECR-R. These scores were then z-scored to be used as predictors in a series of Actor-Partner Interdependence Models (Kenny, et al., 2006) testing both primary hypotheses as well as exploratory questions. All models include the interaction between actor attachment avoidance and anxiety as well as the interaction between partner attachment avoidance and anxiety. Results for attachment avoidance will be presented first, followed by those for attachment anxiety.

Tests of Primary Hypotheses

Attachment scores were used in models as predictors of actor pre-interaction experiences of happiness, experience of happiness when discussing the actor's topic, expression of happiness when discussing the actor's topic, experience of happiness when discussing the partner's topic, expression of happiness when discussing the partner's topic, perception of their experience, and expression of happiness compared to others when discussing the actor's topic, perception of their experience and expression of happiness compared to others when discussing the partner's topic, physical and social anhedonia, and their ratings of the topics generated (See Table 20 for descriptive statistics).

Table 20: Descriptive statistics for primary variables of interest in Study 4

Variable	**Mean**	**SD**
Pre-interaction Experience of happiness	67.91	20.97
Experience of happiness during actor conversation	67.30	20.77
Expression of happiness during actor conversation	65.68	21.56

Experience of happiness during partner conversation	68.04	21.24
Expression of happiness during partner conversation	60.70	22.84
Experience of happiness compared to others during actor conversation	4.60	0.93
Expression of happiness compared to others during actor conversation	4.5	0.96
Experience of happiness compared to others during partner conversation	4.70	0.99
Expression of happiness compared to others during partner conversation	4.60	0.87
Social Anhedonia	1.74	0.57
Physical anhedonia	2.73	1.13

Experience and expression of happiness. As predicted and replicating prior findings, higher scores of actor avoidant attachment were associated with experiencing and expressing less frequent emotion at all three timepoints. Beginning with the pre-interaction survey, actors higher in avoidant attachment reported experiencing significantly less happiness, $\beta = -0.32$; $p = .003$, (See Figure 13).

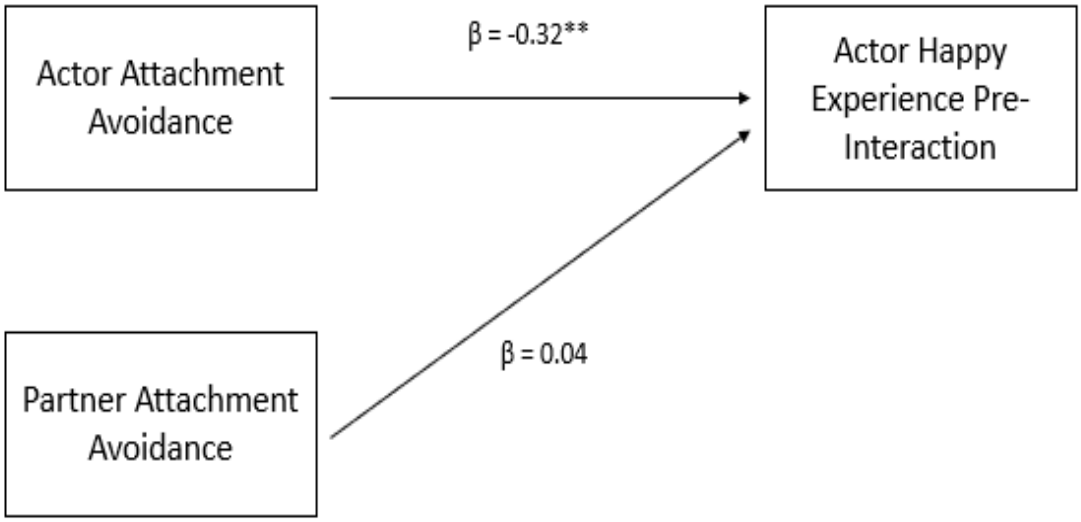

Figure 13: Actor experience of happiness pre-interaction predicted by actor and partner attachment

Moving on to reports made about the conversations about the actor's topic, I find that actors higher in avoidant attachment report experiencing, $\beta = -0.48$; $p < .001$, and expressing, $\beta = -0.40$; $p < .001$, significantly less happiness when discussing their own positive event with their partner (See Figures 14 & 15).

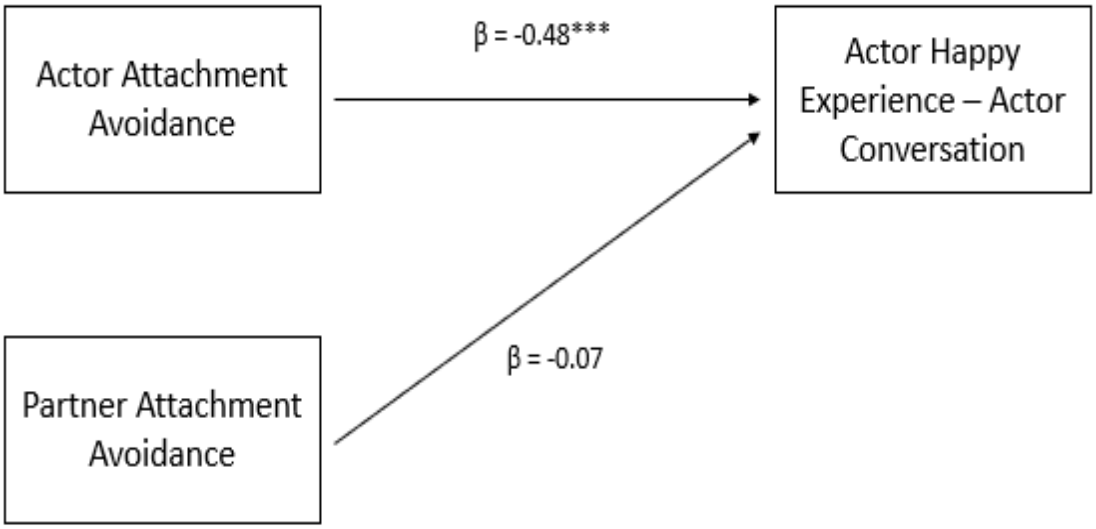

Figure 14: Actor experience of happiness during conversation about actor's topic predicted by actor and partner attachment

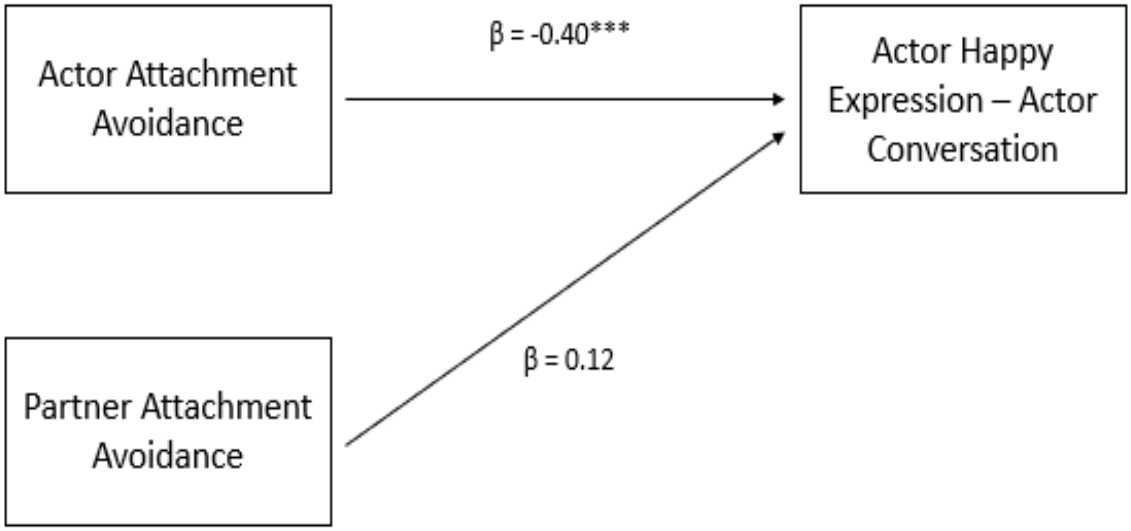

Figure 15: Actor expression of happiness during conversation about actor's topic predicted by actor and partner attachment

Similarly when looking at reports of happiness experienced during conversations about the partner's happy event, higher actor avoidance was associated with those actors

reporting that they experienced, β = -0.38; p <.001 and expressed, β = -0.47; p <.001 significantly less happiness than those actors lower in avoidant attachment (See Figures 16 & 17).

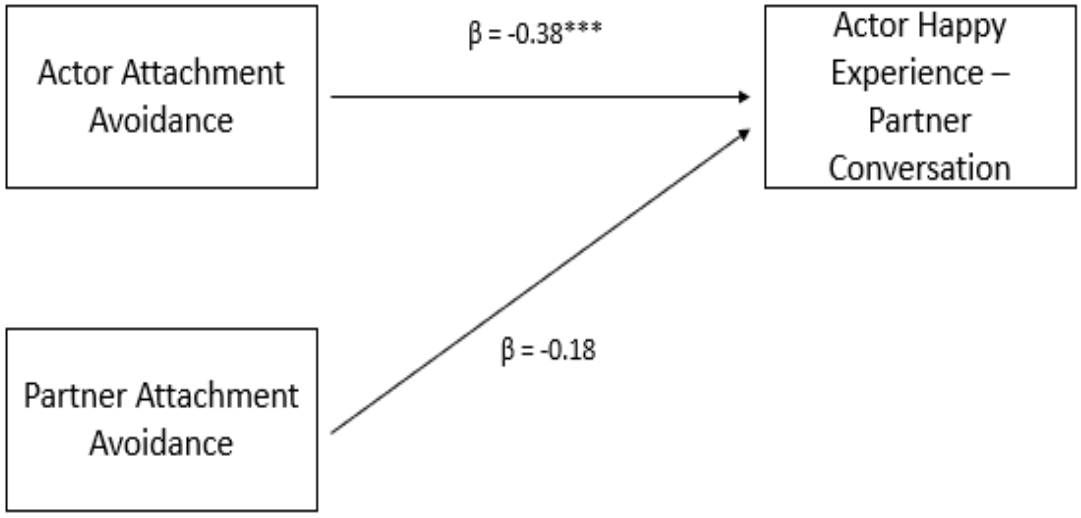

Figure 16: Actor experience of happiness during conversation about partner's topic predicted by actor and partner attachment

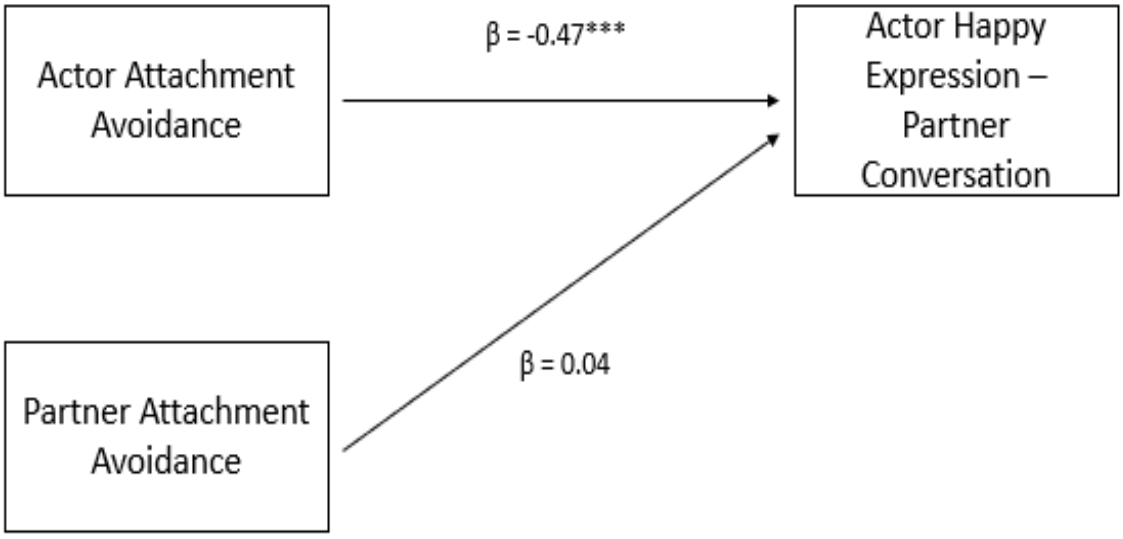

Figure 17: Actor expression of happiness during conversation 2 predicted by actor and partner attachment

Experience and expression of happiness compared to others. Actor and partner attachment scores were entered into models predicting the actors' beliefs about how much they experienced and expressed happiness during conversations with their partner compared to what they thought other people would experience/express. Following the discussion of the actor's topic I find that actors who were higher in attachment avoidance believed that they experienced, $\beta = -0.43$; $p < .001$, and expressed, $\beta = -0.40$; $p < .001$, significantly less happiness than they thought other people would during a similar discussion (see Figures 18 & 19).

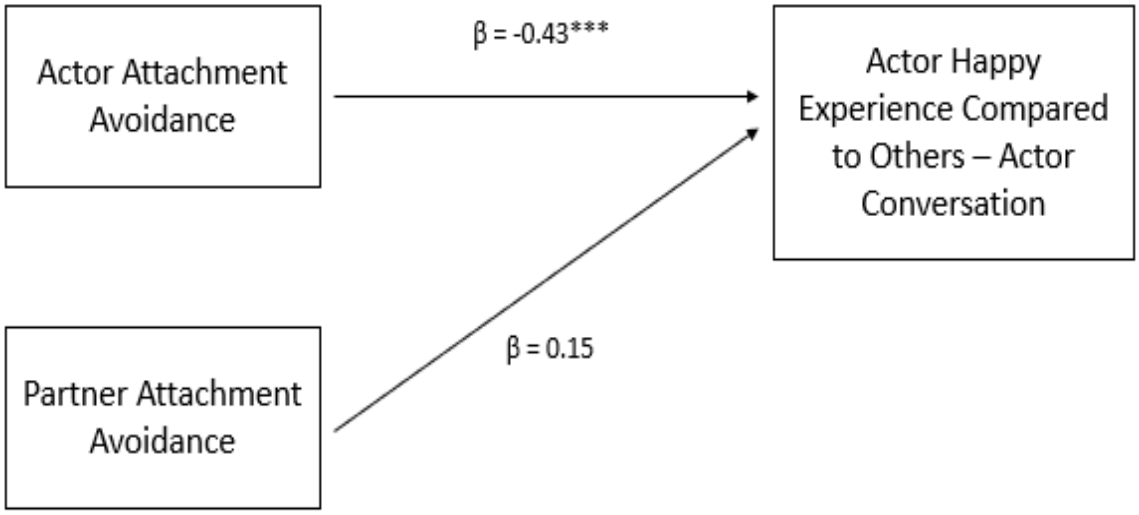

Figure 18: Actor beliefs about their experience of happiness compared to others during a conversation about their topic predicted by actor and partner attachment

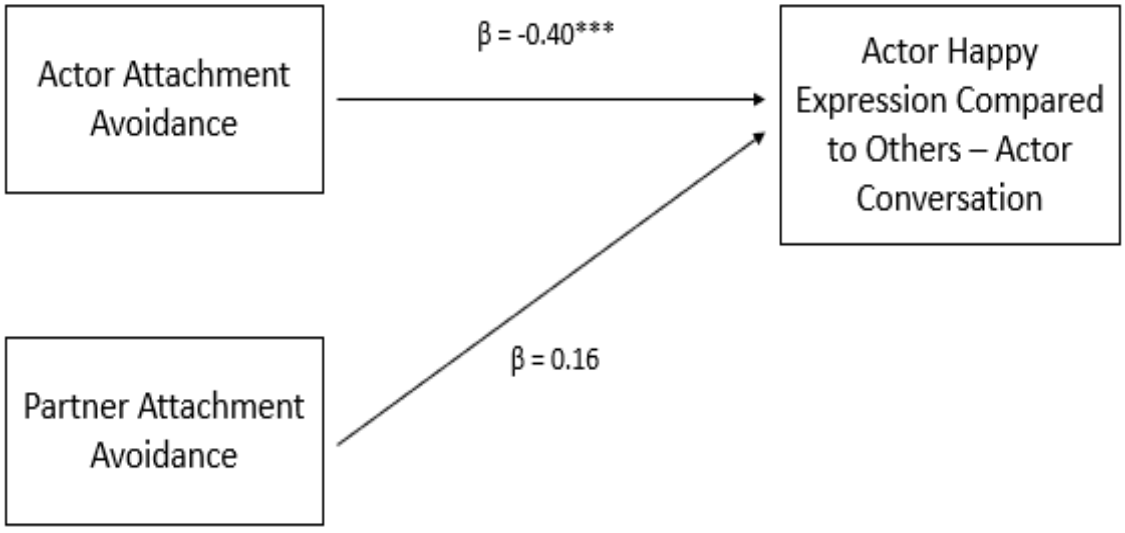

Figure 19: Actor beliefs about their expression of happiness compared to others during a conversation about their topic predicted by actor and partner attachment

Similar patterns emerge when looking at actor reports following the discussion of their partner's positive event. Specifically, actors who were higher in avoidance believed that they both experienced, $\beta = -0.37$; $p < .001$, and expressed, $\beta = -0.40$; $p < .001$, significantly less happiness in a discussion about their partner's happiness than they thought other people would experience/express (see Figures 20 & 21).

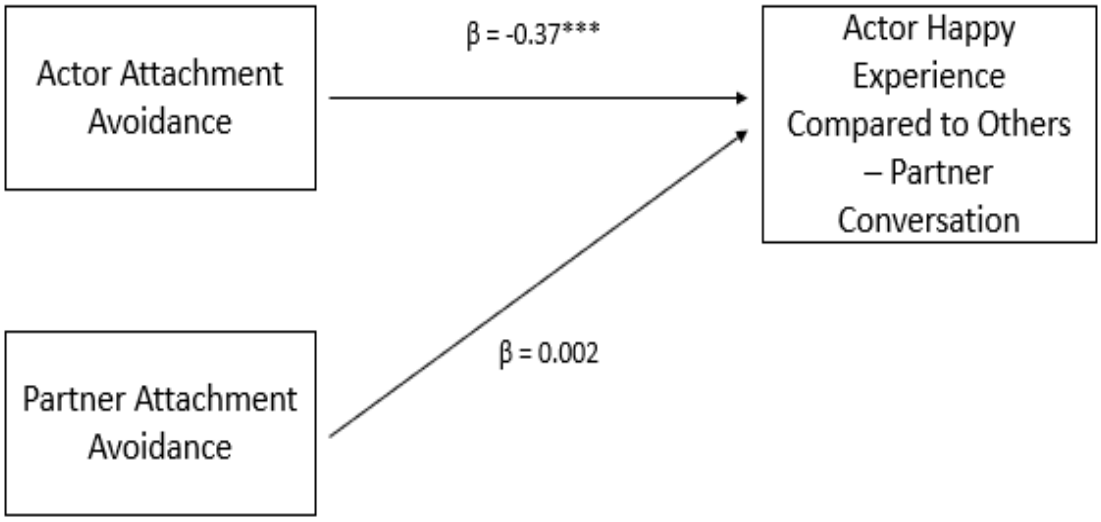

Figure 20: Actor beliefs about their experience of happiness compared to others during a conversation about their partner's topic predicted by actor and partner attachment

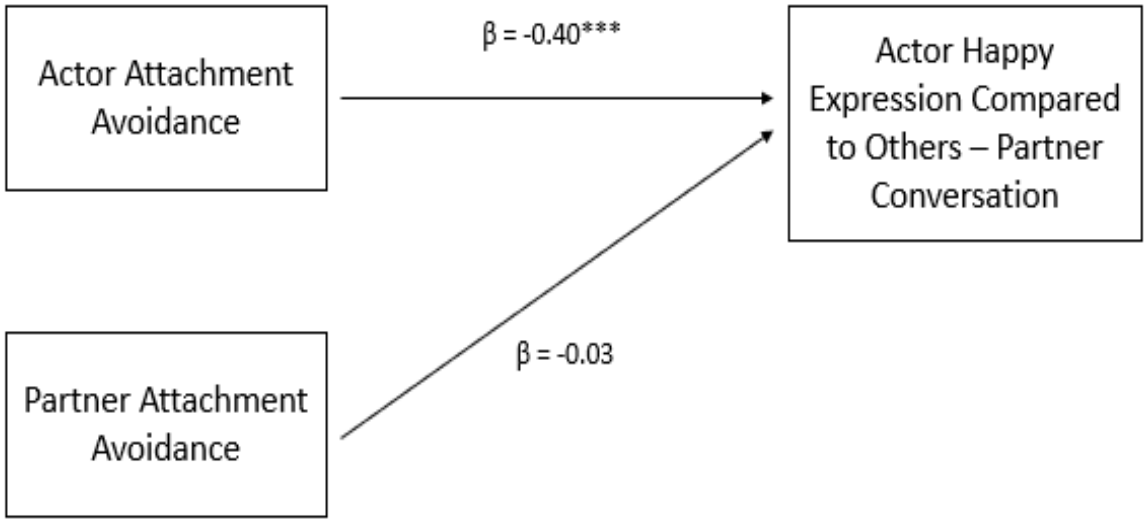

Figure 21: Actor beliefs about their expression of happiness compared to others during a conversation about their partner's topic predicted by actor and partner attachment

Anhedonia. Actor and partner attachment scores were entered into two models predicting actor social and physical anhedonia. As predicted, when controlling for actor physical anhedonia, actors who were higher in avoidant attachment reported greater social anhedonia, $\beta = 0.49$; $p < .001$, meaning they find social interactions to be less

pleasant (see Figure 22). Interestingly, when controlling for actor social anhedonia, those actors higher in avoidant attachment report having significantly less physical anhedonia, $\beta = -0.27$; $p = .03$, meaning they find physical pleasures more pleasant than individuals lower in avoidant attachment (see Figure 23).

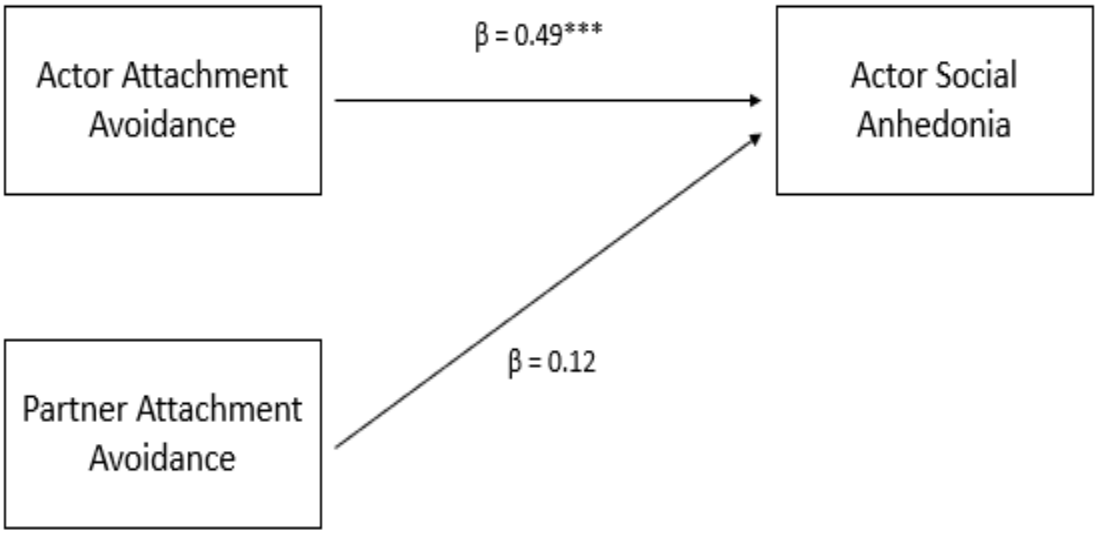

Figure 22: Actor social anhedonia predicted by actor and partner attachment avoidance

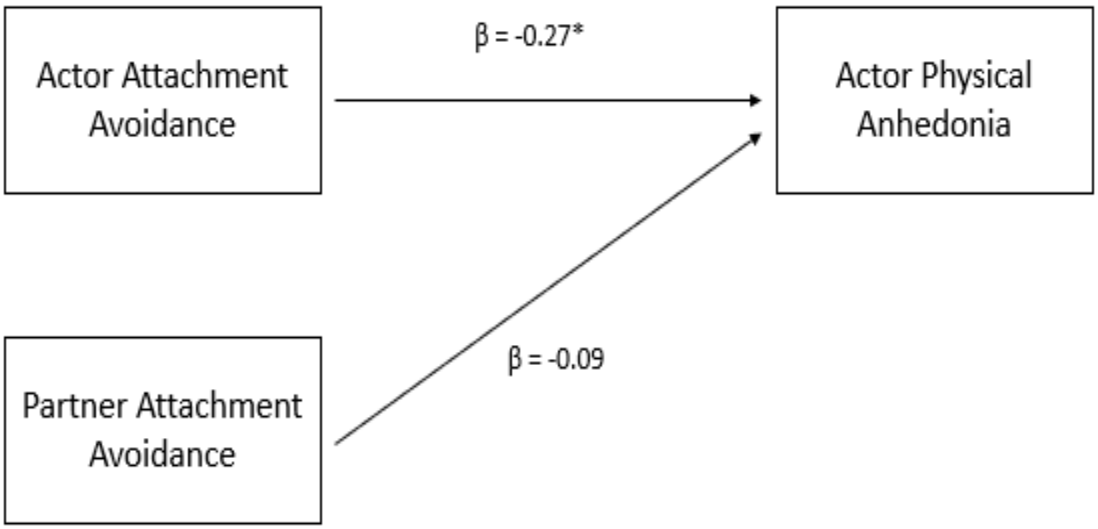

Figure 23: Actor physical anhedonia predicted by actor and partner attachment avoidance

Topic ratings. Actor and partner attachment scores were entered into six models predicting 1) the total number of topics generated by actors, 2) the number of social topics generated by actors, 3) the number of non-social topics generated by actors, 4) the highest rating given to a topic generated by an actor, 5) the lowest rating given to a topic generated by an actor, and 6) the time spent discussing the actor's topic. There was no significant association between actor attachment avoidance and the total number of topics generated, $\beta = -0.11$; $p = .33$, the number of social, $\beta = 0.01$; $p = .91$, or non-social, $\beta = -0.18$; $p = .12$ topics generated, or the time spent discussing the actor's topic, $\beta = -0.07$; $p = .52$.

However, significant results did emerge when examining the highest and lowest ratings avoidant actors gave to their topics. When looking at high ratings, actors who were more avoidantly attached had significantly lower scores for their highest rated topic, $\beta = -0.36$; $p = .001$, when compared to actors lower in avoidant attachment (see Figure 34). Additionally, actors who were higher in avoidant attachment had significantly lower scores for their lowest rated topic, $\beta = -0.27$; $p = .02$, compared to actors lower in avoidant attachment (see Figure 35).

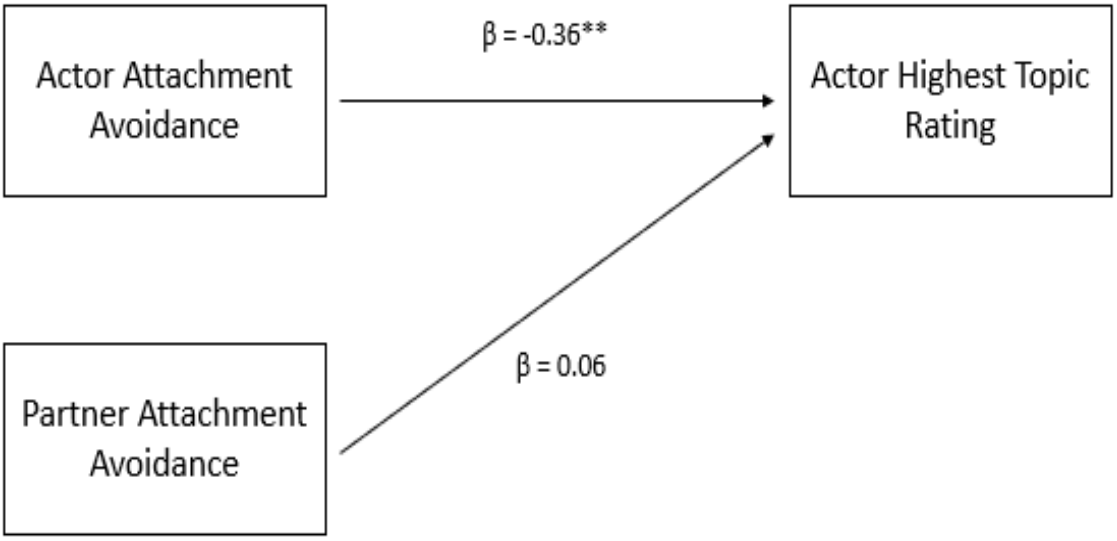

Figure 24: Actor highest topic rating predicted by actor and partner attachment avoidance

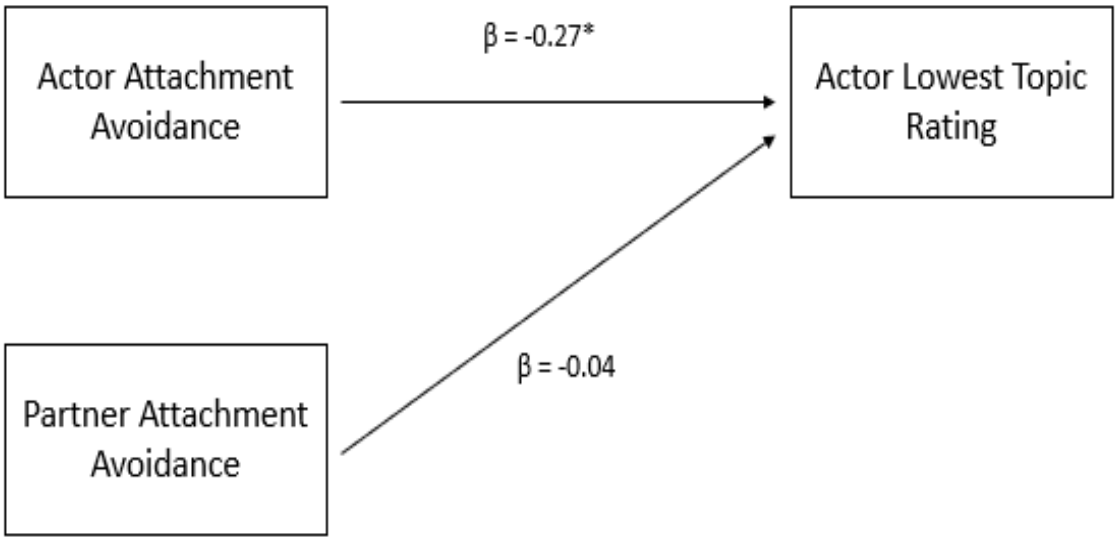

Figure 25: Actor lowest topic rating predicted by actor and partner attachment avoidance

Anxious Attachment Results

Actor and partner anxious attachment were entered simultaneously in APIM models with actor and partner attachment avoidance as predictors of all primary

hypotheses. Results for anxious attachment are presented here for clarity, but no predictions were made regarding these results.

Experience and expression of happiness. Beginning again with the pre-interaction survey I find significant results for anxious attachment. Specifically, higher actor attachment anxiety was associated with those actors experiencing significantly less happiness, $\beta = -0.29$; $p = .007$. However, when looking at happiness during the conversation about their own topic, I found no significant association between actor attachment anxiety and their experience, $\beta = -0.11$; $p = .30$, or expression, $\beta = -0.07$; $p = .53$ of happiness. Similarly, greater anxious attachment in actors was not significantly associated with their experience, $\beta = 0.10$; $p = .33$, or expression, $\beta = 0.10$; $p = .34$ of happiness during the discussion of their partner's positive event.

Experience and expression of happiness compared to others. Actors higher in anxious attachment did not report a significant difference in their beliefs about their experience, $\beta = -0.05$; $p = .66$, or expression, $\beta = 0.03$; $p = .76$ of happiness compared to others during the conversation about their own positive topic. Similarly, actors who were higher in anxious attachment did not report a significant difference in their expression, $\beta = 0.16$; $p = .14$ of happiness during the discussion of their partner's positive event. However, during the conversation about their partner's positive event, actors higher in attachment anxiety reported that they experienced significantly more happiness, $\beta = 0.22$; $p = .05$ than they thought other people would have experienced in a similar conversation.

Anhedonia. When looking at social anhedonia I find no significant association between actor attachment anxiety and their social anhedonia, $\beta = -0.16$; $p = .16$. This analysis controls for actor physical anhedonia. On the other hand, when controlling for

actor social anhedonia, actors higher in anxious attachment report significantly greater physical anhedonia, $\beta = 0.48$; $p < .001$, meaning that they find non-social events to be less pleasurable.

Topic ratings. APIM models predicting ratings of topics generated by actors revealed a consistent pattern of results for actors higher in anxious attachment. Specifically, there was no significant association between actor attachment anxiety and the number of overall topics generated, $\beta = 0.10$; $p = .42$, the number of social topics generated, $\beta = 0.04$; $p = .76$, the number of non-social topics generated, $\beta = 0.07$; $p = .54$, the highest, $\beta = 0.17$; $p = .11$ or lowest, $\beta = 0.06$; $p = .62$ rating of a topic, or the time spent discussing an actor's topic, $\beta = 0.14$; $p = .23$.

Exploratory Tests

In addition to the primary hypotheses set forth, I measured a number of variables to be analyzed in an exploratory fashion. A series of APIM models were conducted with actor and partner attachment scores as predictors for: 1) partner perception of actor experience and expression of happiness, 2) actor's experience and expression of negative emotions, and 3) actors reports of relationship satisfaction, communal strength, and perceived partner responsiveness. All models were run including the interaction between actor attachment avoidance and anxiety, as well as the interaction between partner attachment avoidance and anxiety.

Partner perception of actor experience and expression of happiness. Beginning with the pre-interaction measure I find no significant association between

actor attachment avoidance, β = -0.17; p = .10, or anxiety, β = -0.17; p = .12, and their partner's perception of their experience of happiness.

Following the discussion of an actor's positive event I find that partners of more avoidantly attached actors report that they perceive no significant difference in the actor's experience, β = -0.20; p = .07, or expression, β = -0.08; p = .46 of happiness compared to partners of less avoidantly attached actors. Similarly, when discussing the actor's positive topic, partners of more anxiously attached actors did not report a significant difference in their perception that the actor experienced, β = -0.04; p = .72, or expressed, β = 0.004; p = .97 happiness compared to partners of less anxiously attached actors.

Following the discussion of the partner's positive event I do find significant results regarding that partner's perception of the actor's experienced and expressed happiness. Specifically, I find that partners of more avoidantly attached actors perceive those actors as experiencing, β = -0.23; p = .03, and expressing, β = -0.23; p = .04, significantly less happiness during a conversation about the partner's positive event compared to partners of less avoidantly attached actors. However, as with discussions of actor positive events, I again find that partners of more anxiously attached individuals did not perceive a significant difference in the anxious actor's experience, β = -0.20; p = .09, or expression, β = 0.10; p = .39 of happiness during a conversation about the partner's positive event.

Experience and expression of negative emotions. Composite scores of negative emotion experience and expression were calculated so as to explore the association between attachment and negative emotions. Beginning with the pre-interaction measure I

find no significant association between actor attachment avoidance, β = 0.19; p = .09, or anxiety, β = 0.03; p = .82, and their experience of negative emotions.

Following a discussion of the actor's positive topic I find that actors higher in attachment avoidance report that they experienced significantly more negative emotion during the discussion, β = 0.30; p = .01, compared to actors lower in avoidant attachment. However, I did not find a significant association between actor attachment avoidance and their reported expression of negative emotion, β = 0.17; p = .14, during the conversation about their positive topic compared to individuals lower in avoidant attachment. Similarly, I did not find a significant association between actor attachment anxiety and their experience, β = -0.06; p = .58, or expression, β = -0.001; p = .99 of negative emotions during the conversation about their positive topic.

Following a discussion of the partner's positive topic I did not find a significant association between actor attachment and their experience or expression of negative emotion. Specifically, I did not find a significant association between actor attachment avoidance and their experience, β = 0.18; p = .11, or expression, β = 0.10; p = .38 of negative emotion nor between actor attachment anxiety and their experience, β = 0.006; p = .96, or expression, β = 0.01; p = .92 of negative emotion when discussing a positive event in their partner's life.

Discussion

The primary goal of this chapter was to extend the prior findings regarding avoidant attachment and positive emotion by examining these associations within the context of an in-lab interaction. I predicted that I would replicate my prior findings by

illustrating that avoidantly attached individuals would both experience and express less happiness during a positive discussion with their partner. Though it does not fully rule out the possibility of self-report bias, by constraining the reports of emotional experience and expression to a specific in-lab conversation, I was better able to assess whether emotional differences are occurring for more avoidantly attached individuals or if they are experiencing biased recall in prior studies due to the time lapse between emotional event and reporting. Additionally, the dyadic nature of this study allowed for me to assess whether partners of avoidant actors are picking up on the self-reported emotional differences in the moment. See Table 21 for a summary of significant findings regarding primary hypotheses.

Table 21: Summary of significant results for primary hypotheses in Study 4

Significant results for primary hypotheses in Study 4
1. Avoidantly attached actors reported experiencing less happiness during conversations about themselves and their partners
2. Avoidantly attached actors reported expressing less happiness during conversations about themselves and their partners
3. Avoidantly attached actors reported experiencing less happiness compared to what they believed other people would experience
4. Avoidantly attached actors reported expressing less happiness compared to what they believed other people would express
5. Avoidantly attached actors report greater social anhedonia
6. Avoidantly attached actors report less physical anhedonia

I find significant evidence that largely supports my predictions. More avoidantly attached individuals were significantly less likely to experience happiness during both discussions about their own positive topic and discussions about their partner's positive topic. Additionally, these individuals were significantly less likely to express happiness to their partners during both discussions. Regardless of whether positive emotions are felt towards their partner, as in prior work (e.g., Mikulincer, et al., 2006) or experienced separate from the relationship, as in this study, participants who are more avoidantly attached find the discussion of their own and their partner's happiness as less pleasant and are less willing to express happiness to their partners. It appears that there are few, if not no, boundary conditions on the effects of avoidant attachment on the experience and expression of positive emotion. Avoidantly attached individuals are simply less happy and do not want to talk about what little happiness they do experience. This likely has negative implications for the lives of these individuals as they tend to be less satisfied in their relationships as found in this and other studies (Fricker & Moore, 2002) (see Appendix H). While this lowered relationship satisfaction may seem detrimental only in the sense that one's relationships suffer this is not necessarily the case. Healthy relationships can buffer against a myriad of both physical (e.g., Berkman & Glass, 2000; Holt-Lunstad, et al., 2015) and mental (e.g., Cacioppo, et al., 2015; Coan et al., 2006) health issues, and can help one become their best self (Overall, et al., 2010; Rusbult, et al., 2009). Thus, finding ways to improve the relational quality of these individuals, potentially through encouraging and facilitating greater emotional expression, may yield benefits that extend beyond the relationship.

A related finding from this study is that these individuals believe themselves to be experiencing and expressing significantly less happiness during both discussions with their partners. This parallels results found in Study 3 and extends them by addressing emotions within a specific context. The fact that avoidantly attached individuals are aware that they are less happy while discussing their own and their partner's happiness is fascinating. I found in Study 3 that avoidantly attached individuals do not hold negative perceptions about the happiness of others, but the awareness that one is less happy than others must come at some cost. Future work should further address this issue by examining more of the meta-perceptions avoidantly attached individuals have about their own and other's emotions.

Interestingly, the results regarding partner perception of actor happiness are mixed. When partners are reporting on actors' experienced and expressed happiness during a conversation about the actor's positive event there is no significant association between actor attachment avoidance and the partners' perception of the actors' emotions. However, following a discussion about the *partner's* positive event, partners of more avoidantly attached actors report that they perceive those actors to be experiencing and expressing significantly less happiness. This raises interesting questions about why partners are only perceiving the lowered happiness of actors when the discussion is about them (the partner), despite actors reporting that across the board they experience and express less happiness. Future work could further examine this association by having objective coders rate the expressed emotion by participants in an interaction to see whether they perceive these discrepancies in a consistent manner with the participants.

A second goal of this chapter was to assess whether avoidantly attached individuals would exhibit social anhedonia outside the context of self-report scales. By having participants self-nominate positive topics of discussion I was able to observe whether they would naturally choose topics that were social in nature or not. Additionally, this measure allowed me to assess associations between avoidant attachment and the experience of happiness in a different way than simple reporting on a Likert scale. Though more avoidantly attached participants did not show a difference in the total number or number of social topics generated, interesting findings still emerged. When looking at the highest and lowest rated topics generated by participants, those who were more avoidantly attached reported that the happiest event and least happy event were both significantly less happy than participants who were less avoidantly attached. Put simply, avoidantly attached individuals report that events in their life make them feel less happy than less avoidantly attached individuals. This lends support to the idea that these individuals are not living different lives in terms of the number or types of events and interactions they have. However, when an objectively positive event happens to them, they simply experience it as less positive, deriving less pleasure from it. This is particularly pronounced with social interactions as these individuals again self-reported greater social anhedonia.

Somewhat surprisingly, a new finding emerges regarding physical anhedonia in this study. When asked to report on the pleasure they experience engaging in non-social activities that are specified to be things they do alone, more avoidantly attached individuals reported less physical anhedonia than those individuals who were less avoidantly attached. This means that when they think about doing things such as eating a

meal or watching a movie alone these individuals actually find them significantly more pleasant. It is possible that for avoidant individuals the primary source of their happiness is these non-social events as opposed to their close relationships, though this is just speculation. Further research is needed to explore this finding and the implications it has for the lives of avoidantly attached individuals.

Conclusion

Taken together the findings of this study provide a clear and consistent pattern which replicates the work discussed in prior chapters and extends it to a specific dyadic interaction. Avoidantly attached individuals are less happy, and less willing to express that happiness to one of their closest communal relationships, their romantic partner. Part of the reason for this seems to be that these individuals find social interactions inherently less pleasurable as evidenced by their reported social anhedonia. This is a functional form of self-protection as it serves to help them avoid building intimacy, something they find uncomfortable; however, it likely has downstream consequences for both their relationships and their own individual well-being. See Table 22 for a summary of significant findings of primary hypotheses for avoidantly attached participants across all studies.

Table 22: Summary of significant findings for avoidantly attached participants across all studies

Variable	**Study 1 (Retrospective)**	**Study 2 (Daily)**	**Study 3 - Dyadic (Retrospective and Daily)**	**Study 4 - Dyadic (In Lab)**

Experience of Positive Emotion	Less frequent	Less frequent	Less frequent	Less intense
Expression of Positive Emotion	Less frequent	Less frequent	Less frequent	Less intense
Experience of Positive Emotion Compared to Others	NA	NA	Less frequent	Less intense
Expression of Positive Emotion Compared to Others	NA	NA	Less frequent	Less intense
Social Anhedonia	NA	Greater	Greater	Greater
Physical Anhedonia	NA	Not related	Greater	Less

General Discussion

Emotions are a crucial part of life for people. Experiencing an emotion sends us signals about our environment, our well-being, and the well-being of our relationships (e.g., Schwarz, 2011). Expressing an emotion, whether felt or not, may elicit support and increase closeness with others (e.g., Clark et al., 1987). As stated previously, emotions are most frequently experienced and subsequently expressed within the context of our closest relationships (Berscheid & Ammazzalorso, 2001; Csikzentmihalyi & Hunter, 2003; Clark & Brissette, 2000; Rime, 2009; Von Culin, et al., 2017) and thus it is important to examine emotion while taking relational context into account (see Clark, et al., 2017a). Though not all of the studies presented in this dissertation are dyadic, nor do they all assess emotion specifically within the context of a close relationship, I contend that by taking a deep dive into the ways in which attachment orientation, specifically attachment avoidance, shapes the ways in which individuals experience and express emotion, this dissertation highlights the importance of relational context through one's general beliefs about relationships.

In this dissertation I examined the ways in which avoidant attachment influences the experience and expression of emotion, particularly positive emotion, across multiple timespans (retrospective reports, daily reports, and in the moment reports) both generally (Studies 1-3) and within the context of romantic relationship (Study 4). Importantly, in these studies I examine experience separate from expression, and do not assume that when one experiences an emotion that they always express that emotion. Additionally, I examined a wide range of both positive and negative emotions in order to assess general patterns of emotional experience and expression for more avoidantly attached

individuals. This allows for an in-depth examination of the emotional lives of avoidantly attached individuals as well as for an examination of the relational consequences these emotional patterns have.

Contributions

This dissertation began with a simple study assessing the retrospective frequency of emotional experience and expression for avoidantly attached individuals. Its purpose was to establish patterns of emotional lives for these individuals. Following this I replicated and extended this work in a number of studies varying both timescale and the strength of the relational context through the use of dyadic and in-lab studies. Across all four studies I find consistent results regarding the association between avoidant attachment and the experience and expression of positive emotion. I begin by summarizing and discussing the primary findings of each chapter for avoidantly attached individuals. After that I move to discussing secondary findings as well as results for anxious attachment.

Chapter 1

First, I began with an online study which had participants retrospectively report on their experience and expression of emotion as well as their attachment orientation. Though numerous past studies had documented differences in the experience and expression of emotion among more avoidantly (relative to less avoidantly) attached individuals (e.g., Kerr et al., 2003; Pietromonaco & Barrett, 1997; Roger & Najarian, 1989; Rom & Mikulincer, 2003), none that I know of treat experience as a separate facet from expression and assess both in a single study. Moreover, none that I know of

examine a wide variety of positive and negative emotions, within the same study. In the first study I conducted, I found that more avoidantly attached individuals (relative to less avoidantly attached individuals) experience positive emotion less frequently, and, when felt, express both positive and negative emotion less frequently. This suggests that for positive emotions avoidantly attached individuals are not only experiencing less positive emotion, but when experienced they are subsequently not expressing those emotions. Though this may seem minor, it is important to note that this is functionally different than if these individuals were experiencing at a similar rate as less avoidantly attached individuals, but not expressing them.

Due to the decreased experience of positive emotion, these individuals are not as likely to reap the rewards that experiencing positive emotion can bring, such as feeling close to others through gratitude (Algoe, 2013; Kumar & Epley, 2013) or simply feeling happiness itself. This likely has different consequences for these individuals than if they were reaping the rewards of experiencing positive emotion but simply not expressing them to others.

By examining positive emotion experience and expression separately I have identified two distinct ways in which the positive emotional lives of more avoidantly attached people differ from those who are less avoidantly attached. First, these individuals do not feel as much positive emotion as do others and second, when they do feel a positive emotion, they are less likely to express it to their social others. These are very likely associated effects as, for example, expressing happiness may lead to capitalization (Gable, et al., 2004) which then subsequently increased the experienced

happiness. This mechanism is likely dampened among those high in attachment avoidance.

Chapter 2

Moving forward I sought to replicate these findings and extend them to a new temporal context through the use of daily reports. Additionally, I sought to examine a potential explanation for the infrequent experience of positive emotion among those high in avoidance. Specifically, I suspected that they might derive less positive emotion from social interactions than do others but, perhaps not less positive emotion from other activities. Thus, I assessed self-reports of social and physical anhedonia for avoidantly attached individuals. Consistent with predictions and with the results of Study 1, I found that more avoidantly attached individuals report experiencing less frequent positive emotion, and, when experienced, report expressing less frequent positive and negative emotion. Additionally, as predicted, I found that avoidantly attached individuals reported significantly greater social anhedonia than did others. That is, these individuals were less likely to experience pleasure from engaging with close others, a finding that replicates prior work (Assad & Lemay, 2018; Troisi et al., 2010). Importantly, this work extends prior work in two ways. First, I find no significant bias in the reports of avoidantly attached individuals reporting on their emotions retrospectively compared to daily reports. This is important as there is prior work showing memory biases for support provision for avoidantly attached individuals (Simpson et al., 2009) and so the lack of significant findings in this study provide preliminary evidence that this may not be the case for one's emotions. However, as noted previously, though daily reports are more contemporaneous than the reports acquired in Study 1 they are still retrospective in

reporting on the day as a whole and thus a retrospective bias may not be fully ruled out by these studies. Second, this study is, to my knowledge, the first to illustrate that while highly avoidantly attached individuals exhibit social anhedonia, relative to those lower in avoidance, they do not exhibit a significantly different amount of physical anhedonia. Thus, this provides preliminary evidence that the decrease in positive emotion exhibited by avoidantly attached individuals is likely due to their social interactions not being as rewarding, not due to them being unable to experience any pleasure from the world. Given the ways in which intimacy and dependency make them uncomfortable (Collins, 1996), this lack of pleasure from specifically social interactions for avoidantly attached individuals makes sense and meshes well with the prior literature.

Chapter 3

Following this, I felt fairly confident that the patterns of emotional lives I was observing were consistent and reliable, however one important facet remained to be addressed: explicit relational context. Given that emotions are most often experienced and expressed within our closest relationships (e.g., Berscheid & Ammazzalorso, 2001; Clark & Brissette, 2000) it is important to consider those relationships when conducting studies on emotion, particularly when examining attachment system, which is primarily a relational system.

To address these issues, I followed up with two dyadic studies. First, I conducted a dyadic daily diary study to both replicate the findings from Study 2 and extend them by examining participants' perceptions of their emotions compared to others. It is important to consider the meta-awareness individuals have of their own and others' emotions as this likely influences their interactions with others. Consistent with prior findings, in this

study avoidantly attached individuals retrospectively reported that they both experience and express positive emotion less frequently. However, new to this study I find that avoidantly attached individuals retrospectively report experiencing negative emotions more frequently. Though unexpected, this is not an entirely new finding as prior work has illustrated that in a dyadic context, even when the emotion experience is not specifically tied to one's romantic partner, avoidantly attached individuals report experiencing more negative emotion (Adkins et al., under review; Rholes et al., 1999; Simpson, 1990). Interestingly, when looking at daily reports, avoidantly attached individuals only report that they express positive emotion less frequently. Though it trends in the right direction, the lack of significant result for the experience of positive emotion is surprising. While it is possible that avoidantly attached individuals may not be actually exhibiting a decrease in positive emotion experience, given the nature of the trend which is consistent with the findings I report in Studies 1 and 2 and the consistent finding in the present study for the retrospective results, as well as the lack of reporting bias comparing across daily and retrospective reports in both this and the prior diary study, it is likely to be a statistical anomaly.

Moving onto perception of emotions compared to others, I find that avoidantly attached individuals are accurate in their knowledge of how much positive emotion they feel relative to others, but that they are not accurate in their knowledge of how much negative emotion they experience relative to others. Specifically, I find that, consistent with my predictions, avoidantly attached individuals think that they experience, and express positive emotion less frequently compared to other people generally. This finding illustrates that avoidantly attached individuals are aware that they have emotional lives

that differ from others. Though I had initially hypothesized that avoidantly attached individuals would additionally have greater negative perceptions about the happiness of others, this was not true in this study. What this means is that avoidantly attached individuals are aware that other people are happier than they are, but do not begrudge social others this fact. Whether or not this knowledge leads to greater negative emotion directed at the self is unclear at this time but is worth future study. Also of interest is whether avoidant people understand why they feel less happy than others which is, of course, also an issue that we, as researchers, must tackle.

On the other hand, counter to my predictions, avoidantly attached individuals think that they experience, and express negative emotion significantly more frequently than other people do generally. While in this study I find that retrospectively these individuals report experiencing negative emotion more frequently than less avoidantly attached individuals, this is not a trend that is generally found. Additionally, in no study presented in this dissertation did I find that avoidantly attached individuals report expressing more negative emotion. This inaccuracy is intriguing. If they think they are expressing more negative emotion than others and that the emotion should be met with support this likely serves to reinforce their negative beliefs about others not being there for them and their belief that dependency will only lead to them getting hurt. Perhaps expressing negative emotion is just more salient to them than it is to others who may more habitually express emotions such as sadness, anxiety, or anger without worry. It is hard to say based on the present results.

Finally, when looking at anhedonia I again replicate results showing that avoidantly attached individuals illustrate greater social anhedonia. New to this study were

results concerning physical anhedonia as I found that avoidantly attached individuals similarly reported greater physical anhedonia. Though this potentially indicates that avoidant individuals are experiencing less pleasure from the world no matter what activities they engage in I thought this possibility was unlikely. Rather, this may well be a quirk of the measure being misinterpreted by participants as it did not specify that the events asked about, such as eating a favorite meal, did not involve another person. Due to this possibility of ambiguity shaping answers I sought to be more specific in Study 4.

Chapter 3 was the first in my dissertation to have a number of exploratory questions to test. Of specific interest to the overall focus of avoidant attachment and positive emotion are findings regarding the expression of emotion not experienced and partner perception of actor emotions. As stated previously it is important to examine experience and expression of emotion as separate facets of emotional lives without inferring one from the other. Prior studies in this dissertation only assessed emotion that was expressed that had explicitly been experienced, however it is entirely possible that one could express an emotion without experiencing it due to social constraints of a situation demanding it. Thus, I sought to determine whether avoidantly attached individuals were expressing emotions they did not experience as a way to compensate for their lack of true expression, or whether they would find any expression, including false expression, to be uncomfortable. Interestingly, when looking at positive emotions, avoidant individuals do not show a significant difference in their frequency of expressing positive emotions they did not experience. Thus, avoidantly attached individuals are expressing positive emotions they do not experience in a similar manner to more securely attached individuals. This indicates that they are neither compensating for their lack of

true expression, nor are they unwilling to do so when needed. When looking at negative emotions, avoidantly attached individuals report expressing greater negative emotion that they do not feel in retrospective reports collected in the pre-survey only. I can only speculate as to why this occurs, but one possibility is that despite not feeling emotions such as guilt or empathic distress, these individuals know that a good friend and/or romantic partner should feel and express these emotions, and thus do so to maintain relationships. Avoidant individuals do not desire intimacy (Fraley & Shaver, 2000) however they still have a need to belong (Caravallo & Gabriel, 2006) and thus should desire to maintain relationships, even if those relationships are kept at a distance.

Finally, this study allowed for the first examination of partner perceptions of actor emotions due to the dyadic nature of the study. This is important as it allows for relational context to be taken into account when discussing emotions. Interestingly, the one significant finding to emerge is that partners of more avoidantly attached actors perceive those actors to express negative emotion significantly less frequently in the pre-survey (retrospective) reports only. No other significant findings emerge for partner perception of actor emotion. I can only speculate, but there are a few possibilities here. First, it is possible that avoidant actors are misreporting (intentionally or not) their emotional lives due to biased recall or a desire to appear unemotional. Indeed, merely the act of reporting about one's frequency of emotion experience and expression is in some ways a form of emotion expression and thus might make the avoidant actors uncomfortable. However, this explanation is a bit tautological and, though possible, I believe it is unlikely due to the consistency of reports across timescales and across studies. A second possibility is that partners of more avoidantly attached actors are

merely more accustomed to less emotion from the actors and thus have adjusted their scale of "normal" expression. If partners of avoidantly attached actors have adjusted their standards for emotion, then it would make sense that they do not perceive the limited amount of emotional experience and expression as infrequent. However, given the labeling of the scales (i.e., "Never" to "Always") I think this explanation is similarly unlikely. A more plausible explanation for this misperception is that partners of more avoidantly attached actors are both projecting their own emotions onto (Clark et al., 2017b) and expecting emotion from their partner. We expect our partners to be happy to see us, or share in our distress when we are sad, and so it is likely that partners of more avoidantly attached actors are simply misperceiving emotion where it is not. An additionally possibility is that within the context of their romantic relationships avoidantly attached individuals are indeed more expressive than in the context of their lives generally. It is possible for one to become more securely attached to a specific individual, especially over time, even though one may be globally insecurely attached (Davila et al., 1999), and thus a combination of these explanations is likely. However, due to the questions of expression being global as opposed to specific to one's romantic partner this is not testable in this specific study.

Chapter 4

Moving on to Chapter 4 I was able to address the lingering question of expression to one's romantic partner. By conducting a dyadic in-lab study in which both actors and partners reported on their emotion expression to their partner as well as their perception of their partner's emotions I was able to assess whether more avoidantly attached individuals are more likely to express an emotion to their partner. Despite this possibility,

given results of both my prior work showing that avoidantly attached participants experience and express positive emotion less frequently, I predicted that avoidantly attached individuals would report expressing less happiness to their romantic partner in an interaction. Importantly, in this study participants discussed events in their lives that made them happy, but that did not involve their romantic partner. This limitation was placed on participants so that they were not expressing an emotion, such as gratitude, that was caused by their romantic partner and might thus increase the amount of intimacy surrounding the expression. Despite this reduction in intimacy, given the prior results regarding social anhedonia, I predicted that avoidantly attached individuals would still report experiencing less happiness during a conversation about a positive topic. Results largely supported both of these predictions as more avoidantly attached individuals reported that they experienced and expressed less happiness both during a discussion of their own as well as their partner's positive topic.

These results fall in line with the prior studies I conducted and are consistent with theoretical explanations of avoidant attachment. These individuals find intimacy uncomfortable (Collins, 1996) and coupled with the fact that they find social interactions less pleasurable (Assad & Lemay, 2018), a finding that occurs again in this study through self-reported social anhedonia, it makes sense that these individuals would not enjoy discussing an emotion, even happiness, with their partners. Interestingly, when constrained to thinking of events, such as eating a meal, as things done alone more avoidantly attached individuals report significantly less physical anhedonia. This finding is replicated and discussed in a fifth, supplemental, study reported in Appendix I. Thus, across all three studies (Studies 2, 3, & 4) that include anhedonia measures I found three

different results. I speculate that the ambiguity as to whether others were involved in the event in the measure used in Studies 2 & 3 is contributing to these discrepant effects. Future work should replicate and explore this finding by using the specified measure present in Study 4. Exploring this result is necessary as knowledge surrounding the events that contribute to positive emotions for avoidantly attached individuals may help inform future work aimed at designing interventions to improve the emotional lives of these individuals.

Within this study I was additionally able to assess the lack of happiness in more unobtrusive measures. More avoidantly attached individuals rate their own happy events as less happy at both the high and low end of the scale compared to participants lower in avoidant attachment. As with Study 3, avoidantly attached individuals do seem to be aware of this difference in their emotions as they report that they both experience and express less happiness than they think other people do during both conversations. Partners of more avoidant individuals only appear to be somewhat aware of this discrepancy, however, as they only report that the avoidant actors express less happiness during one of the conversations. Despite these consistent findings, the same limitations emerge surrounding this study as do Study 3. I can only speculate as to the outcomes for avoidantly attached individuals' knowledge of their own unhappiness as well as their partners being unaware of it. Likely this, coupled with the absence of happiness generally has negative consequences for their relationship as well as their individual well-being, however further work is needed to examine these specifically.

Study 4 contained a number of secondary hypotheses and exploratory questions which require discussion as well. As discussed previously, partners of avoidantly

attached actors are largely unaware that the actors are, reportedly, experiencing and expressing less happiness. Partners were only aware that avoidant actors experience and express less happiness when discussing the partner's positive event. I can only speculate as to why partners are only aware of the emotional deficits of avoidant actors during a discussion of their (the partner's) topic. Given the positive nature of the topics they could be expecting more happiness from the actor and subsequently disappointed when the actor does not express a lot of happiness or attempt to capitalize. However, it is unclear as to why partners of more avoidantly attached actors are not noticing the lack of happiness avoidant actors exhibit when discussing their own (the actor's) topic. One possibility is that partners are happy for the actor and projecting that happiness onto them, as is known to happen (Clark, et al., 2017b) when discussing the actor's topic, though this is just speculation.

Though not a central focus of this study, I included measures of negative emotions in order to assess whether avoidantly attached individuals might feel more negative emotions when discussing happiness with their partner. Prior work has shown that these individuals are more likely to experience negative emotions the context of their romantic relationships (Rholes et al., 1999; Simpson, 1990) and to some extent I replicate those results here. When discussing the actor's positive topic more avoidantly attached actors reported experiencing greater negative emotion than less avoidantly attached actors. More work is needed to address this.

Anxious Attachment

Results for anxious attachment across the four studies presented in this dissertation are mixed. In two studies more anxiously attached participants report

experiencing and expressing both positive and negative emotions more frequently (Studies 1 & 3). In Study 2, more anxiously attached participants report experiencing and expressing less frequent positive emotion and experiencing more frequent negative emotion. Finally, in Study 4 greater anxious attachment was associated with experiencing less happiness at baseline but had no association with happiness or negative emotion at any other point in the study. The inconsistency of these results serves to highlight the inconsistency in the beliefs about relationships that more anxiously attached individuals hold. On the one hand these individuals deeply desire to be cared for and loved by others, but on the other they are constantly afraid that they are going to be abandoned or hurt (Bartholomew & Horowits, 1991; Fraley & Shaver, 2000). These competing drives to approach others but simultaneously self-protect likely lead to a much more complicated set of emotional interactions with close others. More work that specifically targets the complexities of anxious attachment is needed to better understand the ways in which they experience and express emotions to others dependent on the situation and the strength of their competing motivations.

Primary Takeaways

The significant findings discussed in this dissertation are numerous and at times overwhelming. However, one consistent set of findings emerges across all of the studies discussed here. Regardless of the timescale assessed (e.g., retrospective, daily, or in the moment reports), measure used (e.g., frequency or intensity), or the structure of the study (e.g., individuals or romantic dyads), avoidantly attached individuals are less likely to experience and express positive emotions. Not only that, but avoidantly attached individuals are aware that they experience and express less positive emotion than other

people do and can acknowledge that they specifically find social interactions less pleasurable.

What little work there is that examines attachment avoidance and positive emotion typically focuses on a specific positive emotion, such as gratitude, that is experienced due to a romantic partner and expressed to that person (e.g., Mikulincer, et al., 2006). By examining a wide range of positive emotions across different timescales I was able to assess the overarching patterns regarding the emotional lives of avoidantly attached individuals. This work synthesizes prior findings and extends them by assessing multiple emotions, where experience is not always tied to expression, and where the target of the emotion expression is not always the cause of the experience. Though the results regarding positive emotion are clear, the studies presented in this dissertation are just the first step toward better understanding the emotional lives of avoidantly attached individuals.

Limitations

As with any set of studies, there are numerous limitations to consider regarding these findings. First, the majority of these studies were conducted online with predominantly young, white samples. Additionally, the samples for all studies were largely from the United States. There are numerous cross-cultural studies illustrating differences in both emotional patterning (e.g., Gendron et al., 2014; Mesquita et al., 2017; Russell, 1991) as well as different rates of attachment orientations (e.g., Agishtein & Brumbaugh, 2013) and thus generalizability is a present concern. Additionally, relational expectations vary cross-culturally and thus the results of these findings may not necessarily generalize to other cultures. Thus, future work should seek to examine how

different cultural context interacts with the findings presented in this dissertation. It is possible that different patterns or stronger patterns may emerge when avoidantly attached individuals are assessed in cultures with different social norms surrounding emotion.

When looking at the studies themselves there are numerous limitations to the ways in which measures were collected. First, the vast majority of the work presented in this dissertation is correlational and based on self-reports. Though the associations between avoidant attachment and positive emotion are clear and consistent I am unable to make any causal claims regarding the influence of avoidant attachment and emotion. Likely these effects are bidirectional in daily life as avoidant attachment may influence the expression of emotion, but so too might the expression (or lack thereof) of emotion feedback into one's beliefs about others thereby reinforcing one's attachment orientation. Regardless, future work should seek to test these associations experimentally by manipulating the felt security, or more likely avoidance, of participants and then examine their willingness and comfort to express emotions.

Second, the self-report nature of the measures allows for the possibility that participants are biased in their reporting. Though I sought to address potential biases, such as a retrospective reporting bias, the fact remains that self-report may contain subjectivity that is not factual. As noted previously, partner reports of actor emotions in Studies 3 & 4 largely do not match those of actor self-reports and so there is the potential that actors are not reporting an objective truth. However, given the consistency with which I find associations between positive emotions and avoidant attachment I feel confident that the self-reported emotions of avoidant individuals do reflect some aspect of their actual emotional lives. Additionally, in Studies 2 & 3 I do not find a bias when

comparing daily reports and more retrospective reports (e.g., reporting on the prior 7 days), in their reports of emotion and thus feel confident that these individuals are at the very least consistent in their reported emotions. Additionally, it is unclear from these self-reports whether the consistency in these reports is reflecting a true difference in the experience and expression of emotion or whether more avoidantly attached individuals simply hold a theory of emotion that is influencing their reports. For example, it could be the case that more avoidantly attached individuals believe that they never feel positive emotions (such as happiness) and thus when they report retrospectively, they are operating under the belief that they were not happy at that time. However, the varying results for physical anhedonia seem to indicate that this may not be the case. Though more avoidantly attached participants tend to be consistent in their reports of social anhedonia, there is wide variation in reports of physical anhedonia across studies, with more avoidant participants in Study 4 actually reporting that they experience significantly less physical anhedonia. This suggests that they can think about activities and find them pleasant and enjoyable, and potentially that they are not operating under an assumption that they are generally unhappy in every single situation. While it may be the case that these individuals have a specific theory of their emotions, I think it is much more likely, given the existing literature on avoidance, that they have a more general theory of expectations for others which then drives their actual behaviors and perceptions of others which, then, in turn, influence the natures of the emotions they feel. As stated previously, avoidantly attached individuals have formed a model of others in which they expect others to be unreliable in times of need which likely is a driving factor behind their desire to avoid intimacy (Bartholomew & Horowitz, 1991; Fraley & Shaver, 2000). This desire

to avoid intimacy may manifest in different behaviors. For example, they are less likely to engage in communal behaviors such as engaging in physical touch (e.g., Debrot, et al., 2021) and thus are less likely to reap the positive emotional rewards of doing so. Thus it is unlikely that they merely believe themselves to be unhappy, as they are consistently avoiding behaviors that tend to make people happy. However, this explanation is only speculative as the data I present in this dissertation cannot be used to explain the consistency in a causal way. Future work should move to incorporate more objective measures of emotion.

One possibility would be to replicate Study 4 and include audio/visual recording of participants. In doing so researchers could have objective coders rate actor and partner emotion expression in order to assess what is actually being expressed. Another avenue forward would be to include physiological measures during emotional interactions. Though I take a social-constructivist approach to emotions and thus do not hold the notion that physiological changes map perfectly onto emotions, the inclusion of measures such as facial EMG, heart rate, and/or skin conductance (see Maus & Robinson, 2009 for a review) could help better ascertain when an emotion is being experienced when used in conjunction with self and partner reports.

A third limitation, or potentially a strength, of this dissertation is that it raises more questions than it appears to answer. One such example revolves around the finding that avoidantly attached individuals are aware that they experience and express less positive emotion than other people do (Studies 3 & 4). However, in Study 3 (and Study 5 reported in Appendix I) I found that avoidantly attached individuals do not have negative judgments regarding the happiness of other people. This begs the question, how do

avoidantly attached individuals feel about themselves and their lack of happiness? Is it the case that they feel like this is a normal part of life or do they think that they are weird for being unhappy? One possibility is that more avoidantly attached individuals feel negativity toward themselves which could potentially influence their social interactions. If their romantic partners are expressing a positive emotion to them, avoidantly attached individuals may wonder why they are not as happy for them, subsequently feel negative emotions toward themselves, and thus not have the cognitive resources or be in the emotional state to properly capitalize. This is just one possibility that could occur from this knowledge, but further work is needed to assess what is actually happening when these individuals recognize a moment that they should be happy but are not.

Another question that is raised by the results revolves around the question of whether the patterns of results we have observed are unique to avoidant attachment per se or might be shared in common with related constructs both represented in the social psychology literature (e.g., rejection sensitivity; fragile self-esteem) or in the clinical literature. One such construct in the clinical literature that could be related is depression. Given that both avoidantly attached individuals and depressed individuals exhibit anhedonia it could be the case that the results for avoidantly attached individuals in these studies are able to be explained by a confounding relationship with depressive symptomology. Indeed, research has shown that avoidant attachment is correlated with a greater likelihood of major depressive episodes (e.g., Mickelson, et al., 1997). However, despite this correlation, I do not think the results for avoidant attachment and emotion can be fully explained via depressive symptomology. The first reason for this thought is due to the results regarding physical and social anhedonia. Greater avoidant attachment is

consistently associated with greater social anhedonia, however there is inconsistency with regard to physical anhedonia; in Studies 2 & 5 there is no significant relationship, in Study 3 avoidant attachment is associated with greater physical anhedonia, and in Study 4 avoidant attachment is associated with significantly less physical anhedonia. This variation in the amount of pleasure gained by engaging in non-social activities seems to indicate that these individuals not only are experiencing pleasure in the moment, as even depressed individuals do (e.g., Vanderlind, et al., 2021), but also remembering and thinking about these activities as pleasurable in the future, something that depressed individuals are less likely to do (e.g., Clark & Teasdale, 1982). Another distinction between avoidant attachment and depressive symptomology is the types and number of activities and interactions these individuals engage in. Depression is known to be correlated with social withdrawal (see Kotov, et al., 2010). However, avoidantly attached individuals still tend to engage in a similar number and similar types of interactions as less avoidantly attached individuals (Pietromonaco & Barrett, 1997). Thus, it seems unlikely that these results can be fully explained due to an overlap with depressive symptomology, however further research is needed to further delineate the boundaries between these two constructs.

Implications and Future Directions

The primary implication from this dissertation is that avoidantly attached individuals are living lives that are less pleasurable overall. Though they dislike intimacy and closeness with others (Fraley & Shaver, 2000), this is a primary source of positive emotion (Berscheid & Ammazzalorso, 2001; Cskikzentmihalyi & Hunter, 2003; Fredrickson, 2001) that these individuals are missing out on and do not seem to have

replaced. The increased social anhedonia is not offset by a similar decrease in physical anhedonia and thus by avoiding intimacy these individuals seem to be avoiding positive emotion altogether. However, future work should explore this more fully. Specifically, a deeper exploration into the ways in which and the reasons why avoidantly attached individuals do experience positive emotion could illuminate potential interventions to increase their overall well-being. One such route could be by further examining the ways in which these individuals choose to seek belonging, such as general approbation over interpersonal closeness (Hirsch & Clark, 2019).

A second implication from this dissertation is that avoidantly attached individuals show a degree of awareness that their emotional lives differ from the emotional lives of other people. Of particular interest is the finding that avoidantly attached individuals are aware that they both experience and express less frequent positive emotion, as well as the finding that these individuals do not have a negative perception of the happiness of others. While this is important as it indicates that avoidantly attached individuals are not begrudging others their positive emotion, it tells us little else about how this knowledge affects avoidant individuals. It could be the case that avoidant individuals turn inward and experience negative emotion about themselves due to their lack of positive emotion. Indeed, there is precedent for this prior work showing that failing to meet social expectancies of positive emotion may lead to experiencing greater negative emotion (Bastian et al., 2012). Additionally, it is unclear what effect both the knowledge of a positive emotion deficit as well as the inaccuracy surrounding their understanding of how their negative emotions are experienced and expressed relative to others have on the well-being for avoidantly attached individuals. With regard to negative emotions, believing

themselves to be expressing more frequent negative emotion than they actually are, and thus believing that they are reaching out for support more often than they actually are, likely has negative ramifications for both their own mental (see Cacioppo, et al., 2016; Coan, et al., 2006) and physical health (see Berkman & Glass, 2000; Holt-Lunstad, et al., 2015) as well as serves to reinforce their models of others as unreliable. Future work should further examine the perceptions and thoughts avoidantly attached individuals have about both their own and others' emotional lives for both positive and negative emotions as well as how these beliefs relate to individual and relational outcomes such as health and satisfaction.

A third implication from this dissertation is that partners of avoidantly attached individuals are not necessarily noticing their discrepancy in emotional experience and expression. Though the lack of experience and expression likely has consequences for avoidant individuals, so too does the inaccuracy of their partner's perceptions. However, it is unclear from the work presented in this dissertation whether partners are inaccurate, actors are reporting a bias, or if some combination of the two is occurring. Regardless, further examination of whether partners of avoidantly attached actors are correctly perceiving when an emotion is, or is not, expressed, will shed light on how these couples interact regarding the avoidant person's emotions.

Lessons Learned

Through the planning, implementing, analyzing, and writing up of the studies presented in this dissertation I have learned a number of lessons. First and foremost, I have broadened my understanding of attachment theory as well as the study of emotion in

psychology. However, on a more practical note I have learned quite a bit about the general research process and how best to conduct studies in general.

Following the completion of these studies, and in an attempt to get them published, I have learned the importance of clearly highlighting a simple idea and focusing in on that for each study. When I first began this line of work I had many ideas about the nature of positive and negative emotions for both avoidant and anxiously attached individuals. However, as the results of the first couple of studies came in it became apparent that a focus on positive emotions for avoidantly attached individuals would yield the most interesting set of results. Obviously, I could not have known that at the time, however, aiming to start with a simpler research question from the outset could have led to a more focused set of studies allowing for a deeper examination of this topic.

Through this process I have also learned a great number of organizational skills regarding how one conducts research that is not a simple online study. The organization required to implement a daily diary study, much less a dyadic daily diary study, in which participants are required to fill out surveys every day at a particular time and have that data be both anonymized and yet linked to prior surveys is time-intensive and laborious. However, through setting out to conduct these studies I learned how to best manage my data files through use of both google drive and clear folder management on my own computer. Importantly, I also learned how to implement new features in Qualtrics, a service I had up to this point taken somewhat for granted. Qualtrics' ability to send surveys all at once to an uploaded contact list as well as the ability to schedule emails, including reminder emails for incomplete surveys, to send out at specific times was a necessity that I would never have learned about otherwise.

Moving to the in-lab dyadic study, I again learned a lot about a side of research that often is not explicitly taught these days. Starting off, I recruited a research assistant to help with this project as it was certainly too large for me to complete on my own. In working with this research assistant, I learned how to clearly and effectively communicate the steps needed to recruit participants and how to run them through the study in the lab. This required a lot of organization and emphasized the importance of centrally storing both data and documentation. Using google drive was key to this process as I was able to store the research assistant script, participant scheduling sheets, and email templates all in one place. This made it much easier to ensure that both the research assistant and I knew exactly where to find anything we needed pertaining to the study. If I were to re-run this study in the future I would certainly recruit many more research assistants as this would help speed up the process of recruitment and running participants.

The primary challenge I faced in completing this dissertation was participant recruitment. I had initially planned to collect participants and run them through the dyadic in-lab study during my fourth year of grad school. However, due to the unforeseen circumstances of the pandemic I was unable to begin recruiting participants until the start of my fifth year, and even then it was difficult due to the ongoing restrictions placed on research, the unwillingness of people to come into lab during a pandemic, and the general difficulties and time-constraints around scheduling two people for a one-hour lab session.

Conclusion

Though specific results vary across studies, the overall patterning is clear. Avoidantly attached individuals are less likely to experience, and subsequently express their positive, and occasionally negative, emotions to others. Though this seems like a

simple finding, the importance of it cannot be overstated. In this dissertation I sought to do two things. First, of primary importance, I sought to bridge existing literature that has examined the role of avoidant attachment in emotional lives. By synthesizing the study of emotion experience and expression of a variety of emotions in the same set of studies, I have shed light on a broad overarching pattern of emotionality for avoidantly attached individuals that was previously spread out across the literature. Second, I sought to take a closer look at avoidant attachment and the ways in which it specifically interacts with positive emotion. By doing so I have built upon prior work to illustrate the different ways in which avoidantly attached individuals experience social events, specifically that they find them less pleasurable and thus experience less positive emotion from them.

As research continues on this topic, I hope that the findings here broaden the ways in which researchers consider avoidant attachment. It is often thought that avoidant attachment should only influence specific interactions in which the attachment system is activated, such as when one is stressed (see Mikulincer et al., 2002). However, as shown here, avoidantly attached individuals are chronically experiencing and expressing a wide variety of emotions in a way that is potentially harmful to them, both within and outside the context of their closest relationships and without a specific activation of the attachment system. That is to say, while researchers should continue to consider relational context and how it shapes psychological phenomenon, researchers need to do so in a way that critically assesses how this may affect lives generally. Attachment research tends to, paradoxically, have the problem of considering relational context too narrowly and so may often miss broader consequences of the differing behaviors brought on by different attachment orientations.

In sum, in this dissertation I presented a set of studies which both broadly and narrowly assessed the emotional lives of avoidantly attached individuals. By doing so I was able to show how avoiding intimacy both influences their interactions within their closest romantic relationship as well as their emotional lives more generally. This wholistic look allows for us to better consider the relational implications of emotions for romantic dyads, other close relationships (e.g. friendships), and for the avoidant individuals themselves.

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Appendix A

Study 1 Measures

Experiences in Close Relationships Scale: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by clicking the option to indicate how much you agree or disagree with the statement.

Responses made on a 7 point scale ranging from “Strongly Disagree” to “Strongly Agree”

1. I'm afraid that I will lose my partner's love.

2. I often worry that my partner will not want to stay with me.

3. I often worry that my partner doesn't really love me.

4. I worry that romantic partners won’t care about me as much as I care about them.

5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.

6. I worry a lot about my relationships.

7. When my partner is out of sight, I worry that he or she might become interested in someone else.

8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.

9. I rarely worry about my partner leaving me.

10. My romantic partner makes me doubt myself.

11. I do not often worry about being abandoned.

12. I find that my partner(s) don't want to get as close as I would like.

13. Sometimes romantic partners change their feelings about me for no apparent reason.

14. My desire to be very close sometimes scares people away.

15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.

16. It makes me mad that I don't get the affection and support I need from my partner.

17. I worry that I won't measure up to other people.

18. My partner only seems to notice me when I'm angry.

19. I prefer not to show a partner how I feel deep down.

20. I feel comfortable sharing my private thoughts and feelings with my partner.

21. I find it difficult to allow myself to depend on romantic partners.

22. I am very comfortable being close to romantic partners.

23. I don't feel comfortable opening up to romantic partners.

24. I prefer not to be too close to romantic partners.

25. I get uncomfortable when a romantic partner wants to be very close.

26. I find it relatively easy to get close to my partner.

27. It's not difficult for me to get close to my partner.

28. I usually discuss my problems and concerns with my partner.

29. It helps to turn to my romantic partner in times of need.

30. I tell my partner just about everything.

31. I talk things over with my partner.

32. I am nervous when partners get too close to me.

33. I feel comfortable depending on romantic partners.

34. I find it easy to depend on romantic partners.

35. It's easy for me to be affectionate with my partner.

36. My partner really understands me and my needs.

Emotion Experience: People feel a range of different emotions that at times may seem like they do not fit with one another. Feeling a lot of one emotion does not mean that another emotion can't be felt as well. Keep in mind that it is also normal to have not felt some or any emotion. The following questions are about the emotions you felt in the last week. Please answer to the best of your ability keeping in mind that people feel a range of emotions that at times may seem like they do not fit with one another.

Responses made on a 7-point scale ranging from “Never” to “Always”

1. In the last week, how often did you feel sad?
2. In the last week, how often did you feel anxious?
3. In the last week, how often did you feel embarrassed?

4. In the last week, how often did you feel empathic distress?
5. In the last week, how often did you feel guilty?
6. In the last week, how often did you feel hurt?
7. In the last week, how often did you feel happy?
8. In the last week, how often did you feel empathic happiness?
9. In the last week, how often did you feel gratitude?

Emotion Expression People feel a range of different emotions that at times may seem like they do not fit with one another. Feeling a lot of one emotion does not mean that another emotion can't be felt as well. Keep in mind that it is also normal to have not felt some or any emotion. The following questions are about the emotions you felt in the last week. Please answer to the best of your ability keeping in mind that people feel a range of emotions that at times may seem like they do not fit with one another.

Responses made on a 1-5 scale ranging from “None of the times” to “Every Time”

1. Of the times you felt sad how often did you express your sadness to another person?
2. Of the times you felt anxious how often did you express your anxiety to another person?
3. Of the times you felt empathic distress how often did you express your empathic distress to another person?
4. Of the times you felt embarrassed how often did you express your embarrassment to another person?
5. Of the times you felt guilty how often did you express your guilt to another person?

6. Of the times you felt hurt how often did you express your hurt to another person?
7. Of the times you felt happy how often did you express your happiness to another person?
8. Of the times you felt empathic happiness how often did you express your empathic happiness to another person?
9. Of the times you felt gratitude how often did you express your gratitude to another person?

Appendix B

Chapter 1 Additional Analyses

These additional results include a series of linear regressions that were tested to examine the relationship between participant attachment avoidance and their experience and expression of each emotion separately. As in the main body each regression includes the interaction between participant attachment avoidance and anxiety. However, only the results for actor attachment avoidance are presented here as these are the most relevant to the dissertation.

Beginning with positive emotion, I find that when emotions are analyzed individual more avoidantly attached participants report that they retrospectively experienced happiness, $\beta = -0.33$; $p < .001$, gratitude, $\beta = -0.29$; $p < .001$, and empathic happiness, $\beta = -0.31$; $p < .001$, significantly less frequently than those participants lower in attachment avoidance. Additionally, when experienced, more avoidantly attached participants reported that they expressed happiness, $\beta = -0.44$; $p < .001$, and gratitude, $\beta = -0.37$; $p < .001$, significantly less frequently than those participants lower in avoidant attachment.

Moving on to negative emotions, more avoidantly attached participants reported that they experienced significantly less empathic distress than those actors who were lower in avoidant attachment, $\beta = -0.15$; $p = .033$. However, when a negative emotion was experienced, more avoidantly attached participants reported that they expressed sadness, $\beta = -0.33$; $p < .001$, anxiety, $\beta = -0.18$; $p = .029$, guilt, $\beta = -0.41$; $p < .001$, hurt, $\beta = -0.22$; $p = .028$, embarrassment, $\beta = -0.24$; $p = .019$, and empathic distress, $\beta = -0.24$; p

= .014, significantly less frequently than those participants lower in avoidant attachment.

See Tables 23 & 24 for a full summary of results.

Table 23: Emotion Experience predicted by participant avoidant attachment Study 1

Emotion Experience	β	SE	*t*	*p*
Happiness	-0.33***	0.07	-4.99	<.001
Gratitude	-0.29***	0.07	-4.14	<.001
Empathic Happiness	-0.31***	0.07	-4.45	<.001
Sadness	0.10	0.06	1.59	.112
Anxiety	0.004	0.06	0.06	.950
Guilt	-0.02	0.06	-0.36	.717
Hurt	-0.03	0.06	-0.51	.613
Embarrassment	-0.01	0.06	-0.22	.827
Empathic Distress	-0.15*	0.07	-2.14	.033

Table 24: Emotion Expression predicted by participant avoidant attachment Study 1

Emotion Expression	β	SE	*t*	*p*
Happiness	-0.44***	0.07	-6.35	<.001
Gratitude	-0.37***	0.07	-5.16	<.001
Empathic Happiness	-0.11	0.08	-1.34	.182
Sadness	-0.33***	0.08	-4.23	<.001
Anxiety	-0.18*	0.08	-2.20	.029
Guilt	-0.41***	0.11	-3.87	<.001
Hurt	-0.22*	0.10	-2.21	.028
Embarrassment	-0.24*	0.10	-2.37	.019
Empathic Distress	-0.24*	0.10	-2.47	.014

Appendix C

Measures New to Study 2

Pre-Survey Measures

Anhedonia (SHAPS Adapted): Please indicate the extent to which you agree or disagree with the following statements.

Responses made on a 1-7 scale ranging from “Strongly Disagree” to “Strongly Agree”.

Physical

1. I get pleasure from watching my favorite television show or movie
2. I get pleasure from my hobbies
3. I get pleasure from eating my favorite meal
4. I get pleasure from taking a warm bath or refreshing shower
5. I get pleasure from engaging in physical activity
6. I get pleasure from enjoying a beautiful landscape
7. I get pleasure from reading a book or magazine

Social

1. I get pleasure from spending time with my family or close others
2. I get pleasure from seeing other people smile
3. I get pleasure from being physically close to others
4. I get pleasure from being praised by my close others
5. I get pleasure from sharing good news with close others
6. I get pleasure from receiving a phone call or text from a close other
7. I get pleasure from helping my close others

Daily Measures:

Emotion Experience:

Assessed on a 7-point scale ranging from “Never” to “Always”

1. Over the last 24 hours how often did you feel sad?
2. Over the last 24 hours how often did you feel embarrassed?
3. Over the last 24 hours how often did you feel guilty?
4. Over the last 24 hours how often did you feel hurt?
5. Over the last 24 hours how often did you feel empathic distress?
6. Over the last 24 hours how often did you feel anxiety?
7. Over the last 24 hours how often did you feel happiness?
8. Over the last 24 hours how often did you feel empathic happiness?
9. Over the last 24 hours how often did you feel gratitude?

Emotion Expression:

Assessed on a 5-point scale ranging from “None of the times” to “Every time”

1. Of the times you felt sad how often did you express your sadness to another person?
2. Of the times you felt embarrassed how often did you express your embarrassment to another person?
3. Of the times you felt guilty how often did you express your guilt to another person?
4. Of the times you felt hurt how often did you express your hurt to another person?
5. Of the times you felt empathic distress how often did you express your empathic distress to another person?
6. Of the times you felt anxiety how often did you express your anxiety to another person?
7. Of the times you felt happy how often did you express your happiness to another person?
8. Of the times you felt empathic happiness how often did you express your empathic happiness to another person?
9. Of the times you felt gratitude how often did you express your gratitude to another person?

Appendix D

Chapter 2 Additional Analyses

These additional analyses include linear regressions which test the relationship between participant attachment avoidance and their experience and expression of each emotion separately. As in the main body all models include the interaction between participant attachment avoidance and anxiety. However, only the results for attachment avoidance are presented as these are the most relevant to the dissertation.

When looking at the experience of positive emotions separately I find no significant association between actor attachment avoidance and their experience of any of the positive emotions examined. However, when experienced, more avoidantly attached actors reported that they expressed happiness, $\beta = -0.38$; $p < .001$, and empathic happiness, $\beta = -0.33$; $p = .006$, significantly less frequently than participants who were less avoidantly attached.

Similar to positive emotions, when examined separately I find no significant associations between participant attachment avoidance and their reported experience of any of the negative emotions. However, when experienced, more avoidantly attached actors reported that they expressed sadness, $\beta = -0.37$; $p = .003$, anxiety, $\beta = -0.30$; $p = .018$, guilt, $\beta = -0.45$; $p < .001$, and hurt, $\beta = -0.35$; $p = .007$, significantly less frequently than those participants lower in avoidant attachment. See Tables 25 & 26 for a full summary of results.

Table 25: Emotion Experience predicted by participant avoidant attachment Study 2

Emotion Experience	**β**	**SE**	***t***	***p***

Happiness	-0.23	0.12	-1.94	.056
Gratitude	-0.22	0.12	-1.91	.060
Empathic Happiness	-0.20	0.12	-1.65	.103
Sadness	0.20	0.12	1.63	.107
Anxiety	0.23	0.12	1.93	.057
Guilt	0.24	0.12	2.05	.043
Hurt	0.05	0.12	0.43	.670
Embarrassment	0.16	0.12	1.35	.180
Empathic Distress	0.15	0.13	1.20	.232

Table 26: Emotion Expression predicted by participant avoidant attachment Study 2

Emotion Expression	**β**	**SE**	***t***	***p***
Happiness	-0.38***	0.11	-3.35	.001
Gratitude	-0.23	0.12	-1.94	.055
Empathic Happiness	-0.33**	0.12	-2.82	.006
Sadness	-0.37**	0.12	-3.07	.003
Anxiety	-0.30*	0.12	-2.42	.018
Guilt	-0.45***	0.12	-3.68	<.001
Hurt	-0.35**	0.13	-2.75	.007
Embarrassment	-0.26	0.13	-1.96	.054
Empathic Distress	0.002	0.13	0.02	.988

Appendix E

Measures New to Study 3

Pre-Survey Measures

Emotion Experience: Assessed on a 7-point scale ranging from 1 "Never" to 7 "Extremely Often"

1. In the last week, how often did you feel angry?

Emotion Expression: Assessed on a 7-point scale ranging from 1 "None of the times" to 7 "Every time"

1. Of the times you felt angry how often did you express your anger to another person?

Emotion Expressed but not Experienced: Assessed on a 7-point scale ranging from 1 "Not at all" to 7 "A great deal"

1. To what extent did you express sadness you did not feel?
2. To what extent did you express anxiety you did not feel?
3. To what extent did you express guilt you did not feel?
4. To what extent did you express hurt you did not feel?
5. To what extent did you express embarrassment you did not feel?
6. To what extent did you express anger you did not feel?
7. To what extent did you express empathic distress you did not feel?
8. To what extent did you express happiness you did not feel?
9. To what extent did you express gratitude you did not feel?
10. To what extent did you express empathic happiness you did not feel?

Perception of Partner Emotion Experience: Assessed on a 7-point scale ranging from 1 "Never" to 7 "Extremely often.

1. In the last week, how often did your partner feel sad?
2. In the last week, how often did your partner feel anxious?
3. In the last week, how often did your partner feel guilty?
4. In the last week, how often did your partner feel hurt?
5. In the last week, how often did your partner feel embarrassed?
6. In the last week, how often did your partner feel angry?
7. In the last week, how often did your partner feel empathic distress?
8. In the last week, how often did your partner feel happy?
9. In the last week, how often did your partner feel gratitude?
10. In the last week, how often did your partner feel empathic happiness?

Perception of Partner Emotion Expression: Assessed on a 7-point scale ranging from 1 "None of the times" to 7 "Every time"

1. Of the times your partner felt sad how often did they express their sadness to another person?
2. Of the times your partner felt anxious how often did they express their anxiety to another person?
3. Of the times your partner felt hurt how often did they express their hurt to another person?
4. Of the times your partner felt guilt how often did they express their guilt to another person?
5. Of the times your partner felt embarrassment how often did they express their embarrassment to another person?
6. Of the times your partner felt angry how often did they express their anger to another person?
7. Of the times your partner felt empathic distress how often did they express their empathic distress to another person?
8. Of the times your partner felt happy how often did they express their happiness to another person?

9. Of the times your partner felt gratitude how often did they express their gratitude to another person?

10. Of the times your partner felt empathic happiness how often did they express their empathic happiness to another person?

Perception of Partner Emotion Expression that was not Experienced: Assessed on a 7-point scale ranging from 1 "Not at all" to 7 "A great deal"

1. To what extent did your partner express sadness they did not feel?
2. To what extent did your partner express anxiety they did not feel?
3. To what extent did your partner express guilt they did not feel?
4. To what extent did your partner express hurt they did not feel?
5. To what extent did your partner express embarrassment they did not feel?
6. To what extent did your partner express anger they did not feel?
7. To what extent did your partner express empathic distress they did not feel?
8. To what extent did your partner express happiness they did not feel?
9. To what extent did your partner express gratitude they did not feel?
10. To what extent did your partner express empathic happiness they did not feel?

Communal Strength

Assessed on a scale from 0-10 ranging from "not at all" to "extremely"

1) How far would you be willing to go to visit _____?
2) How happy do you feel when doing something that helps _____?
3) How large a benefit would you be likely to give _____?
4) How large a cost would you incur to meet a need of _____?
5) How readily can you put the needs of _____ out of your thoughts?
6) How high a priority for you is meeting the needs of _____?
7) How reluctant would you be to sacrifice for_____?
8) How much would you be willing to give up to benefit _____?
9) How far would you go out of your way to do something for _____?
10) How easily could you accept not helping _____?

Perceived Partner Responsiveness

Assessed on a 1-7 scale ranging from “Not at all true/Never true” to “Very true/True all of the time”

1. My partner is an excellent judge of my character
2. My partner sees the “real” me
3. My partner sees the same virtues and faults in me as I see in myself
4. My partner “gets the facts right” about me.
5. My partner esteems me, shortcomings and all.
6. My partner knows me well.
7. My partner values and respects the whole package that is the “real” me
8. My partner usually seems to focus on the “best side” of me
9. My partner is aware of what I am thinking and feeling
10. My partner understands me
11. My partner really listens to me
12. My partner expresses liking and encouragement for me
13. My partner seems interested in what I am thinking and feeling
14. My partner seems interested in doing things with me
15. My partner values my abilities and opinions
16. My partner is on “the same wavelength” with me
17. My partner respects me
18. My partner is responsive to my needs

Relationship Satisfaction

Please mark on the answer sheet the letter for each item which best answers that item for you.

How well does your partner meet your needs?

A	B	C	D	E
Poorly		Average		Extremely well

In general, how satisfied are you with your relationship?

A	B	C	D	E
Unsatisfied		Average		Extremely satisfied

How good is your relationship compared to most?

A	B	C	D	E
Poor		Average		Excellent

How often do you wish you hadn't gotten in this relationship?

A	B	C	D	E
Never		Average		Very often

To what extent has your relationship met your original expectations:

A	B	C	D	E
Hardly at all		Average		Completely

How much do you love your partner?

A	B	C	D	E
Not much		Average		Very much

How many problems are there in your relationship?

A	B	C	D	E
Very few		Average		Very many

Emotion Experience Compared to Others

Assessed using a 7-point scale ranging from “A great deal less” to “A great deal more”

1. To what extent did you experience sadness compared to others generally?
2. To what extent did you experience embarrassment compared to others generally?
3. To what extent did you experience guilt compared to others generally?
4. To what extent did you experience hurt compared to others generally?
5. To what extent did you experience empathic distress compared others generally?
6. To what extent did you experience anxiety compared to others generally?
7. To what extent did you experience happiness compared to others generally?
8. To what extent did you experience empathic happiness compared to others generally?
9. To what extent did you experience gratitude compared to others generally?

Emotion Expression Compared to Others

Assessed using a 7-point scale ranging from “A great deal less” to “A great deal more”

1. To what extent did you express sadness compared to others generally?
2. To what extent did you express embarrassment compared to others generally?
3. To what extent did you express guilt compared to others generally?
4. To what extent did you express hurt compared to others generally?
5. To what extent did you express empathic distress compared to others generally?
6. To what extent did you express anxiety compared to others generally?
7. To what extent did you express happiness compared to others generally?
8. To what extent did you express empathic happiness compared to others generally?
9. To what extent did you express gratitude compared to others generally?

Perception of Partner Relationship Satisfaction

Please mark on the answer sheet the letter for each item which best answers that item for you.

How well does your partner think you meet their needs?

A	B	C	D	E
Poorly		Average		Extremely well

In general, how satisfied is your partner with your relationship?

A	B	C	D	E
Unsatisfied		Average		Extremely satisfied

How good does your partner think your relationship compared to most?

A	B	C	D	E
Poor		Average		Excellent

How often does your partner wish they hadn't gotten in this relationship?

A	B	C	D	E
Never		Average		Very often

To what extent has your relationship met your partner's original expectations:

A	B	C	D	E
Hardly at all		Average		Completely

How much does your partner love you?

A	B	C	D	E
Not much		Average		Very much

How many problems does your partner think there are in your relationship?

A	B	C	D	E
Very few		Average		Very many

Perception of Partner Communal Strength

Assessed on a scale from 0-10 ranging from “not at all” to “extremely”

1) How far would your partner be willing to go to visit you?
2) How happy does your partner feel when doing something that helps you?
3) How large a benefit would your partner be likely to give you?
4) How large a cost would your partner incur to meet a need of yours?
5) How readily can your partner put your needs out of their thoughts?
6) How high a priority for your partner is meeting your needs?
7) How reluctant would your partner be to sacrifice for you?
8) How much would your partner be willing to give up to benefit you?
9) How far would your partner go out of their way to do something for you?
10) How easily could your partner accept not helping you?

Perceived Partner Responsiveness

Assessed on a 1-7 scale ranging from “Not at all true/Never true” to “Very true/True all of the time”

1. My partner thinks I am an excellent judge of their character
2. My partner thinks I see the “real” them
3. My partner thinks I see the same virtues and faults in them as they see in themselves
4. My partner thinks I “get the facts right” about them.
5. My partner thinks I esteem them, shortcomings and all.
6. My partner thinks I know them well.
7. My partner thinks I value and respect the whole package that is the “real” them
8. My partner thinks I usually seem to focus on the “best side” of them
9. My partner thinks I am aware of what they are thinking and feeling
10. My partner thinks I understand them
11. My partner thinks I really listen to them
12. My partner thinks I express liking and encouragement for them
13. My partner thinks I seem interested in what they are thinking and feeling
14. My partner thinks I seem interested in doing things with them
15. My partner thinks I value their abilities and opinions
16. My partner thinks I am on “the same wavelength” with them
17. My partner thinks I respect them
18. My partner thinks I am responsive to their needs

Daily Measures

Emotion Experience: Assessed on a 7-point scale ranging from 1 “Never” to 7 “Extremely Often”

1. Over the last 24 hours how often did you feel angry?

Emotion Expression: Assessed on a 7-point scale ranging from 1 “None of the time” to 7 “Every time”

1. Of the times you felt angry how often did you express your anger to another person?

Emotion Expression not Experienced: Assessed on a 7-point scale ranging from 1 “Not at all” to 7 “A great deal”

1. To what extent did you express sadness you did not feel?

2. To what extent did you express anxiety you did not feel?

3. To what extent did you express guilt you did not feel?

4. To what extent did you express hurt you did not feel?

5. To what extent did you express embarrassment you did not feel?

6. To what extent did you express anger you did not feel?

7. To what extent did you express empathic distress you did not feel?

8. To what extent did you express happiness you did not feel?

9. To what extent did you express gratitude you did not feel?

10. To what extent did you express empathic happiness you did not feel?

Partner Emotion Experience: Assessed on a 7-point scale ranging from 1 “Never” to 7 “Extremely Often”

1. Over the last 24 hours how often did your partner feel sad?

2. Over the last 24 hours how often did your partner feel anxiety?

3. Over the last 24 hours how often did your partner feel guilty?

4. Over the last 24 hours how often did your partner feel hurt?

5. Over the last 24 hours how often did your partner feel embarrassed?

6. Over the last 24 hours how often did your partner feel angry?

7. Over the last 24 hours how often did your partner feel empathic distress?

8. Over the last 24 hours how often did your partner feel happiness?

9. Over the last 24 hours how often did your partner feel gratitude?

10. Over the last 24 hours how often did your partner feel empathic happiness?

Partner Emotion Expression: Assessed on a 7-point scale ranging from 1 “None of the times” to 7 “Every time”

1. Of the times your partner felt sad how often did they express their sadness to another person?

2. Of the times your partner felt anxious how often did they express their anxiety to another person?

3. Of the times your partner felt guilty how often did they express their guilt to another person?

4. Of the times your partner felt hurt how often did they express their hurt to another person?

5. Of the times your partner felt embarrassed how often did they express their embarrassment to another person?

6. Of the times your partner felt angry how often did they express their anger to another person?

7. Of the times your partner felt empathic distress how often did they express their empathic distress to another person?

8. Of the times your partner felt happy how often did they express their happiness to another person?

9. Of the times your partner felt gratitude how often did they express their gratitude to another person?

10. Of the times your partner felt empathic happiness how often did they express their empathic happiness to another person?

Partner Emotion Expression not Experienced: Assessed on a 7-point scale ranging from 1 “Not at all” to 7 “A great deal”

1. To what extent did your partner express sadness they did not feel?

2. To what extent did your partner express anxiety they did not feel?

3. To what extent did your partner express guilt they did not feel?

4. To what extent did your partner express hurt they did not feel?

5. To what extent did your partner express embarrassment they did not feel?

6. To what extent did your partner express anger they did not feel?

7. To what extent did your partner express empathic distress they did not feel?

8. To what extent did your partner express happiness they did not feel?

9. To what extent did your partner express gratitude they did not feel?

10. To what extent did your partner express empathic happiness they did not feel?

Appendix F

Chapter 3 Additional Analyses

These additional results include APIM models that were tested to examine the relationship between actor attachment avoidance and their experience and expression of each emotion individually for each time course (i.e., presurvey, daily surveys, and postsurvey). Additionally, APIM models were tested with actor attachment avoidance predicting the actor's expression of each emotion they did not experience individually at each time course. Finally I report on the analyses for actor and partner attachment predicting actor relationship satisfaction, communal strength, and perceived partner responsiveness as well as partner reports of these variables. As in the main body all analyses include the interaction between actor attachment avoidance and anxiety as well as the interaction between partner attachment avoidance and anxiety. However, only the results for actor attachment avoidance are presented here as these are the most relevant to the dissertation.

Pre-Survey

Emotion Experience and Expression

Beginning with retrospective reports of emotion from the pre-survey I find a series of significant results. When looking at the positive emotions assessed, actors who were more avoidantly attached reported that they experienced significantly less happiness, $\beta = -0.26$; $p = .014$, compared to actors lower in avoidant attachment. Moving on to expression, avoidantly attached actors reported that when they experienced gratitude they expressed that gratitude significantly less frequently, $\beta = -0.27$; $p = .008$.

Finally, when examining emotions that were expressed but not experienced, more avoidantly attached actors did not report expressing any of the positive emotions assessed in a significantly different way than less avoidantly attached actors.

Moving onto negative emotions, I find that actors who were more avoidantly attached report that they experienced significantly more frequent anxiety, β = 0.26; p = .003, guilt, β = 0.24; p = .001, embarrassment, β = 0.21; p = .008, and empathic distress, β = 0.24; p = .011, than those actors lower in avoidant attachment. When a negative emotion was experienced, avoidantly attached actors only reported a significant difference in their expression of empathic distress such that they report expressing significantly more frequent empathic distress, β = 0.25; p = .014, than those actors lower in avoidant attachment. Finally, when asked about negative emotions they expressed but did not experience more avoidantly attached actors reported that they expressed significantly more frequent sadness, β = 0.21; p = .003, anxiety, β = 0.17; p = .029, guilt, β = 0.22; p <.001, hurt, β = 0.30; p <.001, embarrassment, β = 0.24; p <.001, empathic distress, β = 0.33; p <.001, and anger, β = 0.24; p = .003 than those actors lower in avoidant attachment. See Tables 27-29 for a full summary of results.

Table 27: Emotion Experience predicted by actor avoidant attachment Study 3 Pre-Survey

Emotion Experience	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	-0.26*	0.11	-2.46	.014	-0.47	-0.05
Gratitude	-0.22	0.11	-1.94	.053	-0.44	0.002
Empathic Happiness	-0.05	0.11	-0.44	.659	-0.25	0.16
Sadness	0.06	0.09	0.63	.532	-0.12	0.24
Anxiety	0.26**	0.09	2.99	.003	-0.18	0.11
Guilt	0.24**	0.07	3.26	.001	0.10	0.38
Hurt	-0.005	0.09	-0.06	.954	-0.17	0.16

Embarrassment	0.21**	0.08	2.70	.008	0.06	0.36
Empathic Distress	0.24*	0.09	2.56	.011	0.06	0.42
Anger	0.07	0.09	0.77	.440	-0.11	0.24

Table 28: Emotion Expression predicted by actor avoidant attachment Study 3 Pre-Survey

Emotion Expression	**β**	**SE**	***t***	***p***	**CI (Low)**	**CI (High)**
Happiness	-0.21	0.12	-1.84	.068	-0.44	0.01
Gratitude	-0.27**	0.10	-2.71	.008	-0.47	-0.08
Empathic Happiness	-0.02	0.11	-0.15	.883	-0.24	0.20
Sadness	0.13	0.10	1.39	.168	-0.06	0.32
Anxiety	0.09	0.10	0.88	.379	-0.11	0.28
Guilt	0.14	0.08	1.67	.097	-0.02	0.30
Hurt	-0.03	0.09	-0.32	.748	-0.20	0.14
Embarrassment	0.12	0.08	1.52	.130	-0.03	0.28
Empathic Distress	0.25*	0.10	2.47	.014	0.05	0.45
Anger	-0.05	0.10	-0.48	.631	-0.24	0.14

Table 29: Emotion Expression Not Experienced predicted by actor attachment avoidance Study 3 Pre-Survey

Emotion Expression – NE	**β**	**SE**	***t***	***p***	**CI (Low)**	**CI (High)**
Happiness	-0.04	0.08	-0.54	.591	-0.21	0.12
Gratitude	0.10	0.09	1.21	.226	-0.06	0.27
Empathic Happiness	0.16	0.09	1.77	.078	-0.02	0.33
Sadness	0.21**	0.07	3.00	.003	0.07	0.34
Anxiety	0.17*	0.08	2.21	.029	0.02	0.32
Guilt	0.22***	0.07	3.38	<.001	0.09	0.35
Hurt	0.30***	0.07	4.25	<.001	0.16	0.44
Embarrassment	0.24***	0.07	3.52	<.001	0.11	0.38
Empathic Distress	0.33***	0.07	4.81	<.001	0.20	0.47

Relationship variables

Moving on to the relational variables the association between actor attachment avoidance and actor relationship satisfaction, communal strength, and perceived partner

responsiveness was examined. As predicted, actors who reported greater avoidant attachment reported significantly lower relationship satisfaction with their partner, $\beta = -0.46$; $p < .001$. Those actors who reported higher attachment avoidance also reported lower communal strength, $\beta = -0.44$; $p < .001$, and lower perceptions that their partner was responsive to their needs, $\beta = -0.50$; $p < .001$.

Perception of partner relationship variables

When looking at actor's perception of their partner's relationship satisfaction, those actors who were higher in attachment avoidance reported that they perceived their partner as significantly less satisfied with the relationship $\beta = -0.58$; $p < .001$, having significantly less communal strength toward them, $\beta = -0.45$; $p < .001$, and perceive their partners as viewing them (the actor) as less responsive to their needs $\beta = -0.49$; $p < .001$.

Daily Surveys

When looking at daily reports of positive emotion experience only one significant association emerged. More avoidantly attached actors report that they experienced significantly less frequent gratitude, $\beta = -0.18$; $p = .026$, than those actors lower in avoidant attachment. Moving on to expression, more avoidantly attached actors reported that they expressed significantly less frequent happiness, $\beta = -0.19$; $p = .031$, and gratitude, $\beta = -0.22$; $p = .011$, compared to those actors lower in avoidant attachment. Finally, in the daily reports actors who were more avoidantly attached reported that they expressed significantly more frequent happiness that they did not experience, $\beta = 0.12$; $p = .049$, than those actors lower in avoidant attachment. When examining the daily reports of negative emotions individually there were no significant associations between actor

attachment avoidance and their experience, expression, or expression of negative emotion not experienced. See Tables 30-32 for a full summary of results.

Table 30: Emotion Experience predicted by actor attachment avoidance Study 3 Daily Survey

Emotion Experience	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	-0.09	0.09	-1.03	.305	-0.26	0.08
Gratitude	-0.18*	0.08	-2.24	.026	-0.34	-0.02
Empathic Happiness	-0.02	0.07	-0.32	.746	-0.16	0.12
Sadness	0.04	0.07	0.63	.531	-0.09	0.18
Anxiety	0.02	0.07	0.28	.777	-0.12	0.16
Guilt	0.05	0.06	0.79	.433	-0.07	0.17
Hurt	0.06	0.06	0.96	.338	-0.06	0.18
Embarrassment	0.08	0.06	1.24	.216	-0.04	0.20
Empathic Distress	-0.06	0.07	-0.83	.407	-0.19	0.08
Anger	-0.07	0.07	-0.11	.914	-0.14	0.13

Table 31: Emotion Expression predicted by actor attachment avoidance Study 3 Daily Survey

Emotion Expression	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	-0.19*	0.09	-2.18	.031	-0.35	-0.02
Gratitude	-0.22*	0.09	-2.57	.011	-0.39	-0.05
Empathic Happiness	-0.09	0.08	-1.05	.296	-0.25	0.07
Sadness	0.04	0.08	0.51	.611	-0.12	0.21
Anxiety	0.08	0.08	1.04	.302	-0.07	0.23
Guilt	0.10	0.09	1.21	.228	-0.06	0.27
Hurt	-0.02	0.08	-0.22	.824	-0.18	0.15
Embarrassment	-0.07	0.09	-0.78	.435	-0.23	0.10
Empathic Distress	0.02	0.08	0.30	.765	-0.14	0.18
Anger	0.06	0.08	0.75	.455	-0.10	0.22

Table 32: Emotion Expression not Experienced predicted by actor attachment avoidance Study 3 Daily Survey

Emotion Expression – NE	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	0.12*	0.06	1.98	.049	0.001	0.24
Gratitude	0.12	0.06	1.85	.067	-0.007	0.24

Empathic Happiness	0.08	0.06	1.31	.191	-0.04	0.20
Sadness	0.11	0.07	1.67	.096	-0.02	0.24
Anxiety	0.11	0.06	1.66	.098	-0.02	0.23
Guilt	0.09	0.06	1.47	.145	-0.03	0.21
Hurt	0.08	0.06	1.33	.187	-0.04	0.20
Embarrassment	0.12	0.06	1.89	.061	-0.005	0.24
Empathic Distress	0.09	0.06	1.44	.151	-0.03	0.21
Anger	0.10	0.06	1.58	.117	-0.02	0.22

Post Survey

Similar to the daily surveys, when participants reported retrospectively across the 7 days they completed daily surveys for, more avoidantly attached actors reported that they experienced significantly less frequent gratitude, $\beta = -0.34$; $p < .001$, than actors who were less avoidantly attached. However, when looking at their retrospective reports of positive emotion expression as well as expression of positive emotion that was not experienced, I find no significant associations with actor avoidant attachment. Moving on to negative emotions, there were no significant associations between actor attachment avoidance and their retrospective reports of negative emotion experience. However, more avoidantly attached actors did report that they expressed significantly more frequent anxiety, $\beta = 0.22$; $p = .022$, than those actors who were less avoidantly attached. Finally, when asked retrospectively about their expression of negative emotions they did not experience, more avoidantly attached actors reported that they expressed significantly more embarrassment, $\beta = 0.18$; $p = .018$, than those actors lower in avoidant attachment. See Tables 33-35 for a full summary of results.

Table 33: Emotion Experience predicted by actor attachment avoidance Study 3 Post Survey

Emotion Experience	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	-0.12	0.11	-1.07	.284	-0.34	0.10
Gratitude	-0.34***	0.09	-3.63	<.001	-0.52	-0.15
Empathic Happiness	-0.08	0.10	-0.77	.442	-0.29	0.11
Sadness	0.01	0.08	0.15	.883	-0.15	0.18
Anxiety	0.14	0.09	1.65	.101	-0.03	0.31
Guilt	-0.005	0.08	-0.06	.956	-0.16	0.16
Hurt	0.008	0.08	0.10	.920	-0.15	0.16
Embarrassment	0.11	0.08	1.38	.170	-0.05	0.27
Empathic Distress	-0.16	0.09	-1.78	.077	-0.33	0.02
Anger	0.08	0.09	0.87	.384	-0.10	0.25

Table 34: Emotion Expression predicted by actor attachment avoidance Study 3 Post Survey

Emotion Expression	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	-0.10	0.10	-1.09	.277	-0.29	0.08
Gratitude	-0.13	0.10	-1.31	.191	-0.32	0.06
Empathic Happiness	-0.03	0.11	-0.23	.819	-0.24	0.19
Sadness	-0.03	0.12	-0.28	.779	-0.27	0.20
Anxiety	0.22*	0.09	2.32	.022	0.03	0.40
Guilt	0.19	0.11	1.82	.071	-0.01	0.40
Hurt	-0.16	0.12	-1.28	.202	-0.39	0.08
Embarrassment	0.03	0.11	0.29	.772	-0.18	0.24
Empathic Distress	0.08	0.10	0.73	.464	-0.13	0.28
Anger	-0.08	0.10	-0.74	.459	-0.28	0.12

Table 35: Emotion Expression not Experienced predicted by actor attachment avoidance Study 3 Post Survey

Emotion Expression – NE	β	SE	*t*	*p*	CI (Low)	CI (High)
Happiness	0.04	0.08	0.49	.625	-0.12	0.19
Gratitude	0.09	0.08	1.10	.272	-0.07	0.25
Empathic Happiness	0.04	0.08	0.48	.629	-0.11	0.19
Sadness	0.09	0.07	1.22	.223	-0.05	0.22
Anxiety	0.09	0.08	1.09	.275	-0.07	0.24
Guilt	0.08	0.08	1.09	.279	-0.07	0.24

Hurt	0.07	0.07	0.94	.351	-0.08	0.22
Embarrassment	0.18*	0.08	2.39	.018	0.03	0.33
Empathic Distress	0.09	0.08	1.07	.288	-0.07	0.25
Anger	0.09	0.08	1.14	.258	-0.06	0.24

Appendix G

Measures New to Study 4

Baseline Survey

Emotion Experience

Assessed on a 100-point slider from 0 “Not at all” to 100 “A great deal”

1. To what extent do you feel happy
2. To what extent do you feel excited
3. To what extent do you feel content
4. To what extent do you feel embarrassed
5. To what extent do you feel uncomfortable
6. To what extent do you feel angry

Partner Emotion Experience

Assessed on a 100-point slider ranging from “Not at all” to “A great deal”

1. To what extent does your partner feel happy
2. To what extent does your partner feel excited
3. To what extent does your partner feel content
4. To what extent does your partner feel embarrassed
5. To what extent does your partner feel uncomfortable
6. To what extent does your partner feel angry

Post-Conversation Measures

Emotion Experience

Assessed on a 100-point slider from 0 “Not at all” to 100 “A great deal”.

“Please use the following sliders to report on what emotions you felt during the previous discussion. Remember, emotions can and do vary and co-occur. It is normal to feel one emotion strongly, a mixture of emotions, or little to no emotion at all.”

1. To what extent did you feel happy
2. To what extent did you feel excited
3. To what extent did you feel content
4. To what extent did you feel embarrassed
5. To what extent did you feel uncomfortable
6. To what extent did you feel angry

Emotion Expression
Assessed on a 100-point slider ranging from 0 “Not at all” to 100 “A great deal”

“Please use the following sliders to report on what emotions you expressed during the previous discussion. Remember, emotions can and do vary and co-occur. It is normal to express one emotion strongly, a mixture of emotions, or little to no emotion at all.”

1. To what extent did you express happiness
2. To what extent did you express excitement
3. To what extent did you express contentment
4. To what extent did you express embarrassment
5. To what extent did you express discomfort
6. To what extent did you express anger

Emotion Experienced Compared to Others: Assessed on a 7-point scale ranging from 1 “A great deal less” to 7 “A great deal more”

“The following questions are about the emotions you experienced during the previous discussion. Please respond to how much you experienced each emotion compared to what you think other people would have experienced.”

1. To what extent did you feel happy compared to what others would have experienced?
2. To what extent did you feel excitement compared to what others would have experienced?
3. To what extent did you feel contentment compared to what others would have experienced?

4. To what extent did you feel embarrassment compared to what others would have experienced?
5. To what extent did you feel discomfort compared to what others would have experienced?
6. To what extent did you feel anger compared to what others would have experienced?

Emotion Expression Compared to Others: Assessed on a 7-point scale ranging from 1 "A great deal less" to 7 "A great deal more"

"The following questions are about the emotions you expressed during the previous discussion. Please respond to how much you expressed each emotion compared to what you think other people would have expressed."

1. To what extent did you express happiness compared to what others would have expressed?
2. To what extent did you express excitement compared to what others would have expressed?
3. To what extent did you express contentment compared to what others would have expressed?
4. To what extent did you express embarrassment compared to what others would have expressed?
5. To what extent did you express discomfort compared to what others would have expressed?
6. To what extent did you express anger compared to what others would have expressed?

Partner Emotion Experience

Assessed on a 100-point slider ranging from "Not at all" to "A great deal"

"Please indicate the extent to which your partner experienced the following emotions during the previous discussion"

1. To what extent did your partner feel happy
2. To what extent did your partner feel excited
3. To what extent did your partner feel content
4. To what extent did your partner feel embarrassed
5. To what extent did your partner feel uncomfortable
6. To what extent did your partner feel angry

Partner Emotion Expression
Assessed on a 100-point slider ranging from "Not at all" to "A great deal"

"Please indicate the extent to which your partner expressed the following emotions during the previous discussion"

1. To what extent did your partner express happiness
2. To what extent did your partner express excitement
3. To what extent did your partner express contentment
4. To what extent did your partner express embarrassment
5. To what extent did your partner express discomfort
6. To what extent did your partner express anger

Partner Emotion Experience Compared to Others: Assessed on a 7-point scale ranging from 1 "A great deal less" to 7 "A great deal more"

"Please report on how much your partner experienced their emotions during the previous discussion compared to what other people would have experienced."

1. To what extent did your partner feel happiness compared to what others would have experienced?

2. To what extent did your partner feel excitement compared to what others would have experienced?

3. To what extent did your partner feel contentment compared to what others would have experienced?

4. To what extent did your partner feel embarrassment compared to what others would have experienced?

5. To what extent did your partner feel uncomfortable compared to what others would have experienced?

6. To what extent did your partner feel angry compared to what others would have experienced?

Partner Emotion Expression Compared to Others: Assessed on a 7-point scale ranging from 1 "A great deal less" to 7 "A great deal more"

"Please report on how much your partner expressed their emotions during the previous discussion compared to what other people would have expressed."

1. To what extent did your partner express happiness compared to what others would have expressed?

2. To what extent did your partner express excitement compared to what others would have expressed?

3. To what extent did your partner express contentment compared to what others would have expressed?

4. To what extent did your partner express embarrassment compared to what others would have expressed?

5. To what extent did your partner express discomfort compared to what others would have expressed?

6. To what extent did your partner express anger compared to what others would have expressed?

Physical Anhedonia: Assessed on a 7-point scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree"

1. I get pleasure from watching my favorite television show or movie alone.

2. I get pleasure from doing my hobbies alone.

3. I get pleasure from eating my favorite meal alone.

4. I get pleasure from taking a warm bath or refreshing shower alone.

5. I get pleasure from engaging in physical activity alone.

6. I get pleasure from enjoying a beautiful landscape alone.

7. I get pleasure from reading a book or magazine alone.

Appendix H

Chapter 4 Additional Analyses

These additional results include APIM models that were tested to examine the relationship between actor attachment and their relationship satisfaction, communal strength, and perceived partner responsiveness. As in the main body all analyses include the interaction between actor attachment avoidance and anxiety as well as the interaction between partner attachment avoidance and anxiety.

Relationship variables. Results for actor attachment avoidance predicting relationship variables replicate those found in Study 3. Specifically, actors higher in attachment avoidance reported significantly lower relationship satisfaction, $\beta = -0.26$; $p = .008$, communal strength, $\beta = -0.52$; $p < .001$, and perceived partner responsiveness, $\beta = -0.41$; $p < .001$. Similar patterns emerged for anxious attachment. Specifically, actors higher in anxious attachment reported significantly lower relationship satisfaction, $\beta = -0.45$; $p < .001$, and perceived partner responsiveness, $\beta = -0.36$; $p < .001$. However, there was no significant association between actor attachment anxiety and their reported communal strength, $\beta = 0.02$; $p = .81$.

Appendix I

Anhedonia Study

Introduction

In this appendix I discuss the results of a supplementary study conducted to support the findings discussed in the main body of this dissertation. Due to the consistent findings regarding avoidant attachment being associated with greater social anhedonia (Studies 2-4) I sought to further explore this association and examine it using methods other than a self-report Likert scale. However, due to the consistency of the findings with regard to replicating prior work coupled with the lack of significant new findings I choose to discuss this study as an appendix rather than in the main text.

Study 5

The original purpose of this study was to move beyond self-report measures of anhedonia in an attempt to assess the association between avoidant attachment and social anhedonia further. This study was conducted in tandem with Study 4. When given the option to self-nominate events in one's life that made them happy, would more avoidantly attached participants continue to exhibit greater social anhedonia? In order to answer this question, I conducted a study in which participants were randomly assigned to one of two conditions. In the social condition participants were asked to nominate events in their life that made them happy and involved close others. In the non-social condition participants were asked to nominate events in their life that made them happy but did not involve close others.

Given the strong association between avoidant attachment and social anhedonia in both my own and others work (Assad & Lemay, 2018; Troisi et al., 2010) I predicted an interaction effect such that participants who were more avoidantly attached would nominate fewer events in the social condition compared to the non-social condition. Additionally, I predicted a main effect such that avoidant attachment would be associated with nominating fewer topics overall. Finally, I predicted to replicate a series of findings from Studies 2 & 3. Specifically, I predicted that avoidant attachment would be associated with experiencing less frequent positive emotion, expressing less frequent positive and negative emotion, and greater self-reported social anhedonia.

As with Studies 3 & 4 in the main body, I held a number of exploratory questions. Thus, associations between attachment avoidance and the judgment of others' happiness, emotions compared to others, and emotion that was expressed but not experienced were examined in an exploratory fashion. Results for anxious attachment are similarly discussed in an exploratory fashion.

Method

Participants

Initially 152 responses were recorded for this study. Two sets of responses were excluded due to the presence of a duplicate IP address making it possible that one person filled the survey out twice or that two related people who shared an IP address and possibly computer filled it out. Data from a second participant were excluded due to the participant failing an attention check. Following these exclusions, I analyzed data from 149 participants (73 Female; age: M = 29.52; SD = 10.10) who responded to the survey

using Prolific, an online worker pool. The sample was predominantly White (70%) with 34% seriously dating one person, 29% single, and 21% married. Participants were paid $3.17 for completing the survey.

Measures

Happiness Events. Participants reported on as many events within the last 3 months that made them happy as they could within a five-minute time limit. Participants were randomly assigned to either report on social events that had made them happy or non-social events that had made them happy. In the social events condition participants were told to: “Please use the following space to list events that occurred in the last three months involving close others (e.g., family, friends, romantic partners) that made you happy. These events can include things like going out to dinner with friends or going to see a movie with friends. Please list as many events as you can think of.” In the non-social events condition participants were told to: “Please use the following space to list events that occurred in the last three months that do not involve close others (e.g., family, friends, romantic partners) that made you happy. These events can include things like going out to dinner alone or going to see a movie alone. Please list as many events as you can think of.”

Attachment Orientation. Attachment orientations were assessed utilizing the revised experiences in close relationships scale (ECR-R) as utilized in all previous studies (Fraley, et al., 2000).

Emotion Experience. Emotion experiences were collected using the same measure from Study 3’s pre-survey. That is, participants reported on their retrospective

emotion experience of ten emotions: sadness, anxiety, hurt, guilt, embarrassment, anger, empathic distress, happiness, gratitude, and empathic happiness, over the previous week. The questions were framed as, “In the last week, how often did you feel sad?” with responses ranging from 1 “Never” to 7 “Extremely Often”.

Emotion Expression. Emotion expression was collected using the same measure from Study 3’s pre-survey. That is, when an emotion, such as sadness, was reported to be experienced, participants responded to the question, “Of the times you felt sad, how often did you express your sadness to another person?” with responses ranging from 1 “None of the times” to 7 “Every time”.

Emotion Expressed not Experienced. Reports of emotion that was expressed but not experienced were collected for each emotion using the same measure from Study 3’s pre-survey. That is, participants were asked “In the last week, to what extent did you express sadness you did not feel?” with responses ranging from 1 “Not at all” to 7 “A great deal”.

Emotion Experience Compared to Others. Emotion experiences compared to what participants thought other people generally experience were collected for each emotion using the same scale from Study 3’s pre-survey. That is, for each of the 10 emotions, participants responded to the question “To what extent did you experience sadness compared to other people generally?” with responses ranging from 1 “A great deal less” to 7 “A great deal more”.

Emotion Expression Compared to Others. Emotion expression ratings compared to what participants thought other people generally express were collected for

each emotion using the same scale from Study 3's pre-survey. That is, for each of the 10 emotions, participants responded to the question "To what extent did you express sadness compared to other people generally?" with responses ranging from 1 "A great deal less" to 7 "A great deal more".

Happiness Judgements. Judgements of the happiness of other people were recorded using the same scale utilized in Study 3's pre-survey. An example item from this scale is "Other people's happiness makes me uncomfortable" with responses ranging from 1 "Strongly disagree" to 7 "Strongly agree". See Appendix E for the full measure.

Anhedonia. Physical and social anhedonia were recorded using an adapted version of the scale utilized in Study 3's pre-survey. The social anhedonia remained the same, an example of which is "I get pleasure from spending time with my family or close others" with responses ranging from 1 "Strongly Disagree" to 7 "Strongly Agree." The physical anhedonia subscale was modified to specify that the activities were done alone. An example item of this new version is "I get pleasure from watching my favorite television show or movie alone." with responses made from 1 "Strongly Disagree" to 7 "Strongly Agree" scale. The full measure for this version of physical anhedonia may be found in Appendix G.

Procedure

Participants were told that they would be taking a survey about human behavior and emotions. After reading an introduction and consenting to participate, participants were randomly assigned to either a social event or non-social event condition. In the social event condition, participants were asked to list as many events as they could,

involving close others, that occurred within the last three months and made them happy. In the non-social event condition, participants were asked to list as many events as they could, not involving close others, that occurred within the last three months and made them happy. In both conditions participants were given five minutes to list the events and the survey auto-advanced after five minutes had elapsed.

Following this, participants reported on their experience and, when experienced, expression, of 10 emotions over the previous week. Additionally, participants reported on their frequency of expressing the 10 emotions when they were not experienced. These emotions were the same as in Study 3's pre-survey, that is: sadness, anxiety, hurt, guilt, embarrassment, anger, empathic distress, happiness, gratitude, and empathic happiness. Progression through this portion of the survey was the same as in Study 3's pre-survey. That is, participants were first asked to report on their frequency of experiencing of a given emotion. If the emotion was reported as being experienced, participants then reported on their frequency of expressing that emotion. If an emotion was not reported to be experienced, participants did not report on their expression of the emotion. Following these questions, participants reported on their frequency of expressing the emotion when it was not experienced. Questions about emotions expressed but not experienced were always asked, regardless of reported experience and expression. The order of the emotions was randomized across participants.

After reporting on their emotion experience and expression, participants then reported on their experience of each emotion compared to what they though other people generally experience. Once each emotion experience compared to others was reported, participants subsequently reported on their expression of each emotion compared to what

they thought others expressed. Following this, participants reported on their judgments of the happiness of other people, their level of anhedonia, and their attachment orientations. These measures were randomized across participants. Finally, participants completed an attention check, demographics, and were thanked for participating in the study.

Results

I first calculated scores for each participant's attachment avoidance (M = 3.33; SD = 1.23) and anxiety (M = 3.63; SD = 1.04) and then centered them by z-scoring them. These scores were then used as predictors in linear regressions predicting participants' emotion experience, expression, and expression of emotion not experienced. These attachment scores were also used to predict participants' experience and expression of emotion compared to others, judgments of the happiness of others, anhedonia, and the number of events generated in each condition. All models include the interaction between avoidant and anxious attachment and control for the condition participants were assigned to.

Tests of Primary Hypotheses

Emotion experience and expression. Here I will start by discussing positive emotions and then negative emotions. Participants higher in avoidance did report experiencing less positive emotion than others as in other studies but, this time, there was only a marginal association between avoidant attachment and experiencing less frequent positive emotion, $\beta = -0.15$; $p = .10$. When looking at expression of positive emotion the results supported my hypothesis. Specifically, when a positive emotion was experienced, more avoidantly attached participants reported expressing that emotion significantly less

frequently, $\beta = -0.38$; $p < .001$, when compared to less avoidantly attached participants. Moving on to negative emotions, participants who were more avoidantly attached reported no significant difference in their experience of negative emotions, $\beta = -0.04$; $p = .65$, compared to those individuals who were less avoidantly attached. However, as predicted, when a negative emotion was experienced, avoidantly attached individuals again reported that they were significantly less likely to express that emotion to another person, $\beta = -0.29$; $p = .002$, when compared to less avoidantly attached participants.

Anhedonia. Results for social anhedonia supported my prediction. Specifically, when controlling for physical anhedonia and condition, participants who were more avoidantly attached reported significantly greater social anhedonia, $\beta = -0.36$; $p < .001$ when compared to those individuals lower in avoidant attachment. The negative beta here indicates that as participants become more avoidantly attached they report experiencing less pleasure in social interactions. Moving on to physical anhedonia, when controlling for social anhedonia and condition there was no significant association between being more avoidantly attached and physical anhedonia, $\beta = 0.10$; $p = .29$.

Number of happiness events generated. Here I predicted a main effect such that, overall, participants who were more avoidantly attached would generate fewer events, regardless of condition, compared to those individuals who were less avoidantly attached. Additionally, I predicted an interaction such that avoidantly attached individuals who were in the social event condition would report fewer events than avoidantly attached individuals in the non-social event condition. Contrary to my predictions, there was no significant association between avoidant attachment and the number of events

generated, β = -0.22; p = .46, nor was there a significant interaction between attachment avoidance and condition, β = 0.16; p = .39.

Tests of Secondary Hypotheses

Emotion expressed that was not experienced. All models conducted include the interaction between attachment avoidance and anxiety and control for both condition and participant's expression of emotion that was experienced. Starting with positive emotion, when compared to individuals lower in avoidant attachment, there was no significant association between participant avoidant attachment and expressing positive emotion that they did not experience, β = -0.04; p = .67. When looking at expression of negative emotion that was not experienced this pattern holds for more avoidantly attached individuals, β = -0.04; p = .68.

Emotion experience and expression compared to others. Starting again with positive emotions, I replicate the findings from Study 3. Specifically, more avoidantly attached individuals report both experiencing, β = -0.19; p = .04, and expressing, β = -0.22; p = .02, significantly less frequent positive emotion compared to what they think other people generally do. When looking at negative emotions I do not replicate prior results. Specifically, more avoidantly attached individuals report no significant difference in experiencing, β = -0.05; p = .56, or expressing, β = -0.12; p = .18, emotions compared to what they think others do.

Happiness judgments. Finally, I sought to replicate prior results regarding avoidant attachment and the judgment of the happiness of other people. Specifically, I expected to see that there would be no significant association between one's avoidant

attachment and holding negative judgments about the happiness of other people. Results support this prediction, as participants who were more avoidantly attached did not have significantly different judgments regarding the happiness of other people, $\beta = 0.03$; $p = .76$, when compared to individuals who were less avoidantly attached.

Anxious Attachment Results

Due to the fluctuating nature of anxious attachment results across studies I examined the relationship between anxious attachment and the other variables of interest in an exploratory manner.

Emotion experience and expression. Starting with positive emotion, I see no significant association between a participant's anxious attachment and their experience $\beta = -0.18$; $p = .05$, or expression, $\beta = -0.10$; $p = .24$ of positive emotion. When looking at negative emotion, there is a significant relationship such that more anxiously attached individuals report experiencing significantly more frequent negative emotion, $\beta = 0.41$; $p < .001$, when compared to individuals lower in anxious attachment. However, when a negative emotion was experienced, individuals who were more anxiously attached did not report a significant difference in their frequency of expressing those emotions to others, $\beta = -0.03$; $p = .70$, compared to individuals lower in anxious attachment.

Anhedonia. Moving on to anhedonia, individuals who were more anxiously attached did not report a significant difference in their levels of social, $\beta = 0.07$; $p = .39$, or physical, $\beta = -0.07$; $p = .41$, anhedonia when compared to individuals lower in anxious attachment.

Number of happiness events generated. When looking at the number of happiness events generated, there was no significant main effect of anxious attachment of topic generation, $\beta = 0.01$; $p = .97$, nor was there a significant interaction between anxious attachment and being asked to generate social vs. non-social positive topics, $\beta = -0.003$; $p = .99$.

Emotion expressed that was not experienced. Beginning again with positive emotions, more anxiously attached individuals report that they express positive emotions that they do not experience significantly more frequently, $\beta = 0.25$; $p = .009$, than those individuals who were lower in anxious attachment. This pattern holds when examining negative emotions that were expressed but not experienced, $\beta = 0.22$; $p = .02$.

Emotion experience and expression compared to others. When comparing themselves to other people, more anxiously attached individuals do not report a significant association with their positive emotion experience compared to those of others, $\beta = -0.12$; $p = .21$, or expression, $\beta = -0.11$; $p = .25$. However, when looking at negative emotions, participants who were higher in anxious attachment report that they both experience, $\beta = 0.49$; $p < .001$, and express, $\beta = 0.26$; $p = .006$, negative emotions more frequently than they think other people generally do.

Happiness judgments. Finally, when looking at the judgments of the happiness of others results from this study parallel those of Study 3. Specifically, participants who were higher (relative to lower) in anxious attachment reported that they had significantly more negative judgments of the happiness of others, $\beta = 0.28$; $p = .003$.

Discussion

Primary Hypotheses

The purpose of this study was two-fold. First, I sought to examine associations between avoidant attachment and social anhedonia in a new way. Second, I sought to replicate results from prior studies regarding the association between attachment avoidance and emotion, as well as self-reported anhedonia. I was not successful in achieving the first goal; however, I did achieve the second. I will begin by discussing primary hypotheses and then finish with exploratory hypotheses.

When looking at the main effects and interactions between avoidant attachment I found no association between avoidant attachment and the number of topics nominated in either condition. Though I can only speculate, there are a couple of possibilities as to why no significant effect is found here. First, it is possible that avoidantly attached individuals, when asked to spontaneously think of events that make them happy, really do not remember social vs. non-social events in any different way. Indeed, results from Study 4 support this as I found no difference in social vs. non-social topic nomination in that study as well. Though this is possible I think this explanation is unlikely. Given the consistent self-reported social anhedonia (Studies 2-4) coupled with their lowered experience of happiness during conversations with their partner (Study 4) I think it is likely that these more avoidantly attached individuals are actually exhibiting greater social anhedonia. It seems more plausible that the measure of topic/event nomination as used in these studies is too imprecise. This brings me to the second possibility explaining the lack of results here: there is too much demand in this imprecise measure. In both this and Study 4 participants were given 5 minutes to think about topics that made them happy. Additionally, in both studies participants were told to think of events over the

course of the last three months. Given a full five minutes and a wide range of time to think about it is possible that participants are able to generate social topics when specifically asked, as in this study, even if those are not necessarily top of the mind events normally. Either way, further work is needed to assess whether evidence for greater social anhedonia may be found for avoidantly attached individuals in ways beyond the Likert scales used so far.

Despite the lack of significant results surrounding avoidant attachment and topic based anhedonia, I do find significant results regarding the self-reported anhedonia of more avoidantly attached individuals. Specifically, I once again find that more avoidantly attached participants report greater social anhedonia using a Likert scale measure. Additionally, I further replicate results regarding the emotional expression of avoidant individuals. Specifically, greater avoidant attachment was related to expressing positive and negative emotions significantly less frequently. Once again, results here indicate that avoidantly attached people are doing everything they can to sidestep intimacy, even if it comes at the cost of reaching out for support when needed by expressing negative emotions, or celebrating oneself and one's relationships by expressing positive emotions.

Exploratory Hypotheses

Replicating results from Study 3, more avoidantly attached participants reported no significant difference in their expression of positive emotion they did not experience. In contrast to Study 3, where avoidant participants reported expressing significantly more frequent negative emotion that they did not experience, more avoidantly attached participants reported no significant difference in their expression of negative emotions that were not experienced as well. The inconsistency of the results regarding these

variables are interesting and certainly require further study. I hesitate to speculate as to why I found inconsistent results between the two studies as the circumstances surrounding these “fake” expressions are too unknown. Future work should assess these expressions in more detail, chronicling the specific emotions, who they were expressed to, and why they were expressed in order to view the broader patterns of these expressions for more avoidantly attached participants.

Further replicating results from Study 3, I again find that participants who are more avoidantly attached report experiencing and expressing significantly less frequent positive emotion compared to what they think other people experience and express. Again, more avoidant attached participants hold the knowledge that they are experiencing and expressing less positive emotion than others, but it remains unclear what they think about this. I once again find that these individuals do not hold negative judgments about the happiness of others, so it appears that this knowledge is not hindering their relationships directly through an increase in negativity toward others. However, it remains unclear as to whether these individuals are holding more negativity toward themselves regarding this absence of positive emotions.