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I LOVE YOUR FACE: ATTRACTION AND FACIAL EXPRESSIONS OF EMOTION

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I LOVE YOUR FACE:

ATTRACTION AND FACIAL EXPRESSIONS OF EMOTION

A Thesis
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Abstract

The purpose of this study was to examine the influence of two individual differences on ratings of attraction toward male facial expressions of emotion. Specifically, the influence of participants' empathy and romantic attachment style on their attraction ratings of a target that displayed one of four emotions (i.e., sad, angry, happy, or neutral expression) was analyzed. This study found no relationship between empathy and participants' attraction ratings; however, participant romantic attachment style did predict her attraction toward male emotional expressions. Specifically, individuals categorized as having an avoidant attachment style were less attracted to the happy expression than were those categorized as having a secure or an anxious attachment style. In addition, individuals with a secure or an avoidant attachment style were more attracted to the neutral expression than were those with an ambivalent attachment style. Consequently, this study furthered our understanding of variables influencing the variance in female attraction toward male facial expressions of emotion.

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Chapter I: Introduction

Facial expressions of emotion are of the utmost importance in interpersonal relationships (Suslow, Dannlowski, Arolt & Ohrmann, 2010). This is because facial expressions contribute to perceptions of one's dispositional qualities (Tracy & Beall, 2011). According to ecological theory, social impressions are guided by generally accurate perceptions of people's traits that may be exposed in physical features associated with personal characteristics (Montepare & Dobish, 2003). Ecological theory, in short, focuses on contextual cues that predict an individual's behavior (Neal & Neal, 2013). Facial expressions offer information about one's affective state as well as information about that person's behavioral traits. For instance, one's facial expressions can provide general information regarding how dominant or submissive an individual is (Montepare & Dobish, 2003). Some facial expressions may even represent adherence or violation of gender-specific stereotypes. For instance, when a female expresses pride she may be viewed as being more masculine. Conversely, when a male expresses happiness he may be viewed as being more feminine (Tracy & Beall, 2011). All in all, it is clear that facial expressions of emotion can communicate a great deal to the respondent.

Interestingly, recent research has investigated the pop-culture phenomenon known as 'Resting Bitch Face' (RBF). Macbeth (n.d.) used facial recognition technology in order to determine whether there was any merit to this phenomenon. The researchers found that some people display low levels of contempt when exhibiting neutral expressions. This is important to note because it likely impacts the message received from a target neutral expression if that target is someone who has RBF. Thus, RBF may lead to neutral expression outliers.

Though facial expressions of emotion can be understood cross-culturally, individuals' responses to others' facial expressions can vary drastically (Tracy & Beall, 2011). Recent research indicates that there is a relationship between empathy and one's response to others' emotional expressions (Decety, Skelly, Yoder, & Kiehl, 2014). Empathy is a social-emotional response elicited by one's perception of another individual's affective state (Decety et al., 2014). It can be defined as a personality trait or stable ability that is comprised of both emotional and cognitive components (Britton & Fuendeling, 2005). For instance, multiple studies have found that one's level of empathy has an effect on aggressive as well as altruistic helping behavior (Davis, 1983). More specifically, these studies found that individuals with higher empathy levels are more likely to help another person in distress even when there is low pressure to help the other person. In contrast, individuals who exhibit abnormally low levels of empathy, or individuals with psychopathic traits, exhibited abnormal responses to others' emotional cues. For instance, individuals with psychopathy have been shown to lack the automatic avoidance behavior of social threat cues, a response that is typical among individuals with normal empathy levels (Decety, et al., 2014). Thus, one's empathy levels play a role in his or her reactions to emotional stimuli.

Another trait related to how one responds to facial expressions is romantic attachment style (Suslow et al., 2010). One's attachment style is developed through repeated experiences, which form internal working models. These internal working models are rather accurate and constant cognitive representations that direct subsequent attachment-related behavior (Britton & Fuendeling, 2005). Thus, an individual's romantic attachment style refers to her habitual processes of relating to others (Suslow et al.,

2010). For example, one study found that individuals who scored high on romantic attachment-related avoidance tend to avoid sad facial expressions, but do not avoid happy expressions. Conversely, individuals with secure romantic attachment styles do not exhibit the same tendency to avoid sad facial expressions, but rather, they are receptive to both sad and happy facial expressions (Suslow et al., 2010).

Despite a widespread interest in emotion expression recognition and processing as related to empathy and romantic attachment style, there is little to no research on the influence that an individual's empathy and romantic attachment style may have on his or her attraction toward others' facial expressions of emotion. Thus, the current study aims to elaborate on previous research by investigating attraction ratings of happy, angry, sad, and neutral facial expressions as a function of romantic attachment style and empathy. This research will examine the associations between attraction, processing of facial expressions of emotion, and individual differences that may predict them.

Chapter II: Correlates in Emotion Processing

Despite relatively little research on the topic, there is some evidence of a strong relationship between empathy and romantic attachment style. For instance, Britton and Fuendeling (2005) noted that both romantic anxiety and romantic avoidance were negatively associated with empathic concern and perspective taking. This suggests that individuals with high levels of empathy are more likely to experience secure romantic attachments than are those with low levels of empathy. With both empathy levels and attachment style playing a role in one's romantic relationships, it seems only natural that these constructs would also play a role in one's attraction toward others, especially with regard to other's facial expressions of emotion.

Attraction

According to Buss (2009), there are universal standards of beauty that are marked by evolutionary success. These standards of beauty are central to the theory of sexual selection, a theory proposed by Darwin. The theory of sexual selection maintains that certain individuals have mating advantages over others of the same species and sex (Buss, 2009). For example, when it comes to female beauty, features such as full lips, large breasts, a small waist, and thick, radiant hair all indicate fertility. Thus, males find these traits to be attractive. On the other hand, women prefer male traits such as self-confidence and a high shoulder-to-hip ratio. These traits indicate that a male is able to acquire resources as well as protect his mate and offspring.

In addition to these universal standards of beauty, symmetry has also been found to impact one's attractiveness (Jones, DeBruine, & Little, 2007). Jones and colleagues (2007) found that increasing symmetry in average faces also increased the attractiveness

of those faces. Therefore, it seems that more symmetrical facial expressions would be rated as being more attractive than other, less symmetrical facial expressions.

Faces are likely one of the most important factors in perceived attractiveness (Okubo, Ishikawa, Kobayashi, Laeng, & Tommasi, 2015). In line with the theory of sexual selection, Tracy and Beall (2011) noted that facial expressions of happiness, pride, and shame are cross-culturally recognized and, thus, show evidence of evolutionary origins. Furthermore, these authors discuss that pride, happiness, and shame expressions relay social information that is important for mating strategies. In line with Buss (2009), Tracy and Beall (2011) explain that women tend to prefer mates who are reliable providers, while men tend to value a potential partner's fertility and perceived receptiveness to sexual relations. Multiple studies have found that smiling positively impacts female attractiveness as it indicates openness and approachability (Okubo et al., 2015; Tracy & Beall, 2011). This may be one explanation for the findings that males tend to find a happy facial expression more attractive than other facial expressions of emotion.

However, the results are inconclusive for male targets. For instance, some studies have found that smiling increases male facial attractiveness, whereas, other studies have found smiling to have an adverse effect on male facial attractiveness (Okubo et al., 2015). Furthermore, Tracy and Beall (2011) found pride to be the more attractive than sad, happy, or neutral male facial expressions of emotion. A very recent study found that smiling tended to communicate trustworthiness, a trait that is desirable in a potential husband even in a more masculinized face that tends to communicate qualities such as aggression (Okubo et al., 2015).

As results in this area are mixed, there are still many questions left to discuss. For example, what might moderate females' attraction to various male facial expressions? The current study will examine the influence of two variables that are not only related to each other (Britton & Feundeling, 2005), but have also been found to impact social interactions and romantic attraction (Davis, 1980; Brumbaugh, Baren, & Agishtein, 2014). All in all, this study will expand on a relatively unexplored area of research and will investigate the relationship between variables that, as of yet, have only been investigated separately.

Empathy

Empathy is comprised of two major components: cognitive and affective (Lonigro, Laghi, Baiocco, & Baumgartner, 2013). Cognitive empathy is defined as one's ability to comprehend another's emotions in any given situation. Cognitive empathy can be seen when an individual uses situational information as well as another's emotional cues in order to correctly identify the other person's emotional state. For example, when a bystander notices a child crying after losing a post-season baseball game and the bystander ascertains that the child is sad because the season is over, the bystander is using cognitive empathy. On the other hand, affective empathy is the ability to respond compassionately to another's emotional needs. For instance, using the previous scenario, if the bystander were to approach the child and say, "you played well and there will always be next season," then the bystander would be using affective empathy because he would be responding compassionately to the child's emotional needs. Therefore, cognitive empathy pertains to accurately assessing one's emotions, whereas, affective

empathy regards the ability to internalize and respond appropriately to another's emotions (Lonigro et al., 2013).

Empathy is comprised of four components: perspective taking, empathic concern, personal distress, and fantasy (Britton & Fuendeling, 2005). Perspective taking refers to one's cognitive ability to take another's point of view. For example, an individual who is adept at perspective taking might say that they occasionally try to understand their friends better by trying to see what things look like from the friend's view (Davis, 1980). Thus, this is part of the cognitive component of empathy (Britton & Fuendeling, 2005). On the other hand, empathic concern and personal distress are both affective components of empathy. Empathic concern refers to one's tendency to feel sympathetic towards others, while, personal distress is the propensity to feel distressed by other's negative events (Britton & Fuendeling, 2005). For instance, someone who is high in empathic concern would likely express feelings of sadness and a desire to help if they witnessed an individual being hurt. On the other hand, an individual who is high in personal distress would be someone who tends to lose control in emergency situations (Davis, 1980). Lastly, the fantasy component is one's capacity to become emotionally invested in fictions or fantasies (Britton & Fuendeling, 2005). For instance, someone who scores high in the fantasy component of empathy might note that they can easily identify with the leading character in a good movie (Davis, 1980). Seeing as the fantasy component involves not only changing perspectives, but also responding emotionally, it is both a cognitive and emotional component of empathy (Britton & Fuendeling, 2005).

Studies suggest that those who score higher on empathy have a higher capacity to internalize and respond compassionately to another's emotions (Lonigro et al., 2013).

Though the relationship between empathy and attraction is a relatively unexplored area of research, it seems likely that an individual who is more adept at internalizing and responding appropriately to another's emotions may be more likely to find expressions of emotion (i.e. sadness, anger, happiness, and neutrality) as being more attractive than others. This seems likely based on the well-founded concept that perceived similarity aids in attraction towards others (Tidwell, Eastwick, & Finkel, 2013). Not only does perceived similarity enhance initial attraction, but previous studies have also found that relationship quality predicts and causes higher levels of perceived similarity (Morry, Kito, & Ortiz, 2011). Consequently, there seems to be a very strong, yet multifaceted relationship between attraction and perceived similarity. Thus, an individual who is more able to internalize another's emotions might also have a higher level of perceived similarity to that individual leading to a higher level of attraction.

Furthermore, salience effects may play a role in which emotion expressions are deemed to be more attractive. This is because positive expressions (happiness) tend to be more salient than negative expressions (sadness and anger) and neutral expressions (Leppanen & Hietanen, 2004). This means that positive expressions are recognized more quickly and accurately than negative and neutral expressions. Therefore, this more efficient processing of positive emotion expressions may lend to higher levels of attraction simply because negative and neutral expressions are more difficult to accurately recognize.

Romantic Attachment Style

Attachment theory suggests that individuals form internal working models of the self and others as infants (Suslow et al., 2010). These models work automatically and are

primarily based on facial and vocal emotional interactions with one's primary caregiver. The authors propose that the expressive faces of primary caregivers offer powerful stimuli that aids in children's social and emotional learning as they develop these internal working models. As such, it is not a far leap to postulate those internal working models influence an individual's perception of other's facial expressions of emotion. Furthermore, studies have found that individual's romantic attachment style affect their attraction toward others such that they tend to be more attracted to targets with similar attachment styles as themselves (Brumbaugh et al., 2014).

Beyond these internal working models, attachment style entails the dimensions of avoidance and anxiety (Britton & Fuendeling, 2005). While attachment style is viewed in terms of these two dimensions, a secure attachment can be defined as the lack of avoidance and anxiety (Suslow et al., 2010). In contrast, individuals who are high in both avoidant and anxious attachment are classified as having an ambivalent attachment style. In regards to children, these individuals are likely to exhibit distress when they are separated from their primary caregiver, yet they are not comforted by the return of their primary caregiver (Salzman, 1997). Attachment related avoidance, however, can be seen in individuals who tend to withdraw rather than seek proximity in their attachments with others. These individuals are reluctant to rely on others and exhibit discomfort with closeness in romantic relationships (Brumbaugh et al., 2014). Additionally, individuals high on romantic attachment related avoidance tend to show a low intensity of emotionality (Suslow et al., 2010).

On the other hand, attachment related anxiety refers to the degree to which an individual is focused on attachment-relevant interests as well as rejection (Brumbaugh et

al., 2014). For instance, subjects who score high on anxious attachment often worry about how available and responsive their significant other will be (Suslow et al., 2010).

In one study, Ontai and Thompson (2002) investigated maternal attachment style as a predictor of emotion understanding at ages three and five. Though there were no significant correlations at age three, the authors found that attachment security predicted higher scores on assessments of emotion understanding at age five. Additionally, securely attached five year olds had a higher understanding of negative emotions than did insecurely attached children. These findings indicate that one's attachment style affects his or her ability to understand others' emotions, particularly when the target is expressing negative emotions. This suggests that a more sensitive maternal response to emotional issues greatly benefits children's socioemotional understanding.

Furthermore, caregivers' reactions to novel situations can impact infants' approach and avoidance behaviors (Aktar, Majdandžić, De Vente, & Bögels, 2013). Around 12 months of age infants begin to use adults' emotional signals in order to determine how to act in unfamiliar situations. This tendency is known as social referencing. In their study, Aktar and colleagues (2013) used a social referencing paradigm in order to assess whether caregiver anxiety predicts infant approach and avoidant behavior. The authors found that, when accompanied by an anxious caregiver, infants were significantly more likely to exhibit avoidant behaviors when confronted with both an unfamiliar person and an unfamiliar object. Thus, the authors conclude that anxiety can be transmitted from parents to children through social referencing.

A separate study explored the relationship between subjects' romantic attachment styles and affective responses to images displaying different facial expressions of

emotion (Suslow et al., 2010). The authors found that attachment avoidance was significantly related to affective responses to sad facial expressions such that those who scored high on attachment avoidance displayed relatively low negative affective responses to sad faces. This supports the notion that securely attached individuals exhibit a higher capacity to respond appropriately to various emotions, specifically negative emotions, than do insecurely attached individuals. Thus, one's attachment style may influence his or her attraction to others displaying various facial expressions of emotion. In the current study it is posited that securely attached participants will rate negative (sad and angry) facial expressions of emotion as being more attractive than will insecurely attached participants.

Chapter III: Hypotheses

The current study is interested in examining the potential influence of two individual difference variables (i.e., empathy and attachment style). As there is currently no known research that examines either of these traits in regards to emotion processing and attraction, hypotheses were made regarding similar situations in past research.

Empathy

In regards to individual's empathy levels in each of the four domains, the following hypotheses were made.

H1. Empathic concern will positively predict attraction to sad facial expressions and negatively predict attraction to happy faces.

H2. Personal distress scores will positively predict attraction to happy facial expressions and negatively predict attraction to sad and angry facial expressions.

H3. Fictional character empathy will positively predict attraction to sad, happy, and angry facial expressions.

H4. Perspective taking scores will positively predict all emotions (i.e., sad, happy, angry, and neutral facial expressions).

Romantic Attachment Style

H5. Individuals who score high on attachment related anxiety will be less attracted to neutral, sad, and angry facial expressions and more attracted to happy facial expressions than will those with a secure attachment style.

H6. Individuals who score high on attachment related avoidance style will be less attracted to sad and angry facial expressions than will those with a secure attachment style.

Research Questions

RQ1. Is there an interaction between empathy and romantic attachment style on physical attraction to emotions?

RQ2. Does perceived similarity mediate the relationship between empathy and attraction?

Chapter IV: Methodology

Participants

Female undergraduates ($N = 252$) were recruited to complete an online survey. Participants ranged from 18 to 51 years of age with a mean age of 19.53 years ($SD = 3.70$). A power analysis indicated that approximately 180 participants were needed in order to have adequate (.80) power in the current study. The majority of the sample identified as Caucasian (85.3%, $n = 215$). The remaining participants identified as African American ($n = 14$), Asian/Pacific Islander ($n = 3$), Hispanic/Latino(a) ($n = 1$) , Bi-racial ($n = 10$), or other ($n = 9$). Furthermore, the majority of the participants identified as heterosexual females ($N = 229$).

Materials and Procedure

Participants were recruited through SONA, a data collection and recruitment system maintained by the psychology department. The study was listed under the heading of "Facial Expressions and Attraction". Participants were recruited to complete an online survey, housed in surveymonkey.com. Participants who were interested in participating were shown an informed consent form (Appendix G) that explained their rights as a participant. They were instructed to click on the "I Consent" button, in order to participate. Upon agreeing to participate, participants were randomly assigned to view one of four target stimuli/photos.

Stimuli. Four photos (Appendix A), acquired through Google Images, featuring the face of one Caucasian male target were used in the current study. In each photo, the target displayed one of four emotions: happiness, sadness, anger, or a neutral expression. The photos were piloted for accurate representations of each emotion. The photos were

randomly ordered and shown to a mass group via PowerPoint. Participants were instructed to describe the emotion being portrayed in the photo. The results indicated that in almost all cases, participants were able to accurately describe the emotion being portrayed by the male face. However, in the neutral face there was greater variance in participant description. In that, instead of describing "neutral", participants described other emotions such "don't care" and "bored." As there were no major hypotheses regarding the neutral face, the images were deemed to be appropriate for the current study.

Upon viewing one of the target photographs, participants were asked to rate the target on various characteristics.

Attractiveness. Ideal Standards Scale (ISS; Regan, 1998; Appendix B) asked participants to rate their current partner on several dimensions of attractiveness. Participants were asked to rate how well varying characteristics described their current partner with a 10-point Likert scale ranging from 1 (*does not describe at all*) to 10 (*describes very well*). The full scale measures six different dimensions of attractiveness: interpersonal skill and responsiveness (e.g. 'relaxed in social situations, good sense of humor,' etc. $\alpha = .82$), intellect (e.g. 'cultured, intelligent,' etc. $\alpha = .82$), physically attractive (e.g. 'sexy, healthy, physically attractive' $\alpha = .76$), social status (e.g. 'popular, material possessions, good earning capacity' etc. $\alpha = .83$), interpersonal power (e.g. 'powerful, aggressive, creative and artistic,' etc. $\alpha = .70$), and family orientation (e.g. 'religious, ambitious, wants children,' etc. $\alpha = .68$). For the purpose of this study, only the physical attractive subscale of the ISS was analyzed. Scores were summed, where higher scores represent higher perceptions of attractiveness ($\alpha = .75$).

Perceived Similarities. The Perceived Similarities Scale (Hackathorn & Brantley, 2014; Appendix C) asked participants to rate how similar they believe the man in the target photo to be to themselves on various topics such as 'political views' and 'mood' (α = .92). The scale consists of 11 items on a 7-point scale ranging from 1 (*not similar at all*) to 7 (*very similar*).

Following the ratings of the photograph, participants were asked to complete a series of self-report measures including the following:

Empathy. The Empathy Scale (Davis, 1980; Appendix D) consisted of 28 items on a 5-point scale ranging from 0 (*does not describe me well*) to 4 (*does describe me well*). Final scores were calculated via a sum of the scores (ranging from 0 to 28 on each subscale). The instrument was broken down into four separate subscales: perspective taking (e.g. 'Before criticizing somebody, I try to imagine how I would feel if I were in their place," α = .79), identifying with fictional characters (e.g. 'I really get involved with the feelings of the characters in a novel,' α = .81), empathic concern (e.g. 'When I see someone being taken advantage of, I feel kind of protective of them,' α = .52), and personal distress (e.g. 'Being in a tense emotional situation scares me,' α = .76).

Attachment Styles. The Experiences in Close Relationships – Revised scale (Brennan, Clark, & Shaver, 1998; Appendix E) contained 36 items on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). This instrument assessed two aspects of adult attachment: attachment related anxiety (e.g. 'I often worry that my partner will not want to stay with me,' α = .93) and attachment related avoidance (e.g. 'I get uncomfortable when a romantic partner wants to be very close,' α = .95). Items 1 through 18 comprised an individual's attachment related anxiety score and items 19

through 36 comprised one's attachment related avoidance score. Scores on these items were averaged to compute each subject's attachment related anxiety and attachment related avoidance in order to categorize participants' romantic attachment styles. Then a median split was conducted to classify participants as high or low in each of the romantic attachment traits. Participants were then categorized in one of four attachment styles: anxious style (i.e., high on anxiety and low on avoidance; $N = 42$), avoidant (i.e., high on avoidance and low on anxiety; $N = 68$), secure (i.e., low on both traits; $N = 85$), ambivalent (i.e., high on both traits; $N = 53$).

Demographics. The final portion of the questionnaire inquired about participants' age, year in college, ethnicity, religious affiliation and frequency of church attendance, sexual orientation, and relationship status (Appendix F). Additionally, as a manipulation check, participants were asked which emotion was depicted in the target picture they viewed. Of the 252 participants in the sample, 67 participants either answered the manipulation check incorrectly or left no response to this question.

Upon completion of the study, participants were shown a debriefing statement explaining the purpose of the study.

Chapter V: Results

Prior to analysis of the hypotheses, bivariate correlations were conducted using all of the empathy subscales, and the continuous scores regarding the two attachment styles (anxious and avoidant), with the ratings of attractiveness for each face. Please see the table below for the correlation coefficients, as well as descriptive information, for all of the major factors in the current study.

Table 1.

Correlations and Descriptive Information for all Major Variables Across all Conditions

	1.	2.	3.	4.	5.	6.	7.
1. Perspective Taking	1	-.00	.32**	.27**	.04	.07	.08
2. Personal Distress		1	.20**	.19**	.23**	.09	.11
3. Empathic Concern			1	.41**	.00	-.04	.05
4. Fictional Characters				1	.12	.06	.11
5. Anxious Attachment					1	.36**	.14*
6. Avoidant Attachment						1	.07
7. Attractiveness Rating							1

*Note. N = 252. * = p < .05; ** = p < .01*

Empathy Predicting Attractiveness of Each Emotion

To examine whether empathy is related to one's attraction toward different facial expressions of emotion (i.e., Hypotheses 1-4), four multiple regressions, one for each emotion expression (neutral, sad, happy, angry), were conducted. There were four predictors: the subscales of empathy (perspective taking, empathic concern, personal distress, identifying with fictional characters). The overall regression outcomes are covered here:

Happy. The model regressing attractiveness of the happy face onto empathy was not significant, $F(4, 47) = .74$, $MSE = 2.87$, $p = .570$, $R^2 = .06$, $Adj R^2 = .02$. Thus, one's empathy levels did not predict attraction toward happy facial expressions of emotion.

Sad. The model regressing attractiveness of the sad face onto empathy was not significant, $F(4, 59) = .91$, $MSE= 4.09$, $p = .462$, $R^2 = .06$, $Adj\ R^2 = .01$. Therefore, one's empathy levels did not predict her attraction toward sad facial expressions of emotion.

Angry. The model regressing attractiveness of the angry face onto empathy was not significant, $F(4, 55) = .60$, $MSE= 3.05$, $p = .663$, $R^2 = .04$, $Adj\ R^2 = .03$. Thus, one's empathy levels did not predict her attraction toward angry facial expressions of emotion.

Neutral. The model regressing attractiveness of the neutral face onto empathy was not significant, $F(4, 70) = .93$, $MSE= 3.93$, $p = .451$, $R^2 = .05$, $Adj\ R^2 = .00$. This means that one's empathy levels did not predict her attraction toward neutral facial expressions of emotion.

As it pertains to the initial hypotheses, the following results were found (see Table 2 for the coefficients for each predictor in each regression analysis).

Hypothesis 1. It was hypothesized that empathic concern would positively predict attraction to sad facial expressions negatively predict attraction to happy faces. This hypothesis was not supported.

Hypothesis 2. It was hypothesized that personal distress scores would positively predict attraction to happy facial expressions and negatively predict attraction to sad and angry facial expressions. This hypothesis was not supported.

Table 2.

Coefficients for each Subscale of Empathy in each Regression Analysis

	Happy			Sad			Neutral			Angry		
Predictor	β	t	p	β	t	p	β	t	p	β	t	p
Perspective Taking	.20	1.20	.237	-.19	-1.32	.192	.12	.96	.341	.14	.86	.394
Personal Distress	.04	.26	.793	-.01	-.09	.925	.13	1.04	.300	.10	.73	.470
Empathic Concern	.07	.42	.677	.07	.48	.635	-.06	-.45	.653	-.19	-1.25	.216
Fictional Characters	-.01	-.06	.951	.19	1.30	.198	.16	1.21	.229	.05	.29	.774

Hypothesis 3. Fictional character empathy will positively predict attraction to sad, happy, and angry facial expressions. This hypothesis was not supported.

Hypothesis 4. Perspective taking scores will positively predict all emotions (i.e., sad, happy, angry, and neutral facial expressions). This hypothesis was not supported.

Attachment Style

To examine the differences between each of the attachment styles (anxious, avoidant, ambivalent, and secure) on attraction ratings, four between groups ANOVAs were conducted for target's physical attraction scores: one for each of the emotion expressions. All analyses were conducted at the .05 level of significance. We conducted a median split on participants' attachment related anxiety and attachment related avoidance. Scores were then classified as either high or low on each dimension. Participants with low scores on both attachment related anxiety and attachment related avoidance were categorized as having a secure attachment style. Those who had high scores on attachment related anxiety, but not attachment related avoidance, were categorized as having an anxious attachment style. Those with high scores on attachment related avoidance, but not attachment related anxiety, were categorized as having an

avoidant attachment style. Lastly, those with high scores on both attachment related anxiety and attachment related avoidance were categorized as having an ambivalent attachment style.

Happy. In the first ANOVA, there was a significant difference between secure ($M = 5.51$, $SD = 1.17$), anxious ($M = 5.88$, $SD = 1.91$), avoidant ($M = 4.10$, $SD = 1.71$), and ambivalent ($M = 5.13$, $SD = 1.73$) on attractiveness of the happy face, $F(3, 48) = 2.87$, $MSE = 7.27$, $p = .046$, $\eta^2_p = .15$. Pairwise comparisons indicated that attraction toward the happy face was significantly lower for the avoidant attachment style than secure ($p = .017$) and anxious ($p = .015$) attachment styles, and was trending in the same direction compared to the ambivalent attachment style ($p = .098$).

Sad. In the second ANOVA, there was no significant difference between secure ($M = 3.36$, $SD = 2.02$), anxious ($M = 3.92$, $SD = 2.72$), avoidant ($M = 3.47$, $SD = 1.93$), or ambivalent ($M = 3.60$, $SD = 1.95$) on attractiveness of the sad face, $F(3, 59) = .15$, $MSE = .65$, $p = .928$, $\eta^2_p = .01$.

Angry. In the third ANOVA, there was no significant difference between secure ($M = 3.22$, $SD = 1.70$), anxious ($M = 3.78$, $SD = 2.20$), avoidant ($M = 4.06$, $SD = 1.45$), or ambivalent ($M = 2.67$, $SD = $ NA; there is only one individual in this category) on attractiveness of the angry face, $F(3, 56) = 1.06$, $MSE = 3.14$, $p = .373$, $\eta^2_p = .05$.

Neutral. In the fourth ANOVA, there was a significant difference between secure ($M = 3.86$, $SD = .41$), avoidant ($M = 3.97$, $SD = 0.46$), and ambivalent ($M = 5.32$, $SD = 0.46$), but not anxious ($M = 4.86$, $SD = 0.52$) on attractiveness of the neutral face, $F(3, 69) = 2.47$, $MSE = 9.33$, $p = .069$, $\eta^2_p = .10$. Pairwise comparisons indicated that attraction toward the neutral face was significantly lower for the ambivalent attachment

style than secure (p = .020) and avoidant (p = .042), but not the anxious attachment style (p = .511).

As it relates to the hypotheses:

Hypothesis 5. It was hypothesized that individuals with an anxious attachment style would be less attracted to neutral, sad, and angry facial expressions and more attracted to happy facial expressions than individuals with a secure attachment style. This was not supported, as there were no differences between the ratings of individuals with anxious or secure attachment styles for any of the faces.

Hypothesis 6. It was hypothesized that individuals with avoidant attachment style would be less attracted to sad and angry facial expressions than individuals with secure attachment style. This hypothesis was not supported, as there were no differences between any group on the ratings for sad and angry facial expressions.

RQ1. Interaction between Empathy and Attachment Style

A moderated regression was conducted to examine whether the two constructs interact to predict attraction. First, empathy scores were centered on the mean. These scores were entered into the first step, along with the median split scores for the anxious and avoidant attachment styles were used (i.e., high scores were coded as 1, and low scores were coded as 0). Finally, the interactions between each of the two types of attachment and each of the centered empathy scores were calculated and entered into the second step of the regression. See Table 3.

Table 3.

Interaction between Empathy and Attachment Styles on Attractiveness Ratings

	Predictor	β	t	p	ΔR^2
Model 1					.00
	Fictional Character	.06	.80	.422	
	Perspective Taking	.07	.99	.325	
	Empathic Concern	-.02	-.27	.784	
	Personal Distress	.08	1.20	.231	
	Anxious Attachment	**.135**	**2.07**	**.039**	
	Avoidant Attachment	.00	.05	.962	
	$F(6, 241) = 1.70$, $MSE = 3.80$, $p = .123$, $R^2 = .04$, $Adj.\ R^2 = .02$				.04
Model 2					
	Fictional Character	-.10	-.88	.379	
	Perspective Taking	**.23**	**2.20**	**.029**	
	Empathic Concern	.01	.06	.954	
	Personal Distress	.09	.88	.380	
	Anxious Attachment	**.13**	**2.02**	**.044**	
	Avoidant Attachment	.01	.12	.907	
	Fictional Character X Anxious	.11	1.21	.226	
	Fictional Character X Avoidant	.13	1.29	.200	
	Perspective Taking X Anxious	-.17	-1.84	.066	
	Perspective Taking X Avoidant	-.12	-1.25	.213	
	Empathic Concern X Anxious	-.06	-.68	.497	
	Empathic Concern X Avoidant	.04	.34	.733	
	Personal Distress X Anxious	-.15	-1.60	.112	
	Personal Distress X Avoidant	.10	1.07	.284	
	$F(14, 233) = 1.61$, $MSE = 3.73$, $p = .079$, $R^2 = .05$, $Adj.\ R^2 = .03$				.05

RQ2. Perceived Similarity mediates relationship between Empathy and Attraction.

Despite the fact that empathy does not predict attraction, the proposed research

question was analyzed anyway. First, Ωnyx was used to build an appropriate model (See

Figure 1) where the four subscales of empathy were combined into one latent variable,

overall empathy. Next, R and Lavaan were used to test the model. The results indicated

that the overall model had a good fit, χ^2 $(df = 9) = 13.11$, $p = .158$, $CFI = .981$, $RMSEA =$

.043, $p = .546$, $SRMR = .043$. However, upon further examination, it appears that the fit

of the model was because perceived similarities were such a robust predictor of

attractiveness. Moreover, empathy did not predict perceived similarities. See Figure 1 for

an illustration of the model with the path coefficients.
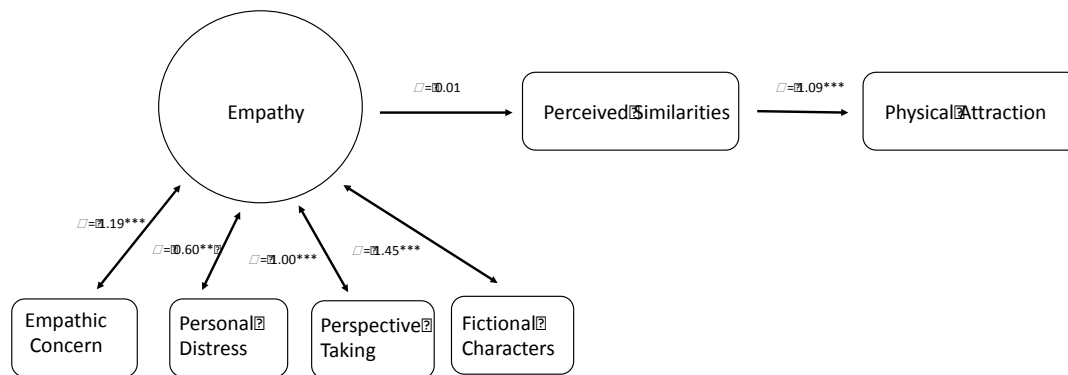
Note. ** $= p < .01$; *** $= p < .001$

Figure 1. The role of perceived similarities in the relationship between empathy and

attraction.

Chapter VI: Discussion

Previous studies have found that smiling positively impacts female attractiveness, however, the results for males are mixed (Okubo et al., 2015). This study aimed to further the literature by assessing the role of female's empathy levels and romantic attachment styles on attraction toward male facial expressions of emotion. It was expected that one's empathy levels and romantic attachment style could predict attraction toward varying facial expressions of emotion. However, these results indicate that none of the four subscales of empathy measured in the current study (i.e., fictional character empathy, empathic concern, perspective taking, and personal distress) predicted attraction toward any of the four emotion expressions (i.e., happy, sad, neutral, angry).

The results indicated that romantic attachment style did predict attraction toward certain facial expressions of emotion. Specifically, individuals categorized as having an avoidant attachment style were significantly less attracted to the happy facial expression than were those categorized as having an anxious or secure attachment style. Though there was not a significant difference, individuals categorized as having an ambivalent attachment style were marginally more attracted to the happy expression than were those categorized as having an avoidant attachment style.

Additionally, individuals categorized as having a secure attachment style and those categorized as having an avoidant attachment style were significantly more attracted to the neutral expression than were those categorized as having an ambivalent attachment style. However, there were no differences between the four attachment style groups on attraction toward the sad and angry expressions. Therefore, though our hypotheses were not supported, this study found support for a relationship between

female romantic attachment style and her attraction toward varying facial expressions of emotion. Future studies should further investigate the link between female's romantic attachment style and attraction toward male facial expressions of emotion.

Considering that happy expressions are approach-related expressions, it makes sense that individuals with an avoidant attachment style were less attracted to the happy faces than were those with secure or anxious attachment styles. This suggests that individuals with an avoidant attachment style are automatically less attracted to people that they perceive as being more approach-oriented. Furthermore, seeing as neutral expressions can be perceived as being 'bored' or 'uninterested,' the finding that individuals with an avoidant or a secure attachment style were more attracted to the neutral expression than those with an ambivalent attachment style supports the notion that individuals with an avoidant attachment style are more likely to be attracted to expressions that are not approach-related.

There were some limitations in the study that should warrant careful examination of the findings. For example, static, as opposed to dynamic, images of male emotional expressions were used as the stimuli in the current study. Previous research has found support for the idea that dynamic images, as compared to static images, improve both the recognition speed and accuracy of emotion expressions (Tcherkassof , Bollon, Dubois, Pansu, & Adam, 2007; Calvo, Avero, Fernández-Martín, & Recio, 2016). Furthermore, Buchan, Paré, and Munhall (2007) note that the movement in dynamic images affords the viewer emotion expression information that is not offered in static images. Thus, despite the fact that the images used in this study were piloted to ensure that they accurately represented each emotion, it is possible that dynamic images would have more accurately

represented each emotion or at the very least increased the opportunity for the participant to accurately identify the emotion. Additionally, assuming that dynamic images do in fact provide more information about emotion expression than do static images, it is not unreasonable to propose that dynamic images would elicit stronger emotional reactions in the viewers. Future studies could use either dynamic images of males or even male confederates in order to assess female attraction toward male emotional expressions in a more realistic setting.

In addition to dynamic images, it may have been beneficial to use images that featured more of the target's body. For instance, Darwin theorized that emotion expressions are an evolved trait (Jesus, 2009). Though Darwin maintained that the muscles of the face were of the utmost importance in emotion expression, he included that body structure conveys emotion expression information as well (Jesus, 2009). Thus, images that featured more of the target's body may have increased the accuracy of participants' emotion expression recognition.

A second possible limitation is that this study did not assess female ovulation cycles. It would be beneficial for future studies to take into account female participants' ovulation cycles because a female may be more or less attracted to certain male characteristics during ovulation (Harris, Chabot, & Mickes, 2013). The idea that a female's ovulation cycle influences her mate preferences is referred to as the cycle shift hypothesis (Gildersleeve et al., 2013). The cycle shift hypothesis proposes that females' mate preferences vary depending on their menstrual cycle such that when in a high fertility phase of the menstrual cycle females tend to be more attracted to males who possess traits that indicate high masculinity. On the other hand, when in a low fertility

phase of the menstrual cycle females tend to be more attracted to males who possess traits that indicate lower masculinity (Harris et al., 2013). This is important because, as previously mentioned, certain facial expressions of emotion may be viewed as being more feminine and/or masculine than other facial expressions of emotion (Tracy & Beall, 2011). For instance, happy expressions may be perceived as being more feminine. Thus, in line with the cycle shift hypothesis, females who are in a high fertility phase of the menstrual cycle may be less attracted to happy expressions than are females who are in a low fertility phase of the menstrual cycle. Future studies should aim to assess whether females' menstrual cycles influence their attraction toward various male emotional expressions.

Seeing as facial expressions of emotion are integral in interpersonal relationships, it is not only important to understand which types of expressions individuals are attracted to, but also why those individuals are more or less attracted to certain expressions. By discovering individual differences that are and are not predictive of female attraction toward male facial expressions of emotion, this study helped to further our understanding as to why previous research has reported inconsistent findings regarding this topic. Though the findings presented here aid in our understanding of female attraction toward male facial expressions of emotion, future research should aim to improve on this understanding by using different types of stimuli and by assessing other individual differences.

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Appendix A: Target Stimuli

Neutral Expression:

Happy Expression:

Sad Expression:

Angry Expression:

Appendix B: Ideal Standards Scale

Please rate how well you believe the following describe the man in the photograph.

1. Relaxed in social situations

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

2. Good sense of humor

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

3. Easygoing

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

4. Friendly

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

5. Attentive to your needs

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

6. Intellectual

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

7. Cultured

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

8. Intelligent

Does not describe at all								Describes Very well	
1	2	3	4	5	6	7	8	9	10

9. Educated

Does not describe   Describes

at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

10. Physically attractive
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

11. Sexy
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

12. Healthy
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

13. High social status
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

14. Popular
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

15. Has material possessions
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

16. Wealthy
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

17. Has good earning capacity
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

18. Powerful
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

19. Dominant
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

20. Aggressive
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

21. Creative and artistic
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

22. Religious
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

23. Ambitious
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

24. Wants children
Does not describe   Describes
at all   Very well

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Appendix C: Percieved Similarities Scale

Please rate how similar you and your current romantic partner are by choosing the corresponding number in the blank beside each characteristic. Please use the scale provided below.

Not Similar at all   Very Similar

1   2   3   4   5   6   7

_____ Religion

_____ Political views

_____ Socio-economic status

_____ Temperament

_____ Attractiveness

_____ Hobbies and Interests

_____ Mood

_____ Work Ethic

_____ Patience

_____ Ethnicity

_____ Social Skills

Rate how likely you would be to date this person.

1 Not at all   2   3   4   5 Very Likely

Appendix D: Empathy Scale

Please respond to each of the following statements and rate how well each of them describes you on a scale of 0 (does not describe me well) to 4 (does describe me well)

1. When I am reading an interesting story or novel, I image how I would feel if the events in the story were happening to me

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

2. I really get involved with the feelings of the characters in a novel

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

3. I am usually objective when I watch a movie or a play, and I don't often get completely caught up in it.

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

4. After seeing a play or movie, I have felt as though I were one of the characters

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

5. I daydream and fantasize, with some regularity, about things that might happen to me

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

6. Becoming extremely involved in a good book or movie is somewhat rare for me

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

7. When I watch a good movie, I can very easily put myself in the place of the leading character

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

8. Before criticizing somebody, I try to imagine how I would feel if I were in their place

   | 0 | 1 | 2 | 3 | 4 |

   Does not
   describe me well

   Does
   describe me well

9. If I'm sure I'm right about something, I don't waste much time listening to other peoples' arguments

0	1	2	3	4
Does not				Does
describe me well				describe me well

10. I sometimes try to understand my friends better by imagining how things look from their perspective

0	1	2	3	4
Does not				Does
describe me well				describe me well

11. I believe that there are 2 sides to every question and try to look at them both

0	1	2	3	4
Does not				Does
describe me well				describe me well

12. I sometimes find it difficult to see things from the "other guy's" point of view

0	1	2	3	4
Does not				Does
describe me well				describe me well

13. I try to look at everybody's side of a disagreement before I make a decision

0	1	2	3	4
Does not				Does
describe me well				describe me well

14. When I'm upset at someone, I usually try to "put myself in his shoes" for a while

0	1	2	3	4
Does not				Does
describe me well				describe me well

15. When I see someone being taken advantage of, I feel kind of protective of them

0	1	2	3	4
Does not				Does
describe me well				describe me well

16. When I see someone being treated unfairly, I sometimes do not feel very much pity for them

0	1	2	3	4
Does not				Does
describe me well				describe me well

17. I often have tender, concerned feelings for people less fortunate than me

0	1	2	3	4
Does not				Does
describe me well				describe me well

18. I would describe myself as a pretty soft-hearted person
0   1   2   3   4
Does not   Does
describe me well   describe me well

19. Sometimes I don't feel very sorry for other people when they are having problems
0   1   2   3   4
Does not   Does
describe me well   describe me well

20. Other people's misfortunes do not usually disturb me a great deal
0   1   2   3   4
Does not   Does
describe me well   describe me well

21. I am often quite touched by things that I see happen
0   1   2   3   4
Does not   Does
describe me well   describe me well

22. When I see someone who badly needs help in an emergency, I go to pieces
0   1   2   3   4
Does not   Does
describe me well   describe me well

23. I sometimes feel helpless when I am in the middle of a very emotional situation
0   1   2   3   4
Does not   Does
describe me well   describe me well

24. In emergency situations, I feel apprehensive and ill-at-ease
0   1   2   3   4
Does not   Does
describe me well   describe me well

25. I am usually pretty effective at dealing with emergencies
0   1   2   3   4
Does not   Does
describe me well   describe me well

26. Being in a tense emotional situation scares me
0   1   2   3   4
Does not   Does
describe me well   describe me well

27. When I see someone hurt, I tend to remain calm

    0   1   2   3   4

    Does not   Does

    describe me well   describe me well

28. I tend to lose control during emergencies

    0   1   2   3   4

    Does not   Does

    describe me well   describe me well

Appendix E: Experiences in Close Relationships--Revised

Consider your romantic relationships in general. Rate each statement with how strongly you agree or disagree. Responses range from 1 (strongly disagree) and 7 (strongly agree)

1. I'm afraid I will lose my partners love

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

6. I worry a lot about my relationships

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Strongly   Strongly
Disagree   Agree

9. I rarely worry about my partner leaving me
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

10. My romantic partner makes me doubt myself
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

11. I do not often worry about being abandoned
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

12. I find that my partner(s) don't want to get as close as I would like
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

13. Sometimes romantic partners change their feelings about me for no apparent
reason
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

14. My desire to be very close sometimes scares people away
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

15. I'm afraid that once a romantic partner gets to know me, he or she won't like who
I really am
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

16. It makes me mad that I don't get the affection and support I need from my partner
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

17. I worry that I won't measure up to other people
1   2   3   4   5   6   7
Strongly   Strongly
Disagree   Agree

18. My partner only seems to notice me when I'm angry
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

19. I prefer not to show a partner how I feel deep down
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

20. I feel comfortable sharing my private thoughts and feelings with my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

21. I find it difficult to allow myself to depend on romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

22. I am very comfortable being close to romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

23. I don't feel comfortable opening up to romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

24. I prefer not to be too close to romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

25. I get uncomfortable when a romantic partner wants to be very close
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

26. I find it relatively easy to get close to my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

27. It's not difficult for me to get close to my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

28. I usually discuss my problems and concerns with my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

29. It helps to turn my romantic partner in times of need
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

30. I tell my partner just about everything
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

31. I talk things over with my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

32. I am nervous when partners get too close to me
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

33. I feel comfortable depending on romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

34. I find it easy to depend on romantic partners
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

35. It's easy for me to be affectionate with my partner
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

36. My partner really understands me and my needs
    1   2   3   4   5   6   7
    Strongly   Strongly
    Disagree   Agree

Appendix F: Demographic Variables

Age: _____

How do you prefer to identify your gender? _____

How do you prefer to identify your sexual orientation? _____

Year in college: Freshman   Sophomore   Junior   Senior   Post-Bac

Ethnicity/Race:

Caucasian   African American   Native American
Asian/Pacific Islander   Hispanic/Latino(a)   Middle Eastern
Bi-racial   Other (please specify): _____

Religious Affiliation:

Protestant (Christian, non-Catholic)   Catholic   Jewish   Muslim
Buddhist   No religious affiliation   Other (please specify): _____

Religiosity:

  1   2   3   4   5   6   7   8   9   10
Not at all Religious   Very Religious

How often do you attend religious services?

_____ Multiple times a week

_____ Once a week

_____ 1 to 3 times a month

_____ 6 to 12 times a year

_____ 1 to 5 times a year

_____ Never

Current Relationship Status:

Dating casually   Dating regularly   Dating exclusively

Engaged   Married   Other (please specify): _____

If applicable, how long have you been in your current romantic relationship?
_____ months

If applicable, are you 'in love' with your current romantic partner? Yes or
No

In the photograph you were shown earlier, what emotion was the man displaying?

Neutral   Happy   Sad   Anger

Appendix G: Informed Consent

Project Title: Facial Expressions and Attraction

Investigators: Primary Investigator: Kendall Swinney and Dr. Jana Hackathorn, Dept. of Psychology, Murray State University, Murray, KY 42071, (270) 809-2857.

You are being asked to participate in a project conducted through Murray State University. You must be at least 18 years of age to participate. Below is an explanation of the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation.

Nature and Purpose of the Project: The purpose of this study is to gain information regarding attraction, and its relation to facial expressions.

Explanation of Procedures: Your participation in this study will require you to view a photograph and then complete a brief survey. Your total participation should take approximately 15-20 minutes.

Discomforts and Risks: The risks to you as a participant are minimal. Regardless, please know that you can quit participating at any time without penalty.

Benefits: There are no direct individual benefits to you beyond the opportunity to learn first-hand what it is like to participate in a research study and to learn about some of the methods involved in psychological research. A general benefit is that you will add to our knowledge of the research subject.

Confidentiality: Your responses and participation in all tasks will be completely anonymous; they will only be numerically coded and not recorded in any way that can be identified with you. Dr. Hackathorn will keep all information related to this study secure for at least three years after completion of this study, after which all such documents will be destroyed.

Required Statement on Internet Research: All survey responses that the researcher receives will be treated confidentially and stored on a secure server or hard drive. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in this study, the researcher wants you to be aware that certain "keylogging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Refusal/Withdrawal: Your participation in this study should be completely voluntary. Your refusal to participate will involve no penalty. In addition, you have the right to withdraw at any time during the study without penalty or prejudice from the researchers.
By clicking on the button below you are indicating your voluntary consent to participate in this research.

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE MURRAY STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD (IRB) FOR THE PROTECTION OF HUMAN SUBJECTS. ANY QUESTIONS PERTAINING TO YOUR RIGHTS AS A PARTICIPANT OR ACTIVITY-RELATED INJURY

SHOULD BE BROUGHT TO THE ATTENTION OF THE IRB COORDINATOR AT (270) 809-2916. ANY QUESTIONS ABOUT THE CONDUCT OF THIS RESEARCH PROJECT SHOULD BE BROUGHT TO THE ATTENTION OF DR. JANA HACKATHORN IN THE MSU PSYCHOLOGY DEPT., AT (270) 809-2857.

Appendix H: IRB Letter of Approval

MURRAY STATE
UNIVERSITY

Institutional Review Board

328 Wells Hall
Murray, KY 42071-3318
270-809-2916● msu.irb@murraystate.edu

TO: Jana Hackathorn Psychology

FROM: Institutional Review Board Jonathan Baskin, IRB Coordinator

DATE: 10/17/2016 RE: Human Subjects Protocol I.D. – IRB # 17-039

The IRB subcommittee has completed its review of your student's Level 1 protocol entitled Facial Expressions and Attraction. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.

This Level 1 approval is valid until 5/30/2017.

If data collection and analysis extends beyond this time period, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 5/30/2017. You must reapply for IRB approval by submitting a Project Update and Closure form (available at

murraystate.edu/irb). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

Opportunity
afforded

murraystate.ed