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Anxiety-Attachment, Avoidance-Attachment and Gender as Predictors of Empathy

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From two–factor scales (i.e., affective and cognitive components), recent researches in the study of empathy showed that three factors (i.e., emotional contagion, emotional disconnection, and cognitive empathy) accounted for an integrative view of empathy (Carre, Stefaniak, Bensalah, & Richard, 2013). Given the recent developments, this study aimed to see the significant predictors for each of these empathy components. Three-hundred thirty seven participants (n=337), ages 15-24 (M = 19.33, SD = 1.337) took part in the study. Regression analyses showed that females were more likely to experience emotional contagion and cognitive empathy, while males were more likely to experience emotional disconnection. Further, high anxiety-attachment and low avoidance-attachment predicts emotional contagion. On the other hand, high avoidance-attachment predicts emotional disconnection, while low avoidance-attachment predicts cognitive empathy. Gender was also seen to significantly moderate the avoidance attachment in terms of their effect on emotional disconnection and cognitive empathy. Males with high avoidance attachment were more likely to emotionally disconnect; while females with low avoidance were more likely to cognitively empathize. The discussion emphasized the relevance of attachment orientation in the development of empathy. Further, implications on interpersonal relations were also explored.

Keywords: attachment, empathy, emotional contagion, emotional disconnection

In different circumstances of life, particularly in times of lows and struggles, we seek a person we can lean on. There are people whom we readily pour our hearts out to, and some others whom we deliberately choose not to open up to. In general, we appreciate a person who would be able to understand what we are going through. This is not simply having someone who pities you in times of pain and grief, but rather, someone who tries to consider your feelings sensitively and accurately as they are being revealed. These are the people who do not readily judge you; rather, they try to be in your shoes and perceive your feelings from your own point of view. These are the people we describe as high in empathy. Empathy is proven to be an important factor in a relationship, and is related to positive relationship satisfaction and adjustment (Long & Andrews, 1990; Long, et. al. 1999). However, not everyone is gifted with empathy. This brings up the question on why some people seem to have more empathy, and some others have less. It somehow made us wonder how empathy develops and what the factors are that seem to help improve empathy.

Empathy has been understood as putting oneself in another person's place and having the ability to understand what the other person is thinking and feeling (Hogan, 1969; Rogers, 1951). Research has shown that empathy is positively associated with prosocial behavior (Batson & Shaw, 1991, Eisenberg, et., al., 1999; Taylor, et. al., 2013) and negatively related to aggressive conduct (Miller & Eisenberg, 1988). As more and more studies focused on empathy, it evolved from being "a unidimensional concept to a two-factor model, which accounts for its cognitive component and affective component (Davis, 1983; Joliffe & Farrington, 2006). Empathy's affective component pertains to being able to experience the emotions of the other person while the cognitive component refers to being able to comprehend the emotions of another person. The former centers more on vicariously feeling the emotions of the other, which often leads to expressions of concern. The latter focuses more on one's inquisitiveness and recognition of the other person's perspective. This view basically recognizes the importance of responding to the emotional states of others as well as attending to interpersonal cognition.

One of the first to develop an instrument to measure empathy is Davis (1983). He took the cognitive and affective components into account when he developed Interpersonal Reactivity Index (IRI). The IRI represented the cognitive component with two subscales: Fantasy (FS) and Perspective Taking (PT). Fantasy measures one's inclination to identify with fictional characters in movies, shows, or books, while PT assesses one's ability to accurately recognize the other's feelings and take on the other's perspective. The IRI also represented the affective component with two subscales: Empathic Concern (EC) and Personal Distress (PD). Empathic Concern referred to the person's tendency to experience feelings of concern or compassion for others, while PD focused more on the tendency to experience discomfort when another person experiences distress. Some research has described EC as "other-oriented" emotion as this is the one seen to lead to altruistic behaviors, with the intention of improving another person's welfare (Eisenberg, Eggum, & Di Giunta, 2010). Personal Distress, on the other hand, has been regarded as the "self-oriented" one. The uneasy feelings may move one to act altruistically, but may not necessarily be for another's welfare; rather, it may be with the intention of alleviating one's own distress (Batson, 1991).

Joliffe and Farrington (2006), on the other hand, developed the Basic Empathy Scale (BES) in response to criticisms against the IRI. They argued that the Perspective-Taking subscale of the IRI included a broader ability of considering viewpoints, rather than focusing on the ability to understand the emotion of another person. Another criticism they pointed out was that the Empathic Concern subscale confounds empathy with sympathy. According to Joliffe and Farrington (2006), empathy and sympathy should be considered as separable constructs. Sympathy is similar to affective empathy as both involve appraisal of how one feels about the emotions of another. However, in affective empathy, emotional congruence is experienced. The emotion felt is the same as the emotion of the target person. In sympathy, the reaction does not necessarily have to be the same emotion as the target person. The Personal Distress subscale of IRI is also seen as problematic as all items focus on emergency situations. Empathy, on the other hand, does not necessarily require emergencies. Hence, Joliffe and Farrington (2006) developed BES, improving on the weaknesses of IRI. It still has two factors: affective empathy and cognitive empathy. However, affective empathy emphasizes feeling another person's emotions, with no reference to any emergency situations. Similarly, cognitive empathy focuses more on understanding why another person feels an emotion.

Carre and colleagues (2013) extended this two-factor model into a three-factor model, and called their model Basic Empathy Scale – Adults (BES-A). They argued that recent neuroimaging studies in empathy shift the need to see empathy as an active process, which includes the bottom up and top-bottom processes of empathy. The three-factor model included these components: 1) emotional contagion, 2) cognitive empathy, and 3) emotional disconnection. Emotional contagion is the bottom-up component of empathy, which refers to affective sharing or contagion. It is believed to develop during the preverbal period, and is considered the first step in empathic "functioning. Emotional contagion is positively related to the expression of emotion as well. Cognitive Empathy, a top-down component, refers to emotional awareness and understanding. It is believed that people who find it difficult to describe their own emotions may also find it difficult to regard the emotions of others. Lastly, emotional disconnection is the regulatory factor that protects one from extreme emotional impact. This is also a top-down component that pertains to one's control of emotion. Both cognitive empathy and emotional disconnection are related to development of theory of mind and executive functions.

Empathy and Gender

Given the rising interest in the study of empathy, one salient recognition was that females seemed to have scored generally higher on empathy compared to males. Knafo and colleagues (2008) showed that even at a young age of 14 months, girls seemed to significantly show more empathic concern (i.e., an affective component of empathy) than boys. In terms of the cognitive component of empathy, girls also scored higher than boys at 14 months and 20 months, albeit, boys scored higher than girls at 36 months. Similarly, Taylor and colleagues (2013) found that boys had lower initial levels of empathy. However, their research also showed that empathy increased and improved in early childhood.

Moving towards middle childhood stage, the same gender difference was still observed by Roberts, Strayer, and Denham (2014) where girls were seen to be more empathic than boys. The same trend was seen in Miklikowska, Duriez, and Soenens (2011) when they studied empathy longitudinally among adolescents. In particular, females scored higher on empathic concern and perspective taking. Their research further showed that perceived maternal need-support was predictive for empathic concern among daughters only, not among sons, explaining that adolescents may be

socialized differently, with females being more attuned to moral emotions as socialized by mothers, and males being more directed to cognitive and moral behavior as socialized by fathers. It was also discussed that possible reasons for these results may be because emotional concern is strongly linked to conceptions of femininity and is considered essential in the self-concept among females. Further, culture may have reinforced responding to the needs of others among females more than among males.

In adulthood stage, females have consistently scored higher in both affective and cognitive components (e.g., Gilet, et. al., 2012; Joliffe &Farrington, 2006). In particular, Gilet and colleagues (2012) have shown that females felt more empathic concern, personal distress, fantasy, and perspective taking, than males. However, the gender difference is significant only in the subscales of fantasy and empathic concern. Jonason and Kroll (2015) supported the same trend on gender differences. Females scored higher in empathic concern, fantasy, and personal distress. However, the same cannot be said in the perspective taking aspect of empathy. Schulte-Ruther and colleagues (2008) tested these gender differences in an emotions attribution task via functional magnetic resonance imaging and found that the regions involved in the human mirror neuron system—the ones associated with emotional perspective—are activated more strongly among females than among males.

Development of Empathy and Parenting

Looking at the development of empathy, Knafo and colleagues (2008) did a longitudinal study on empathy among twin children. Empathy was seen to increase markedly from ages 14 to 36 months for both the affective and cognitive components. Explanations for such increase included the development in emotion regulation, self-other differentiation, perspective-taking abilities, as well as improvement in the language and interpersonal skills. They also found that empathy was a relatively stable disposition across affective and cognitive components. Going further down the developmental stage, van Lissa and colleagues (2014) also did a 4-year longitudinal study of empathy among adolescents. Their research has shown that empathy runs from affective to cognitive. In particular, the adolescents' empathic concern positively predicted an increase in their Perspective Taking over time, but not vice versa. The rank-order stability of empathic concern was also significantly higher than perspective taking.

One of the aspects looked at in the development of empathy is one's early relationships such as that with parents. Some of the parenting aspects studied were those that concern parenting skills, practices, and caregiving characteristics (e.g., Joliffe & Farrington, 2006; Knato, et. al., 2006; Miklikowska, et. al., 2011; Saima, Hassan, & Rias, 2012). Eisenberg (2006, cited in Taylor, et. al., 2013) said that when parents practice reasoning with their children, this is positively associated with better development of empathy among children. The opposite is true for those who practice harsh parental control and corporal punishment over their children. Moreover, those whose mothers were accepting of emotions were seen to be higher in empathy as well as in levels of emotion knowledge and understanding (e.g., Brophy-Herb et al., 2011; Denham & Kochanoff, 2002; Strayer & Roberts, 2004). On the other hand, those whose parents were dismissing and discouraging of emotional expression were seen to have lower empathy-related responding (Eisenberg, et. al. 2011, as cited in Taylor, et. al., 2013). The discussion of emotions, explanations of its causes and effect, and the labeling of emotions, seemed to indicate these allowed children to increase empathy and prosocial behavior (Garner, 2003; Spinrad et al., 1999). Also, Joliffe and Farrington (2006) showed that poor parental supervision was significantly associated with lower empathy. However, those who perceived their parents as warm, less aggressive, less neglecting, and less rejecting, were found to be more emotionally empathic (Saima, Hassan, & Riaz, 2012). Further, perceived need support parenting is positively associated with adolescents' empathy. Looking specifically at the perspective taking and empathic concern components of empathy, perceived paternal and maternal need support were positively related to perspective-taking, but only maternal need support was consistently related to empathic concern (Miklikowska, Duriez, & Soenens, 2011).

Attachment

In a similar vein, attachment theory showed the importance of parenting on the development of secure or insecure attachment. Attachment is basically an affective bond characterized by a tendency to seek and maintain proximity to a specific figure, usually the primary caregiver or the mother (Bowlby, 1969). In this theory, an attachment behavioral system is formed where attachment behaviors are developed to maintain the physical and psychological proximity with the caregiver. A child eventually forms an internal working model (IWM) of beliefs and expectations about an attachment

figure and about self (Bowlby, 1969, 1973, 1980). The attachment figure may be judged as caring or rejecting, while the self may be judged as someone worthy of love and care or not. Ainsworth (1982) further studied these behaviors, leading her to theorize three attachment styles: secure, anxious, and avoidant. Briefly, secure attachment is encouraged by a parent who is attentive, sensitive, and lovingly responsive; the anxious attachment is reinforced by a parent who is inconsistent; and lastly, the avoidant attachment is strengthened by a parent who is rejecting (Bowlby, 1973, 1988).

As the IWM formed in the early years is deemed to function throughout life, research on attachment extended from infancy to adulthood (Bowlby, 1988). In support of this, research have also shown that the emotional and behavioral dynamics seen among infant-caregiver relationships and adult romantic relationships are influenced by the same attachment system (Fraley & Shaver, 2000). Ainsworth's three-category scheme was adapted to explain the attachment process in adult romantic relationships (Hazan & Shaver, 1987). Later on, this was expanded into four attachment orientations: secure, preoccupied/anxious, fearful-avoidant, and dismissing-avoidant (Bartholomew & Horowitz, 1991). These four attachment orientations are conceptualized along anxiety and avoidance dimensions. Anxiety dimension measures the extent to which the person is insecure about the other's responsiveness, while avoidance dimension measures the extent to which the person is uncomfortable being close to others. Those with secure attachment (low in anxiety and avoidance dimensions) are described to be comfortable in becoming emotionally close to others. They have no problem depending on others or having others depend on them. Those with preoccupied attachment (high in anxiety and low in avoidance) are those who want to be emotionally intimate with others but find others to be not as comfortable being close to them as they want to be. They are uncomfortable not having close relationships. They also often feel that others do not treasure them the same way they treasure others. Those with dismissing-avoidant attachment (low in anxiety and high in avoidance) are those who seem to be independent and self-sufficient.They are comfortable without close emotional relationships. They do not depend on others, nor let others depend on them. Finally, those with fearful-avoidant attachment (high in anxiety and avoidance dimensions) are those who find it hard to trust others. They often worry about getting hurt if they allow themselves to become too close others. They do want to have emotionally close relationships, but fear gets ahead of them.

Bartholomew and Horowitz (1991) further said that these four attachment orientations can also be explained in terms of their representational models of self and others. Secure individuals have positive representational models of self and others while fearful individuals have negative representational models of self and others. Preoccupied individuals have negative model of self but positive model of others while dismissing individuals have positive model of self, but negative model of others. Several adult attachment studies have shown that different attachment orientations affect relationship commitment, relationship quality, and relationship satisfaction (e.g., Bartholomew & Horowitz, 1991; Brennan & Shaver, 1995; Collins & Read, 1990; Simpson, Rholes & Philips, 1996). These researches have shown that secure individuals were most satisfied in their relationships, whereas those with anxiety attachment were worrisome and obsessive, and those with avoidant attachment were distrustful and indifferent.

Both empathy and attachment are associated with different aspects of parenting as shown by the aforementioned studies. To summarize, good quality parenting seemed to be related to higher empathy and secure attachment, while bad quality parenting seemed associated with lower empathy and insecure attachment. Moreover, similarities between empathy and attachment can be extended as both are concerned with interpersonal relationships and involvement with others. Whereas attachment refers to affective bonds between people (Bowlby, 1969), empathy refers to responsiveness and attentiveness to emotional states and emotions of others (Carre, et. al., 2013). Bowbly (1969, 1982) was very particular on the development of an attachment behavioral system that basically recognizes maintenance of psychological proximity and thereby supports caregiving system. Collins and Feeney (2000) also argued that the sense of attachment security may also be related to regulating the distress of others, and providing care for others.

A possible link may be inferred between attachment and empathy, as the security in attachment may facilitate the activation of empathy. Theoretically, those with secure attachment have a reduced need for self-protection as they are already assured of a "safe haven" and "secure base" (Fraley & Shaver, 2000). Hence, this may free their mental resources so that they could attend more to others, rather than just focus on self-needs (Bowlby, 1980). Further, they are also free from their own discomfort and distress that might then enable them to be more sensitive to other's emotions rather than their own. Their security and confidence also protects them from the danger of merging self and others' emotions, as they see themselves

as distinct from others. Moreover, in the cognitive representation of self and others, those with secure attachment see both positively. They neither let insecurity define self or others, nor do they push others away (Bartholomew & Hoparwitz, 1991)—good contexts for empathy to develop. Sroufe, Egeland, and Carlson (1999, cited in Roberts, et. al., 2014) proved this in their research by showing that those with moderate to high levels of empathy have underlying similarity and security with others.

Focusing on the insecure attachment, if one is high in avoidance and is uncomfortable being close to others, then one may not exert as much effort to be emotionally attuned to another person, neither would one try to further understand the perspective of the other person. These are somehow in conflict with their orientation of avoiding close relationships with other people (Bartholomew & Horowitz, 1991). Moreover, they have negative representations of others which could prevent them from paying further attention to the emotions of other people. If they did notice another person's emotions, the interpretation may be influenced by their negative views. On the other hand, if one is high in anxiety and insecure about another's responsiveness, this may possibly move them to attend to another person as they depend the validation of their "self" on "others" (Bartholomew & Horowitz, 1991). However, attachment-anxious individuals tend to focus more on their own needs and distress (Collins & Read, 1990); this may give them difficulty on taking the perspective of another person, especially when the other is also in distress.

Some studies have already investigated the link between attachment and empathy. In the study of the development of empathy among girls during early childhood by van der Mark, IJzendoorn, and Bakermans-Kranenburg (2002), it was found that less attachment security predicted less empathic concern when encountering a distressed stranger. Mikulincer and colleagues (2001) also tested these assumptions in their series of experiments linking attachment and empathy, showing that the priming of attachment-security strengthened empathic reactions, while attachment anxiety and avoidance were inversely related to empathy. Further research by Mikulincer and his team (2005) have proven that attachment-security priming also leads to greater compassion and willingness to help. The opposite was seen among those primed with attachment avoidance.As for those primed with anxiety attachment, they reported higher level of distress, making it difficult for them to respond with helping behavior. Their study implied the possibility that empathy and compassion are effortful processes that demand cognitive resources.

Current Research

Given the recent developments on empathy studies, particularly the three-factor model, this study was done to know the significant predictors of emotional contagion, emotional disconnection and cognitive empathy. Specifically, this study addressed the following questions:

1. Do gender, age, and relationship status predict emotional contagion? Emotional disconnection? Cognitive empathy?
2. Does anxiety-attachment predict emotional contagion? Emotional disconnection? Cognitive empathy?
3. Does avoidance-attachment predict emotional contagion? Emotional disconnection? Cognitive empathy?
4. Does the gender of the participant moderate the anxiety-attachment and avoidance-attachment in the prediction of emotional contagion? Emotional disconnection? Cognitive empathy?

METHOD

Participants

Three hundred and thirty-seven (*N*=337, 230 females and 107 males) responded to the questionnaire. All of them were enrolled in a psychology course in the University of the Philippines Diliman at the time the questionnaire was administered. Their age ranged from 15 to 24 years old, with mean age of 19.33 (*SD* = 1.34). Majority of the respondents reported that they have never been in a relationship (*n*=160, 42.5%), while some reported that they had previously been in a relationship but are currently single (*n*=99, 29.4%), and the rest indicated that they are currently in a relationship (*n*=78, 23.1%) at the time of answering the questionnaire. Only six individuals signified to be working students, while the rest were full-time students.

Measures

Basic Empathy Scale in Adults (BES-A). The Basic Empathy Scale in Adults by Carré, Stefaniak, D'Ambrosio, Bensalah, and Besche-Richard (2013) was used to measure the three components underpinning empathy, namely: emotional contagion, emotional disconnection, and cognitive empathy. There were 20 items for this scale, and each item was rated on a five-point

Likert scale ranging from strongly disagree (1) to strongly agree (5). Six items were classified under emotional contagion (α=.742), another six items under emotional disconnection (α = .805), and the remaining eight items were under cognitive empathy (α =.747). A sample item from the emotional contagion component states, *"After being with a friend who is sad about something, I usually feel sad."* A sample item from emotional disconnection component states, *"My friends' emotions don't affect me much."*. A sample item for cognitive empathy states, *"I can often understand how people are feeling even before they tell me."*

Experience in Close Relationship-Revised (ECR-R). The attachment orientation of participants was measured by the instrument Experience in Close Relationships-Revised (ECR-R) by Fraley, Waller, and Brennan (2000). Two dimensions were measured: attachment-related anxiety and avoidance. The former referred to the extent to which the person is insecure about the partner's availability while the latter pertained to the extent to which the person is uncomfortable being close to others. Each dimension was comprised of 18 items, rated on a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Reliability tests yielded an alpha coefficient of .896 for attachment-related anxiety, and .912 for attachment-related avoidance. A sample item from the anxiety scale states, "*I often worry that my partner will not want to stay with me",* while a sample items from the avoidant scale states, "*I get uncomfortable when a romantic partner wants to be very close.*""

Procedure

The survey questionnaire was administered on-line within a three-week period. A copy of the link to the questionnaire was distributed to different Psychology 101 classes. Further, the link was posted on the bulletin board where the Psychology 101 students could sign up for research participation. After the participants agreed on the consent form, certain demographic information was asked of them. Participants rated the BES-A first, followed by ECR-R. The survey was closed after three weeks. The data was collected and subjected to hierarchical regression analysis to determine the significant predictors for empathy contagion, empathy disconnection, and cognitive empathy. For each empathy component as criterion, gender and age were entered into the first block, while relationship status was entered into the second block, and the attachments (i.e., anxiety and avoidance) were entered into the third block. After the initial hierarchical regression, another regression

was done to see the moderating effects of gender. Interactions of gender and attachment orientations were tested.

RESULTS

Looking at the average revealed that the sample obtained relatively higher scores in anxiety attachment than the avoidance attachment. The average score for anxiety attachment (M = 4.13, SD= .98) is marginally above the median, while the average score for avoidance attachment (M = 2.84, SD= .92) is marginally below the median. Results on empathy components revealed that the sample obtained higher scores in cognitive empathy, followed by emotional contagion, then by emotional disconnection. Both average scores of cognitive empathy (M = 3.95, SD= .527) and emotional contagion (M = 3.48, SD= .734) are above the median, while the average score of emotional disconnection (M = 2.09, SD= .72) is below the median score.

Hierarchical regression was done to determine the significant predictors for each component of empathy. With emotional contagion as the criterion, only gender was seen as significant in the first and second model, with females experiencing more emotional contagion than males. Age and relationships status did not yield significant results. Upon entering the attachment scores in the third model, gender, anxiety and avoidance yielded significant results. The third model was seen to be the most viable model with F (5,331) = 10.127, $p<.001$, R^2 = .133, $R^2\triangle$=.042 (see Table 1).

With emotional disconnection as criterion, only gender yielded a significant result in the first model, with males experiencing more emotional disconnection than females. In the second model, age and relationship status did not yield significant results, but gender remained to be a significant predictor. As for the third model, only gender and avoidance attachment yielded significant results. Anxiety attachment was not seen as a significant predictor for emotional disconnection. The third model was seen to be the most viable model with F (5,331) = 8.095, $p<.001$), R^2 = .109, R^2r=.016 (see Table 1).

As for cognitive empathy, only gender yielded significant results in the first and second model, with females experiencing more cognitive empathy than males. Again, the age and the relationship status did not yield significant

Table 1. Hierarchical Regression Analysis Predicting Empathy Components from Gender, Age, Relationship Status, Anxiety attachment, and Avoidance Attachment

Predictors	Empathy Components					
	Empathy Contagion		Empathy Disconnection		Cognitive Empathy	
	$R^2\triangle$	β	$R^2\triangle$	β	$R^2\triangle$	β
Step 1	.091		.093		.030	
Gender		-.282***		.281*		-.161**
Age		-.061		-.070		-.038
Step 2	.001		.000		.005	
Relationship Status		-.026		-.070		.069`
Step 3	.042		.016		.082	
Gender		-.279***		.284** *		.172**
Anxiety Attachment	.	188**		-.020		-.012
Avoidance Attachment		.146* .		141*		.306***
Total R^2	.133** *		.109**		.117** *	

* p<.05, **p<.01, ***p<.001

results. As for the third model, gender was still seen to be a significant predictor, as well as avoidance attachment, but not anxiety attachment. The third model was the most viable model with F (5,331) = 8.747, $p=.000$), R^2 = .117, $R^2\triangle$=.082 (see Table 1).

Another hierarchical regression was done to test the moderating effects of gender. Anxiety attachment, avoidance attachment, and gender were entered in the first block. Interactions of gender and attachment (i.e., gender x anxiety and gender x avoidance) were entered in the second block. For emotional contagion, gender, anxiety, and avoidance were again found to be significant. However, no significant interaction was found in the interaction of gender and anxiety, as well as gender and avoidance. For emotional disconnection, gender and avoidance were found to be significant in the first model. However, when the interaction was entered in the second model, only the interaction of gender and avoidance was found to be significant. For cognitive empathy, gender and avoidance were found to significant predictors in the first model. When the interactions were entered in the second model, the interaction between gender and avoidance was significant at alpha .05 confidence level. It has to be noted, however, that the interaction between the gender and anxiety (ß= .453, t = 1.889, $p=.060$) was also marginally significant at alpha .10 confidence level (see Table 2).

DISCUSSION

This study particularly focused on the three components of empathy: emotional contagion, emotional disconnection, and cognitive empathy, considered by Carre and colleagues (2013) as important components in discerning the processes in empathy. Certain factors (i.e., gender, age, relationship status, anxiety attachment, and avoidance attachment) were hypothesized to significantly predict each of the components. Moreover, gender of the participants was also hypothesized to have moderated the effect of attachment orientation on empathy components.

Emotional contagion as explained in Carre and colleagues' (2013) study is an automatic replication of another's emotions. It refers to being able to feel the emotions of another individual. This also involves activation of subcortical structures associated with emotion processing (Derntl, et al., 2010, as cited in Carre, et al., 2013). The significant predictors for emotional contagion are gender, anxiety attachment, and avoidance attachment. This study supported previous studies (e.g., Knafo, et al., 2008,

Table 2. Hierarchical Regression Analysis Predicting Empathy Components from Gender, Anxiety attachment, and Avoidance Attachment

Predictors	Empathy Components					
	Empathy Contagion		Empathy Disconnection		Cognitive Empathy	
	$R^2\triangle$	β	$R^2\triangle$	β	$R^2\triangle$	β
Step 1	.128		.103		.114	
Gender		- 293***		300**		- .180**
Anxiety Attachment .		194**		-.027		-.004
Avoidance Attachment		- .135* .		127*		- .291***
Step 2	.003		.107		.029	
Gender		- .540*		.128		- .049
Anxiety Attachment		.164**		.012		-.058
Avoidance Attachment		- .144*		.043		-.194
Gender x Anxiety Attachment		.210 -		.337 .		453+
Gender x Avoidance Attachment		.045		.526**		-.601**
Total R^2	.131**		.210***		.143**	

+ $p<.10$, * $p<.05$, **$p<.01$, ***$p<.001$

Miklikowska, et al., 2011) claiming that females seemed to be better at feeling the emotion of the other. One possible explanation for this is that females utilize higher degree of mirror neurons than males in empathic face-to-face interactions, thereby, facilitating emotional contagion (Schulte-Ruther, et al., 2008). The awareness of feelings of others was also said to be accompanied by stronger emotional resonance among females whereas a more cognitively driven and distant approach to the emotional state of the other person was observed among males (Hoffman, 1977).

Another possible reason why emotional contagion was significantly higher among females is how females are more socialized to be attuned to emotions. It was observed that females establish eye contact faster, longer, and more frequently while males tend to avert eye gaze (Haviland & Lelwica, 1987). Further, in a longitudinal study of parent-child conversations of emotions, parents' references to emotion were more salient, varied, and frequent when conversing with daughters than with sons (Adams, et al., 1995). It was shown in the same study that daughters eventually used more unique emotion terms than sons. This socialization by both mothers and fathers with their daughters may have influenced the emphasis on emotions in their development. Moreover, culture has to be taken into consideration as well, to account for these gender differences. Here in the Philippines, females are reinforced more to attend to emotions, as well as express emotions, compared to males. In a review of child-rearing and gender socialization in the Philippines, it showed that females are given the privilege to cry or complain when distressed or "sad, whereas males are expected to "suffer in silence" or to endure pain without openly expressing discomfort (Liwag, de la Cruz & Macapagal, 1998). In addition, females are expected by parents to be more nurturing and sensitive. Hence, the task of caring for younger siblings is usually assigned to them. Such roles of taking care of others may have provided them more opportunities to be more attuned to and affected by the emotions of the other. Also, in terms of self-construal, females are seen as more interdependent than males (Markus & Kitayama, 1991). They pay attention to others more, and construe themselves as interrelated with others. These expectations from the society as well as the early experiences that females are exposed to, may have honed their ability to attend to emotions and replicate the expressions of other people.

The results also showed that if one has high anxiety, the more likely one would experience emotional contagion. The anxiety dimension of attachment measures the extent of one's insecurity of other's responsiveness. This

insecurity about the other's responsiveness may spur one to be a bit more sensitive to the emotions of the other person (Mikulincer, et al., 2001). If one has the constant fear of being abandoned, then one may constantly attend to the emotions of the other so as to help them know what they can do to keep their partner. Those with anxious attachment tend to be more clingy, jealous, and emotionally intimate (Bartholomew & Horowitz, 1991; Brennan & Shaver, 1995). Moreover, those with high anxiety attachment scores have a positive model of others that could move them to be more thoughtful about others' feelings. Nevertheless, this should be taken within the context that those with anxious attachment do so because they fear that others do not treasure them as much as they treasure others. Although they are more likely to feel the emotion of the other person, the accuracy of their understanding of emotions of the other person is something that may be put into question. Their views on love are strongly related to an obsessive and dependent love style (Collins & Read, 1990). They are also reported to be high in obsessive preoccupation and reliance on the partner (Feeney & Noller, 1990). Feeling the emotion of the other may add to their own distress, leading to self-focused worry and discomfort rather than to taking the perspective of the other person (Batson, 1991; Mikulincer, et al. 2001).

Results also showed that if one has high avoidance, the less likely one would experience emotional contagion. Avoidance is the extent to which one is not comfortable being close to others (Bartholomew & Horowitz, 1991). If one does not want to have anything to do with another person, one would not exert effort to attend to his or her emotions, more so to feel what the other person is feeling. Avoidant individuals express mistrust and a negative view of others (Collin & Read, 1990; Feeney & Noller, 1990). They also avoid excessive intimacy and commitment (Simpson, 1990), which could explain why they are not as attuned or sensitive to other people's feelings and emotions. Gender was also tested as a possible moderator of anxiety and avoidance attachment, However, this did not yield significant results. The significant predictors of emotional contagion are the independent contribution of gender, high anxiety attachment, and low avoidance attachment.

Emotional disconnection is another component of empathy proposed by Carre and colleagues (2013) as this is believed to be a regulatory factor in the empathy process. Emotional disconnection involves self-protection against extreme emotions. It also pertains to not letting the emotions of the other affect one. Gender was found to be a significant predictor, where males

were seen as more associated with the tendency to emotionally disconnect than females. This supported the contention of Carre and colleagues (2013) who also found the same significant differences between males and females on emotional disconnection. Biologically, it has also been discovered via functional magnetic resonance imaging (fMRI) that there is increased activation in the "temporoparietal junction (TPJ) during attribution of emotion tasks among males (Schulte-Ruther, et. al., 2008). The TPJ is an area related to the distinction of the self- and the other- perspective. This ability to differentiate the self and the other somehow protects a person from getting overly involved and enmeshed in the situation and may explain why males exercise more of this regulatory component of empathy called emotional disconnection compared to females. Whereas the typical female brain was characterized by a superiority of empathizing emotionally, the typical male brain was seen better at systematizing capabilities such as analyzing rules of system and predicting behavior (Schulte-Ruther, et al., 2008). Another possible explanation of this may also stem from the culture and socialization of males who are expected to be more in control of their emotions than females. They are not reinforced to show emotions (Liwag, et al., 1998). Further, males are socialized to be protectors, particularly of females and younger ones, to ensure survival and safety of everyone (Aguiling-Dalisay, et al., 2000). This image of males being more in control of emotions and situations may have contributed to this tendency to move away a bit emotionally, so as to be able to see things from a larger perspective, without letting their emotions cloud their behaviors and decision-making skills.

Avoidance attachment is also seen as a significant predictor. The higher the avoidant attachment of an individual, the more likely one is capable of emotional disconnection. As discussed about avoidant attachment behaviors, the individual is more likely to distance one's self as well as more likely to report that they have never been in love (Feeney & Noller, 1990). Those with avoidant attachment do not seem to care about relationships, which could facilitate the disconnection from another's emotions. One must also note that those who have developed avoidant attachment have histories of rejection, particularly from their primary caregiver. Hence, this may have brought them to be more careful of not letting themselves be enmeshed with another's emotion.

Gender also moderated the effect of avoidance attachment. A male with high avoidance attachment is more capable of disconnecting emotionally. This supports what has been observed that males with high avoidance

attachment experience less emotional distress following a dissolution in the relationship (Simpson, 1990). They have higher tendency to protect themselves from the pain of the break-up by inhibiting themselves from feeling further emotions.

Cognitive empathy refers to one's ability to understand another person's affect and emotions. It allows one to be more aware of another's feelings, as well as cognizant of the other's perspectives and views. Again, there were gender differences observed with females scoring higher in cognitive empathy than males. Similar to most studies on empathy (e.g., Gilet, et al., 2012, Joliffe & Farrington, 2006; Miklikowska, et al., 2011), this study found that females are good at decoding emotions and understanding the perspective of another. Females are said to be better at processing, storing, and retrieving social stimuli even at a younger age, enabling them to be better at decoding nonverbal communication more than males (Haviland & Malatesta, 1981, cited in Doherty, 1995).

Culturally, a female child is also expected to assist the mother in the shared task of nurturing and taking care of family members, particularly of siblings when they are at a younger age, or of the aged parents (Liwag, et. al., 2008). This training of providing care for others may have enabled them to be better at taking different perspectives, and understanding different emotions. Further, Liwag and her co-researchers (2008) have shown that in terms of play, female children are seen to engage in more role-playing activities such as bahay-bahayan (playing house) or tinda-tindahan (store-keeping), compared to male children who were more into rough-and-"tumble play such as baril-barilan (gun-fighting), and pretend-fist-fights. These kinds of games such as playing house and store-keeping involve conversing and transacting with another person, enhancing cognitive perspective taking abilities. Moreover, female children were seen to imitate and role-play conversations and situations observed at home, training them to somehow internalize another person's attitudes and opinions.

Low avoidance attachment also significantly predicted cognitive empathy. This just shows that one's ability to be relaxed and comfortable with another person may have facilitated one's ability to understand the other person better. Further, the absence of tension and discomfort when with another person will allow one to understand the perspective and feelings of the other. They are less cynical of others, and are more likely to have a positive view of others (Bartholomew & Horowitz, 1991; Collins & Read, 1994).

Gender also moderated the effect of avoidance attachment on cognitive empathy. In this model, females with low avoidance are more capable of understanding another's affect, emotions, and perspective. These are females who are capable of closeness and interdependence. They approach people more, rather than avoid them, hence, increasing their ability to see the perspective of others. Gender was also seen to marginally moderate the effect of anxiety attachment. It seemed that males with high anxiety attachment may have better ability to understand the emotions and perspective of another. Although this may merit further studies, it may be noted that there is a possibility that a certain ounce of vulnerability, clinginess, and jealousy, evident among those with high anxiety attachment, could somehow influence males to be more aware of how another person thinks.

SUMMARY

This has shown that gender differences were apparent in each component of empathy. Females seemed to have experienced emotional contagion and cognitive empathy better than males while males showed themselves better at emotional disconnection. These differences may be attributed to certain neurobiological differences, such as females utilizing more mirror neurons than males, and males activating the area associated with differentiating self-and-other perspectives. Moreover, how masculinity and femininity are defined by the culture and society may also influence these gender differences in empathy. Females seem to be reinforced to attend and react to emotions more, whereas males seemed to be favored when they keep their emotions to themselves. Also, females are expected to be more sensitive and nurturing as these are aligned with their anticipated future social role as mother or caregiver. On the other hand, males are trained to be more logical and independent as they are expected to be the main problem-solver, and protector. While females are supposed to reach out, males are predicted to be in control. Whereas females are socialized to show and express emotions, males are assumed to keep emotions in check. These can also be seen in the way parents interact differentially with their daughters and sons, especially in terms of handling emotions.

As for attachment, high anxiety and low avoidance are associated with emotional contagion, high avoidance is related to emotional disconnection, and low avoidance is connected to cognitive empathy. Anxious attachment is depicted as insecurity regarding the responsiveness of others. They often

worry of abandonment. This kind of insecurity and fear may have led them to be more affected by the emotions of others, causing them to be more vigilant of the responses of other people. Moreover, those with anxious attachment have positive views of others, but negative views of self. The positive view towards others may have led them to be sensitive and attentive to others, "but their negative view towards self may have inclined them to interpret emotions according to their insecurities and worries. On the other hand, avoidant attachment refers to one's discomfort in being with other people. Those with high avoidance attachment are understandably able to emotionally disconnect, as they are predisposed to move away from people more. They are uncomfortable being with others, hence, it is easier for them to detach themselves, and not be bothered by the emotions of other people. What other people may be experiencing or feeling is not their main concern, hence, they can easily move away and not care at all. They do not want to get involved right from the start for fear of getting hurt. The same principle can be used as an explanation of why those with low avoidance attachment are more capable of cognitive empathy. Those with low avoidance are not afraid to become emotionally close to others. They are capable of trusting others, and letting others get intimate with them. It seems that a certain level of closeness facilitates the ability to understand others better. Moreover, no worries or fears hinder their way of extending themselves so as to comprehend and fathom what another person is going through or trying to say.

This research basically underscores the importance of experiences, socialization, and relationships in the development of empathy. Each relationship is important, whether it be a relationship with parent or a significant other. These relationships contribute to how one develops empathy. An understanding of self and the recognition of attachment orientation would help in comprehending how one usually responds to another's situation and experiences. It is recommended that these matters be considered in developing materials for empathy enhancement and training.

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