EVOLUTION OF GENDER DIFFERENCES IN ADULT CRYING

by

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ABSTRACT

EVOLUTION OF GENDER DIFFERENCES

IN ADULT CRYING

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The evolutionary function of gender differences in adult crying was investigated, specifically whether females were selected to cry more than males ostensibly to aid in their survival. Both studies were based on the idea that crying is a signal to others that attention is needed. Study 1 examined how female crying acts as a signal to alert males during a conflict that they have overstepped boundaries, and thus, crying prevents conflict escalation. Study 2 investigated female crying as a signal that requests help and acts as a catalyst in bonding between females, thus strengthening their social networks and increasing their protection from males and predators. Results for both studies provide partial support for predictions of crying as an evolutionarily

adaptive behavior. Study 1 found that conflict resolution was reported more when the female character cried at the end of conflict suggesting that crying is signaling a need for attention or support. Conflict escalation was reported more in the condition where the female character does not cry. This suggests that when there is no signal for need, the conflict is more likely to end in escalation. The only significant result from study two was that female participants felt closer to the female confederate on the film clip than did male participants, across all conditions. This supports previous research that asserts females' need for social networks to aid in survival. This research is primarily exploratory and the preliminary evidence indicates that with methodological adjustments future research should be more conclusive in supporting the predictions for the evolution of gender differences in adult crying.

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CHAPTER 1

STUDY ONE

1.1 Introduction

Both humans and non-human primates use nonverbal communication to signal to others different emotions and messages. Research on the relationship between nonverbal communication and the emotions these behaviors convey has been primarily descriptive. A notable exception is found in research that examines the functional aspect of nonverbal communication. Unfortunately, this research focuses on situational or environmental features, such as culture and interpersonal distance, personality correlates of gaze, and sex differences in touch and leave out the biological bases or evolutionary functionality of these nonverbal behaviors (Patterson, 2003).

Several researchers have investigated the advantages that humans gain by using specific nonverbal expressive patterns. For example, nonconscious mimicry has been found to increase liking (Dijksterhuis & Bargh, 2001), emotional expressivity increases cooperation (Boone & Buck, 2003), and laughter increases positive affect toward the person laughing (Owren & Bachorowski, 2003). In all three cases it appears that the value of the nonverbal communication is to increase the liking of the sender and thus improve the sender's success in group living situations.

Crying may have similar evolutionary adaptive value in accomplishing interaction goals. The act of shedding emotional tears is exhibited only by humans and it is an important communication device. Crying signals life to those around us at our birth and it signals death when those around us cry at our funerals. Throughout our lives we find ourselves and those around us crying for a multitude of reasons: personal suffering, physical pain, separation, loss, failure, anger, guilt, and joy (Miceli & Castelfranchi, 2003). Infants cry with the greatest frequency and crying serves mostly as an auditory expression of need. Human infants are virtually immobile and have no way to communicate their needs except through rudimentary vocalizations like crying. As we age and learn to speak we have less need to use crying to get what we want and need. Adult crying occurs infrequently and is mainly visual and represented by tears running down the face. Although crying is an important part of our lives, there is limited research on crying compared to other nonverbal behaviors, such as laughter. The functionality of infant crying seems clear, but it isn't as clear why we continue to cry as adults when we are able to verbally communicate our wants and needs. There is very limited research on the possible functions of adult crying and specifically whether there are evolutionary reasons for why females cry more frequently than males.

Functions of Crying

Some researchers proposed that the sole purpose of crying was to protect the eye. Darwin (1872) determined that the muscles contracting around the eye were the reason for tears. This contraction helped prevent the facial muscles from becoming engorged with blood. He also believed that tears were the only exception to the

evolutionary functionality of all behaviors and body structures. Montagu (1959) disagreed with Darwin and suggested that tears were necessary for the survival of the human species. These tears, containing the antibacterial enzyme lysozyme, were hypothesized to be a protective mechanism against rapid drying out of the mucous membranes and the subsequent contraction of ocular and upper respiratory diseases. Without eyesight our ancestors would not have been able to find food, shelter, mates, or avoid predators.

Frey (1985) began his work under the same assumption as Montagu: that the sole purpose of tears was to protect the eye and ensure viable human vision. Frey discovered that human tears resulting from emotion are composed of different substances than tears resulting from the eye drying out. Emotional tears contain higher concentrations of proteins, manganese, and the hormone prolactin. Prolactin is produced during stress-induced danger or arousal. This finding led Frey to conclude that the function of crying was to remove excessive amounts of prolactin from the body and restore biochemical conditions for an improved mental state.

The communicative function of crying has found the strongest support in the research on human survival in infancy. Human infants are immobile and have limited communication options. Crying is the most efficient form of communicating to the caregiver that they need food, love, or protection (Bowlby, 1969). In most cultures the response to crying infants is picking up the baby and nursing. Infant crying has been shown to cause a rise in breast temperature in lactating females and to trigger the milk let down reflex (Ziefman, 2001).

Bowlby (1958) described crying as part of the attachment system that results in attention and sympathetic responses. At around seven months, infants' crying is used to gain attention and is seen as the beginning of the attachment relationship between the caregiver and the infant. This stage in infancy is marked by a new mobility and exploration. Crying at this stage will aid in attachment and signal to the caregiver when the infant is in danger. The response of the caregiver is important in shaping the attachment bond. If the caregiver is consistent in answering the cries of the infant then a secure bond will develop. However, any inconsistency or neglect of the infant's cries will result in a weak attachment bond (Bell & Ainsworth, 1972). Specifically, inconsistency by the caregiver will result in an anxious/ambivalent attachment, while consistently never being there for the infant will result in an avoidant attachment. In the growth from infant life to adulthood, the primary caregiver changes from parent to significant other. The significant other is now responsible for fulfilling needs similar to those filled by the primary caregiver in infancy. As a result, adult attachment style can be determined by examining the consistency with which the significant other meets their partner's needs (Shaver & Hazan, 1993). As humans age, they develop other forms of communication, mostly verbal, to alert those around them that they are in need. Although crying no longer exists to ensure our basic survival needs are met, the visual form it takes in adulthood may serve an evolutionary purpose.

It has been suggested that in adulthood crying functions as a display that communicates something important to the individual or the people around them. Murube, Murube, and Murube (1999) conducted a study to investigate what emotional

tears communicate. They used 160 medical students at the University of Alcala, Madrid, Spain. These students were asked to describe their crying episodes for 1-2 weeks. Researchers examined and coded 465 episodes which suggested that emotional tears serve two purposes: one purpose is to request help or communicate that a problem has arisen such as hunger, pain, loneliness or fear; the second purpose is to offer help with tears. These tears result from watching a fellow human's trouble or grief. This method for classifying tears replaces the idea that tears are either the result of positive or negative feelings and suggests that tears exist for communicative purposes.

Gender Differences in Adult Crying

An important finding in crying research is that prior to puberty there isn't a difference between males and females in crying frequency (Hastrup, Kraemer, Bornstein, & Trezza, 2001) Several studies looking at newborns and toddlers also confirmed that there were no sex differences in crying (Feldman, Brody, & Miller, 1980; St. James-Roberts & Halil, 1991). In some cases the research went as far as to suggest that male toddlers may cry more often than female toddlers (Kohnstamm, 1989; Moss, 1967; Philips, King, & DuBois, 1978). Around the age of 11 to 13 when puberty begins is when researchers observe a sex difference in the frequency of crying (Hastrup et al., 2001).

The fact that the sex differences don't emerge until puberty even though sex-role socialization begins at birth, suggests that biology plays a part in this difference. Supporting this assertion, researchers have found that there are indeed biological factors influencing gender differences in crying frequency. The hormone prolactin has been

suggested to increase the production of emotional tears. The production of this hormone increases in women around the age of puberty and this age correlates with observed gender differences in crying (Frey, 1985; Vingerhoets & Scheirs, 2000). Moir and Jessel (1995) found that androgen levels were inversely related to crying. Insofar as male mammals have higher circulating levels of androgen than females, this difference may have some explanatory power for describing the sex difference in crying.

Other researchers have concluded that gender differences in adult crying reflect evolution at work. Murube (1997) hypothesized, without testing the idea, that from an evolutionary perspective, the ability of men to withhold their tears contributes to their survival and selection. He further speculated that in our ancestral past, males were typically the defender of the group and were expected to protect the women and children. If these males cried, the tears would interfere with their ability to fight and protect their group. Male crying could also be interpreted as weakness by females and as a result would be selected out of the population because weak males would be less attractive as mates.

Conflict, Violence, and Crying Literature

In our evolutionary past, the ancestral women in hunter/gatherer societies would have found themselves facing external predators like tigers, hyenas, packs of hunting dogs, and human males (Taylor et al., 2000). Today, women are less likely to fear such external predators, but research suggests that women still have a need to fear abuse from human males. It has been suggested by Taylor et al. (2000) that one evolutionary advantage to women pairing off with men is that men can protect them from other men.

However, women still, in some cases, have to fear abuse from their mates. Within families, child abuse and spouse abuse show alarming base rates (Buss, 1989). Daly and Wilson (1988) found that assault and homicide data suggest that women are most likely to be abused or killed by their own mates. Taylor et al. (2000) cites several researchers (Goodman, Koss, Fitzgerald, Russo, & Keita, 1993; Malamuth, 1998; Straus & Gelles, 1986) who found that the percentage of women who have been assaulted by their partners in North America ranges from 20-50%.

Crying research supports the idea that women's tears are an efficient way of communicating to males that they have overstepped boundaries. Kottler (1996) suggests that one of the most effective ways to stop intimidation by aggressors is through crying. He suggests that crying serves as a symbolic "white flag." Shaver, Schwartz, Kirson, and O'Connor (1987) found similar results suggesting that crying may curtail aggression by others. Finally, Krebs and Dawkins (1984) found that individuals will use crying to achieve interaction goals. These interaction goals are not necessarily intentional manipulation of the male, but possibly intended to communicate the goal of stopping the conflict or resolving the issue. Bekker and Vingerhoets (1999) suggest that crying doesn't solve the conflict between a husband and wife. However, the wife's crying may help the husband to take her seriously, comfort her, and this can contribute positively to a problem-solving conversation.

Men and women's reactions to crying have been studied and results suggest that overall, women who cry are viewed more favorably than men who cry (Jesser, 1985). Fischer (1993) found that women receive more consolation, support, and comfort when

they cry than men who cry. Cretser, Lombardo, Lombardo, and Mathis (1982) examined attitudes toward crying. They found that both men and women see a woman crying as acceptable, participants' sympathize, and want to help her. When viewing men crying, male participants respond with more negative evaluations of this behavior than female participants who view the behavior.

Tend and Befriend Hypothesis, Stress, and Crying

Taylor et al. (2000) suggested a new theoretical model to address females' response to stress, "tend and befriend." The fight-or-flight hypothesis as a response to stress doesn't make evolutionary sense for females. Females in hunter/gatherer societies were responsible for taking care of children and sticking close to camp. If during times of stress (i.e., possible predators) women attempted to fight or flee, it could result in their death or the death of their offspring. Women are also not in an ideal position to fight or be able to flee when pregnant or with small children. Taylor et al. (2000) explain the basic premises of their theory that women "tend," quieting and caring for offspring as well as blending into the environment and "befriend," or form social networks with other females to ensure protection from predators while the men are off hunting. Research on stress supports the "tend and befriend" theory. In several studies they found that when subjected to stress women, more than men, had a strong desire to affiliate, had stronger feelings of liking for familiar others, and wanted closer interpersonal distance between them and similar others (Belle, 1987; Bull et al., 1972).

The "befriending" premise of Taylor et al's (2000) theory supports the evolution of crying in women for communicative purposes. Women require other women in their

social networks to provide protection. They need to form social bonds with these women and crying is an effective form of communication to rapidly strengthen these bonds. Kottler and Montgomery (2001) suggest that crying is a powerful means to bring people closer and strengthen the bonds between people. It is also suggested by Zeifman (2001) that crying is a means of soliciting aid and assistance from others. Hill and Martin (1997) found that crying can convey emotional support and empathy. It may also be seen as a plea for support when attachment bonds are broken, such as during death or relationship break ups (Cornelius, 1997).

Present Research

Previous theorizing has sought to address possible reasons for why males were evolutionarily selected to withhold tears. The present research investigated two potential reasons for why women were selected to cry and how may make them a better "fit" for their environment and therefore, more likely to survive. First, the possibility that crying represents a form of nonverbal communication that functions to reduce conflict between males and females and to protect females from the threat of potential abuse was investigated. Thus, in this perspective, tears could symbolize a "white flag," an admission of guilt, or a boundary violation. A second potential function of women's crying was also examined. It is possible that crying evolved as a signal to let other females know they need assistance thereby facilitating bond formation and strengthening their social networks. This is further supported by the research on the "tend and befriend" theory that suggests these networks provide protection from males and other predators.

Study one examined the possibility that crying during simulated conflict with a male is an efficient way to communicate to the male that the conflict has gone too far. To investigate this assumption, participants' read several scenarios representing a conflict between a male and female. Some conflicts ended with the female character crying and others ended with the female character excessively apologizing without crying. Participants were asked to respond to how likely they thought cessation would be the result of the scenario, then how likely resolution would be the result of the scenario, and finally how likely they thought escalation would be the result of the scenario. Several predictions were made based on past research suggesting that crying doesn't resolve conflict, but may help to have the female be taken seriously, be comforted, or contribute positively to a problem-solving conversation. The first prediction was that both male and female participants will report that when the female character in the scenario cries, there is a greater likelihood that the conflict will result with cessation or resolution compared to the outcome of escalation. When the female character doesn't cry it is predicted that male and female participants will report a greater likelihood that the conflict outcome will be escalation compared to cessation or resolution. When we look at each outcome individually across cry conditions, it is also predicted that participants will report that conflicts where the female cries are more likely to end in cessation compared to the when the female doesn't cry, more likely to end with resolution when the female cries compared to when she doesn't cry, and finally, escalation should be less likely when the female character cries compared to when she does not cry. No participant gender differences were expected.

Based on research that suggests that adults who cry and have their needs consistently met will form a secure attachment bond, we expect when the female character cries, secure participants will indicate that the outcome is more likely to end in cessation and resolution as opposed to escalation. When the female character doesn't cry we expect to find that secure participants will select the escalation outcome as more likely to be the result of the conflict than the other two outcomes. Anxious/ambivalent participants have had their needs met inconsistently, thus these participants are expected to sometimes report cessation and resolution outcomes and other times escalation outcomes across the cry and no cry conditions. Avoidant participants who have found that crying does not result in their needs being met and subsequently have formed weak bonds with their caregivers, should report that conflicts are more likely to result in the escalation outcome compared to cessation or resolution. We should find that avoidant participants report cessation and resolution are likely occurrences at the end of the conflict when the female is not crying.

Attachment is one way that we can try to examine what participants have learned about the functions of crying. Another way to examine what participants have learned about the functions of crying is to use a part of the Adult Crying Inventory that measures functions of crying. With this measure one either believes that crying serves positive, health promoting functions or it serves no positive or health-related purposes. It is predicted that when participants feel that crying serves a positive, health-promoting function there will be a strong positive relationship with cessation and resolution and a negative relationship with escalation when the female character cries.

The type of relationship between the male and female could affect responses to females crying during a conflict. To investigate this possibility, two types of relationships will be investigated: a work relationship and a romantic relationship. I expect to find a difference between the work (co-worker/co-worker) and romantic relationship (girlfriend/boyfriend) scenarios. In a work environment, individuals who are successful tend to exhibit masculine characteristics of strength and follow male gender roles. Males who cry are viewed as weak and perceived more negatively than females. So, females who cry at work in front of their co-workers may be perceived less favorably and participants should report that escalation is more likely to occur than when a female cries in a romantic relationship conflict. Cessation should be reported as more likely to occur in a romantic relationship compared to a work relationship. Finally, resolution is expected to be reported as more likely to occur in a romantic relationship conflict compared to a work-related when the female cries.

1.2 Method

Participants

A total of 214 (52 males, 162 females) UTA Introductory Psychology students and upper level psychology students participated in this study for partial fulfillment of a course requirement or for extra credit.

Conflict/Crying Scenarios

All participants were asked to read four conflict scenarios and evaluate the likelihood that the conflict would result in the following three outcomes: cessation, resolution, or escalation. All four relationship scenarios involved a relationship conflict

between a man and a woman who had equal power. One scenario depicted a male/female work relationship (co-worker/co-worker). Another scenario described a male/female romantic relationship (boyfriend/girlfriend). Two filler conflict scenarios that did not end in crying were also included to prevent participants from discovering the true nature of the experiment. These filler scenarios were composed of varied male/female relationships. The participants were randomly assigned to either the crying condition where they read work and romantic relationship scenarios that either ended with the female character crying or the no crying condition where they ended without the female character crying but instead she excessively apologized. Participants, after reading each scenario, were asked to indicate the likelihood of three possible outcomes of the conflict. (see Appendix C).

Attachment

The 17-item Adult Attachment Questionnaire (AAQ) (Simpson, Rholes, & Phillips, 1996) was used to assess participants' feelings of attachment to their romantic partners. The AAQ is assessed on a 7-point Likert scale with responses ranging from 1-strongly disagree to 7-strongly agree. Sample items include: *I find it relatively easy to get close to others* and *I don't like other people getting too close to me.* The reliability for the avoidant scale which consisted of items 1-3 and 5-9 was acceptable (α = .75). The reliability for the ambivalent scale was also acceptable (α = .78). Secure attachment is determined by low scores on both avoidant and anxious/ambivalent scales. The reliability for all scale items was acceptable (α = .78). (see Appendix C).

Adult Crying Inventory

The Adult Crying Inventory is a five part questionnaire used to measure different facets of crying behavior. Only the 24-item subscale (Part B) that assesses participants' beliefs about the functions or purposes of crying was used in this research (i.e., do they perceive crying as positive and health-promoting or negative with no health-promoting benefits). Sample items include: *Crying helps me deal with my problems* and *I feel ashamed after I cry.* The reliability for this scale was good ($\alpha = .91$). (Vingerhoets & Cornellius, 2001). (see Appendix C)

Outcome

Three possible outcomes were assessed: cessation: resolution: and escalation. These outcomes were assessed on a 6-point Likert scale, ranging from 1 -extremely unlikely to 6-extremely likely. Cessation was assessed with the item: *The situation is terminated by one party walking away*. Resolution was assessed with the item: *Main male character apologizes in an attempt to resolve the issue*. Finally, escalation was assessed with the item: *Main male character gets even angrier* and *the situation gets worse*.

Procedure

Participants completed a packet containing several scenarios, the Adult Attachment Questionnaire, and the Adult Crying Inventory. All participants read and responded to the counterbalanced order of the conflict scenarios. They were randomly assigned to either complete scenarios that ended with the female character crying or to complete scenarios that ended without the female character crying. The participants

then completed the Adult Attachment Questionnaire (AAQ) and the Adult Crying Inventory.

1.3 Results

Conflict Scenarios

A 2 (crying condition: crying vs. no crying) X 2 (sex of participant: male vs. female) X 3 (attachment: secure vs. anxious/ambivalent vs. avoidant) X 3 (outcome: cessation vs. resolution vs. escalation) factorial ANOVA with repeated measures on the last factor was conducted to examine the predictions about likelihood of occurrence among the different factors. The attachment variable exhibited no main effect or interactions with any of the other study variables, so it was dropped from subsequent analyses. Thus, the results are based a 2 (crying condition: crying vs. no crying) X 2 (sex of participant: male vs. female) X 3 (outcome: cessation vs. resolution vs. escalation) factorial ANOVA with repeated measures on the last factor.

Results of the analysis revealed a significant interaction between the type of conflict outcome and the cry condition, F (2, 418) = 4.09, $p < .05$. Cessation (M = 4.22, SD = 1.17) and escalation (M = 3.95, SD = 1.10) were reported as more likely outcomes of the conflict compared to resolution (M = 3.28, SD = 1.06) when the woman cried in the scenario, F (2, 202) = 15.44, $p < .0001$. There was no difference in the likelihood of occurrence between cessation and escalation. Again, cessation (M = 4.28, SD = 1.18) and escalation (M = 4.25, SD = 1.06) were reported to be more likely to occur than resolution (M = 2.73, SD = 1.14), F (2, 220) = 57.40, $p < .0001$. A graphical representation of these data can be found in Appendix A.

Simple effects for each outcome across level of crying also resulted in significant findings. Resolution was reported as a more likely outcome in the cry condition (M = 3.28, SD = 1.06) compared with the no cry condition (M = 2.73, SD = 1.14), F (1, 212) = 13.17, $p < .001$. Escalation was reported as a more likely outcome in the no cry condition (M = 4.25, SD = 1.06) compared to the cry condition (M = 3.95, SD = 1.18), F (1, 212) = 4.16. Cessation likelihood of occurrence scores were similar across conditions.

Results also revealed some incidental findings that were unrelated to the predictions for crying. An interaction between outcome and sex also emerged, F (2, 418) = 6.21, $p < .01$. Males reported that escalation (M = 3.89, SD = 1.06) was more likely than resolution (M = 3.34, SD = 1.06), F (2, 102) = 2.99, $p < .05$. No differences were found between cessation and resolution or cessation and escalation. Cessation (M = 4.40, SD = 1.11) and escalation (M = 4.18, SD = 1.09) were reported as a more likely outcome compared to resolution (M = 2.80, SD = 1.14), F (2, 320) = 71.10, $p < .0001$. Females (M = 4.40, SD = 1.11) reported cessation as a more likely outcome compared to males (M = 3.79, SD = 1.25), F (1, 212) = 11.12, $p < .01$. Males (M = 3.34, SD = 1.06) reported resolution as a more likely outcome than females (M = 2.80, SD = 1.14), F (1, 212) = 6.27, $p < .01$. There was no difference in the likelihood of occurrence scores for escalation between sexes (see Appendix B Table 1 and 2 for means and standard deviations).

Type of Relationship: Romantic vs. Work Conflicts

To examine the prediction that female crying will lead to conflict cessation more frequently in romantic conflicts compared to work conflicts, a 2 (cry) X 2 (sex) X 2 (Type of Relationship: romantic vs. work) factorial ANOVA with repeated measures on the last factor was conducted. Results didn't reveal any effects of type of relationship on crying. Results did reveal some interesting findings not directly related to the predictions. A with-in subjects interaction of Type of Relationship X sex was also found, F (1, 209) = 7.61, $p < .01$. Simple effects reveal that males report that cessation is more likely to occur in work-related conflicts (M = 4.26, SD = 1.48) compared romantic relationship conflict (M = 3.31, SD =1.46). Contrary to our predictions, females reported the outcome of cessation equally, regardless of relationship type.

The prediction that resolution would be reported as more likely to be result of romantic relationship conflicts than work-related conflicts was investigated by using a 2 (cry) X 2 (sex) X 2 (type of relationship: romantic resolution vs. work resolution) factorial ANOVA with repeated measures on the last factor. Results for this analysis didn't suggest any effect of the outcome on the crying variable. However, the other variables not central to the main predictions did reveal some significant findings. A between-subjects main of effect of cry was found, F (1, 209) = 8.37, $p < .01$. In line with the prediction, the outcome of resolution was reported to be more likely to occur when the conflict ended with crying (M = 3.29, SD = 1.48) than when it ended with no crying (M = 2.73, SD = 1.44). A between-subjects main effect for sex was also found, F (1, 209) = 4.28, $p < .05$. Contrary to our prediction that there would be no sex

differences in participants' responses, males (M = 3.33, SD = 1.41) reported that resolution was more likely to occur regardless of crying compared to females (M = 2.89, SD = 1.49). A significant main effect of type of relationship was also discovered, F (1, 209) = 5.54, $p < .05$. Romantic relationships (M = 3.15, SD = 1.47) resulted more often in resolution than work-related relationships (M =2.84, SD =1.48).

Escalation was predicted to occur more in work-related conflicts and to examine this hypothesis a 2 (cry) X 2 (sex) X 2 (outcome: romantic escalation vs. work escalation) factorial ANOVA with repeated measures on the last factor was used. No significant results were found. The likelihood of conflicts to result in escalation was similar across conflict type regardless of cry condition.

Adult Crying Inventory: Belief about Function of Crying

A principal components analysis was conducted on the 24-item function of crying scale using ones as prior communality estimates. The principal axis method was used to extract the components, and this followed by promax (oblique) rotation. This rotation was chosen because of the correlation between the items. Four components emerged after rotation. These components accounted for 63% of the total variance.

After rotation six items were dropped for strongly loading on two components. One item was dropped for not loading on any component. The remaining items now loaded on one of four components. The first component comprised items 3, 8-12, and 14-16. This component was named benefits of crying. The second component, control of crying, consisted of items 13, 19, 21, 23. Component three, emotionality of crying was formed with items 7 and 18. The last component consisted of items 22 and 24 and

was labeled others response to crying. The first component had strong reliability (α = .91). The second component reliability was moderate (α = .70). The third and fourth components had weak reliability (α = .40) and (α = .43), respectively.

Correlational analyses were conducted on the four components, benefit of crying, control of crying, emotionality of crying, and other response to crying with three outcomes: cessation, escalation, and resolution in the cry or no cry condition. Predictions were that there should be a positive relationship between scoring high, believing that crying is positive and reporting a strong likelihood that the conflict would end in cessation and resolution in the cry condition. In the no cry condition, a negative relationship was predicted between scoring high on the adult crying inventory and reporting a lesser likelihood that the conflict would result in cessation and resolution. One significant correlation was found for benefit of crying and resolution in the cry condition, (r = -.21), $p < .05$). No significant relationships were found in any of the other analyses.

1.4 Discussion

Conflict Scenarios

The predictions examining differences in conflict outcomes across sex and level of crying were partially supported. Cessation, as predicted, was rated more likely than escalation in the cry condition, but it also occurred more than escalation in the no cry condition. The fact that cessation was chosen as the most likely result of the conflicts regardless of whether the female character cried or just apologized excessively could possibly be explained by how all participants processed the scenario. When participants

chose cessation, compared to resolution or escalation, it requires the least amount of resources, for both the character in the scenario and the participants reading the scenario. Walking away requires no commitment to aggress or try to make things better. Chaiken (1980) discusses how we are motivated tacticians. It is adaptive for individuals to be selective about which situations they are willing to give resources to. In order to invest resources in a situation the individual has to be actively involved and able. In this particular situation participants felt removed from the conflict. It was happening to Paul and Sue or Jill and Kurt, not to the participant. It is possible that if the situation was more directly relevant to the participant or worded in such a way that allowed the participant to vividly place themselves in the situation, they would have reported that resolution or escalation were more likely outcomes to the conflict.

Escalation was reported to be more likely to occur than resolution across both crying and no crying conditions. This is contradictory to the prediction that it would occur more than resolution only in the no cry condition. Closer examination of the word choice used for the description of the resolution outcome led us to believe that it is possible that participants were hesitant to select it as likely to occur because the male has to apologize before the situation can be resolved. When someone apologizes it suggests that they are taking responsibility or blame for the conflict. Participants may have been more inclined to select resolution if it didn't seem like the male character was taking responsibility. It is also possible that participants' were following their male/female conflict script. Script theory suggests that interpersonal scripts are formed from our interpretations of cultural scenarios. These cultural scenarios consist of

popular media and important peer groups (Simon and Gagnon, 1986). A lot of television programming and movies end with male/female conflict with escalation. Escalation is more exciting and makes for better programming.

The idea that crying aids woman by signaling a need for attention or support is further supported by the fact that resolution, consistent with our predictions, was rated as more likely in the cry condition than in the no cry condition. Research has suggested that crying signals to the male that conflict has gone too far and should stop before it escalates. Resolution can only occur if the conflict stops and it makes sense that in the situation where the female cries she is signaling to others that the conflict should cease and be resolved. Also, in line with our prediction was the finding that escalation was selected as the more likely outcome in the no cry compared to the cry condition. This lends evidence to the overall idea that if crying doesn't signal the male that the conflict has gone too far then escalation is likely to be the result. This escalation could lead to harm of the female and keep her from realizing her fitness.

Male participants were found to report escalation more than resolution. This finding can also be attributed to the word choice of the resolution outcome which is discussed above. Male participants would be reluctant to choose the option where they accept all of the blame to resolve the issue. Females reported more cessation than males. Contrary to the prediction that there would be no gender differences in the likelihood selection of cessation as a conflict outcome, females tended to report that cessation was more likely to be the outcome of the conflict compared to males. It is possibility that the

females chose cessation more because it was the only option where the female had control of outcome. The other options were male-initiated.

Type of Relationship: Romantic vs. Work Conflict

There were no significant findings across relationship type and cry conditions. The results that were significant suggest that in general individuals' perceptions of romantic and work relationship conflict end differently regardless of whether the female cries or doesn't cry. Romantic relationship conflict ended in resolution more than work relationship conflict. Males reported that cessation was more likely to occur in work compared to romantic conflict scenarios. These results seem to be in line with following script theory and the appropriate social norms. Social norms are rules and standards that guide our behavior (Cialdini & Trost, 1998). Scripts contain a set of expected behaviors (Ginsburg, 1988). It seems that participants know that romantic relationships should be more likely to be resolved than work relationships. For males it is most appropriate to walking away and cease to have the conflict in a work environment. Resolution was reported more by males than females. There was no significant difference in the reporting of likelihood for the outcome of escalation or cessation across type of scenarios.

Attachment

Unfortunately, attachment appears to have no relationship with conflict outcome selection. This is surprising because crying is an attachment behavior. It is possible that the lack of findings can be attributed to the way the attachment was measured. It is possible that it isn't tapping into the part of attachment that affects reactions to crying.

Attachments are formed in infancy as a result of others' response to our crying behavior (Bell & Ainsworth, 1972). Perhaps childhood attachment would have been more beneficial to measure rather than the current attachment to their significant other. It is possible that since crying behavior doesn't affect the adult attachment bond that reactions toward crying would carry over from childhood. Future research should measure childhood attachment. Another potential issue is that the scenarios were not personally relevant and that if they were this would trigger attachment behaviors and participants outcome choices would be more reflective their attachment styles.

Adult Crying Inventory: Belief about Function of Crying

The correlational analysis performed on participants' responses to their belief in the functions of crying and the conflict outcomes yielded no significant results. It is possible that the reason why there was no relationship between participants' selection of outcome likelihood and their scores on the belief of function of crying is because it isn't a good measure. Although there is good reliability, the items aren't constructed well as an attitude scale. It would make more sense in future studies to use a measure of attitudes and normative beliefs. There is limited research on crying and no measure currently exists. A measure could be adapted from the current crying inventory and converted into an attitude scale.

CHAPTER 2

STUDY TWO

2.1 Introduction

The second study is based on past research that suggests that females evolved to cry as a communication tool to rapidly strengthen adaptive bonds between females that ensure their protection from predators. These predators, human or animal, elicit stress in the female. The literature on the "tend and befriend" hypothesis suggests that stressors can trigger "tend and befriend" mechanisms. Study two used a behavioral methodology, specifically a visual, film clip to investigate the impact of the cry signal on the receiver, which is improved over the written form in study one. The present research used a film clip of a confederate describing the loss of her mother to colon cancer either crying or not crying and either hearing a stressful noise or not hearing a stressful noise.

It is predicted that female participants who viewed a female confederate crying over the loss of her mother to colon cancer and who are exposed to the stress of visual and auditory feedback should report the strong feelings of closeness to the female on the film clip. Female participants who viewed the female crying over her loss and who are exposed to no stress, as well as those participants who don't see the female crying, but are exposed to the visual and auditory stress, should report medium levels of closeness to the female on the film clip. Finally, female participants who watched the female

describe her loss without crying and without exposure to stress should report the weakest feelings of closeness to the female on the film clip. No direct research has been conducted to assess male feelings of closeness in response to female crying, but based on prior research that suggests women who cry are viewed as neutral or favorable and elicit comfort and support from others, we predict that male participants will feel closer to the female when she cries compared to when she doesn't cry with respect to her loss. Research suggests that males' response to stress is to not seek out social support or affiliation so we predict that stress should have no impact on males' feelings of closeness to female on clip (Taylor et al., 2000).

Feelings of closeness could be related to emotional contagion. Emotional contagion occurs at an unconscious level and is present at birth (Doherty, 1997). It is similar to the affective component of empathy and results from mimicry of another's facial expressions. After mimicking them, the individual then experiences the emotion personally (Doherty, 1997). Hatfield, Cacioppo, and Rapson (1994) suggest that the extent to which people are affected by the emotional expressions of others depends on individual differences in susceptibility to these emotions. Susceptibility is influenced by how closely one pays attention to others and how well one is able to read the emotional expressions of others, whether they construe themselves as being more interdependent or independent, and how much they mimic facial, vocal, and postural expressions. The participants that are better able to read others and unconsciously mimic their facial expressions should feel whatever emotion the person they are viewing is experiencing. In this experiment, participants who score high on the emotional contagion measure

should feel closer to the woman in the film clip than those who score lower on the measure. These individuals will be more likely to experience the female's feelings of loss.

2.2 Method

Participants

A total of 167 (42 males, 125 females) UTA Introductory Psychology students and upper level psychology students participated to fulfill course requirements or to receive extra credit. Due to an experimental error a group of participants were removed from the analyses.

Crying

The presence or absence of crying was manipulated by a 3-minute video clip of a female actress discussing the loss of her mother to colon cancer. An actress was hired to ensure that the participants believed the depiction in the tape. In the crying condition, the participants viewed a scene in which the female confederate discusses her loss while crying. In the no-crying condition, participants viewed the same scene where the female confederate discussed her loss but did not cry.

Stress

Participants were randomly assigned to either a stressful or non-stressful condition. Participants in the stressful condition experienced visual and auditory feedback (distorted picture and a high-pitched whistling) for several seconds at the beginning of the film clip. Participants in the no stress condition were not exposed to visual and auditory feedback at the beginning of the clip.

Emotional Contagion

Participants filled out the Emotional Contagion (EC) Scale by Doherty (1997). The scale is used to measure individual differences in one's ability to "catch" someone else's feelings. The EC Scale assessed five basic emotions (love, happiness, fear, anger, and sadness) with 15-items assessed on 7-point Likert scales, anchored by *strongly agree* to *strongly disagree*. Sample items include: *If someone I'm talking with begins to cry, I get teary-eyed* and *I cry at sad movies.* The reliability for scale items was acceptable (α = .82). (see Appendix C).

Closeness and Attraction

A six-item composite closeness measure was used based on work by Aron, Melinat, Aron, Vallone, & Bator (1997) and Fraley & Aron (2004). The closeness measure combined Aron, Aron, & Smollan (1992) Inclusion of Other in Self Scale (IOS), Berscheid, Snyder, & Omoto (1989) Subjective Closeness Index (SCI), and Byrne (1971)'s attraction items which are summed for an overall closeness score. The reliability of this measure was good (α = .81). (see Appendix C)

Procedure

Participants signed up to participate in an experiment on brainstorming and health. When they entered the room the experimenter explained that the participants would be asked to watch a short film clip about a UTA alumni whose mother recently died from colon cancer. They were told that purpose of the experiment was to use the information that the female gave them to brainstorm ways to get colon cancer awareness out to the general population (see Appendix C for the cover story). It was

further explained that they would be meeting with the female seen on the clip during the brainstorm session, but that the film clip was necessary so she didn't have retell the details of her mother's death several times. Following this explanation of why they were being shown the film clip, participants were randomly assigned to one of four possible conditions: the stress/crying condition; the stress/no-crying condition; the no stress/crying condition; or the no stress/no crying condition. Each participant watched essentially the same short film clip of a female confederate describing the loss of her mother to colon cancer. The only differences between the tapes were that in the crying condition the woman cried while telling the story and in the stressful condition a loud whistling noise and visual distortion occurred at the beginning of the tape. After they watched the film clip, participants completed a measure of closeness toward the female in the film clip. They also filled out an emotional contagion measure.

2.3 Results

To investigate the prediction that the female participants would feel closer to the female on the film clip when she cried while explaining her loss when stressed, compared to when she didn't cry and there was no stress, a 2 (cry: crying vs. no crying) X 2 (stress: stress vs. no stress) X 2 (sex: male vs. female) ANOVA was conducted. Prior to analyses all items were standardized into z-scores. Negative scores reflect a stronger degree of closeness to the confederate. Results from the analysis revealed that neither the presence of crying nor level of stress exposure impacted feelings of closeness (see Table 3 in Appendix B for means and standard deviations). A main effect of sex, F (1, 166) = 5.16, $p < .05$ emerged such that female participants (M = -.82, SD =

4.01) felt closer to the female on the film clip compared to male participants (M = .75, SD = 3.89).

Emotional Contagion

Separate correlations on emotional contagion and closeness were conducted for male and female participants. It was predicted that there would be no differences between male and female emotional contagion and closeness score correlations. Female participants' scores on the emotional contagion measure and closeness measure were significantly related, (r = -.40, p < .0001). Contrary to the prediction, there was no correlation between male participants emotional contagion scores and their closeness scores, (r = -.12, p =.45).

2.4 Discussion

Closeness

It was expected that female participants would feel closer to the female on the clip when they were in the stress condition and when the female cried while explaining her loss. Findings revealed that stress and crying had no impact on the participants' feelings of closeness. The lack of significant findings could be a result several things. The female explained the loss of their mother, most participants have a mother and losing a parent is something that most of us could empathize with. During debriefing, a good portion of participants revealed that they had family die or struggle with colon cancer or some form of cancer. Participants' experience with cancer death in their families was not measured and therefore could not be factored out. It is also possible that in both conditions the female confederate was displaying the "cry face." Consistent

with past research, the “cry face” display is represented by wincing, downward-turned mouth, tears and signals a need for support or attention (Fridlund, 1994). The only difference between the female confederate’s face displays is that in one condition there were tears and the other no tears. It is possible that the effect of crying was not found because in both conditions, the woman’s face was signaling a need for attention or she appeared maximally stressed to participants, a ceiling effect.

There was a difference in male and females’ feelings of closeness. Female participants felt closer to the female on screen regardless of condition compared to male participants. The finding that females feel closer to the female on the screen than their male counterparts is consistent with past research. Females require strong social networks to survive (Taylor et al., 2000), and it makes sense for female participants to bond with the female confederate more so than male participants.

Emotional Contagion

Research has suggested that individuals who are high in emotional contagion tend to experience and be affected more by the emotions of others. These individuals mimic the facial expressions of the people around them and then experience those emotions. It was predicted that as a result, participants who were high on this measure would report feeling closer to the female on the film clip. Female participants were found to have a strong relationship between their emotional contagion scores and their closeness scores. This finding suggests that over evolutionary time because females required these social networks to survive, they are now more attuned to noticing the facial expressions of other females and then experiencing those emotions. Contrary to

this prediction, male participants when examined alone were found to have no relationship between their emotional contagion scores and their closeness scores.

2.5 General Discussion

Overall, the idea that females were selected to cry more than males to aid in their survival, wasn't conclusively supported in these studies. However, both studies revealed partial support for the predictions. In Study 1, the predictions were founded on the idea that the facial expression of crying is a signal the female sends to the male. This signal is used to keep the conflict from escalating further by either stopping it or resolving it. Supporting this idea was the finding that resolution was rated as more likely in the crying condition. This finding lends support to the idea that the tears are more effective in signaling resolution than verbal apologies. Escalation being reported as more likely to occur in the no crying condition also suggests that when this signal isn't present, the message that the conflict has gone too far can't be delivered with only verbal apology, the tears are necessary. In Study 2, although neither of the independent variables under investigation yielded significant differences, there was a sex effect. Female participants across the board felt closer to the female on the film clip than male participants. The idea behind Study 2 was that crying signals to other females that they are in need of attention and this signal is a catalyst for bond formation. These bonds are essential for females to have strong networks to protect themselves from predators. Males don't require the same bonds or social networks, specifically with females, so finding that males didn't feel as close as females seems to fit with past research. The results on emotional contagion lend further support to the research that suggests that

female social networks are important for survival (Taylor et al., 2000). Females' emotional contagion scores were related to their closeness scores. The closer they felt the higher their emotional contagion scores. Females relied on their social networks for survival more so than males in our evolutionary past (Taylor et al., 2000). An ability to mimic and feel their emotions would increase relational success.

These findings suggest that crying as a signal is beneficial for females. Research on facial expressions from an evolutionary perspective is limited. Behavioral ecologists have examined this idea with a comparative approach, such that human facial displays are similar to animal signals. Animals use signals to alert other animals to their intentions. For example, a cat that bares their teeth is signaling an attack is imminent and that if one wants to avoid that attack they have a chance to escape. In humans, from a behavioral ecologist's perspective, our different facial displays signal to others our social motives or intentions and not our emotions. The "cry face" display, represented by wincing, down-turned mouth, and tears, signals readiness to receive attention and succor, regardless of ones' emotions. In infancy, we use this signal to get caretaker attention and intervention. In adults, we rarely have attentive, discerning caretakers, satisfying our needs so we require sophisticated signals (Fridlund, 1994).

Limitations/Future Directions

The limitations for this project stem from methodological concerns. I believe that the basic theory and ideas as reported above are still valid, but that certain parts of the methodology used to support them could be improved. If crying is, in fact, a signal it is possible that the written form that the scenarios take isn't sufficient to allow

participants to respond appropriately. Participants may need to see the visual cue rather than just read about it. Also, the scenarios may not have been personally relevant. It is possible that participants had difficulty placing themselves in the situation and responding to the description of tears or no tears as if they were really present in the situation. Future research might use a visual form to demonstrating the conflict so that the participant can see the visual signal of crying. Furthermore, the instructions could explicitly request that the participants respond as if they were in the situation. Another issue with study one was that escalation was reported to occur more than resolution. This result occurred regardless of whether the female character cried or just apologized. I don't believe that participants found escalation to be a more likely response to the conflict than resolution. I think that the result was more a reflection of the way that the resolution item was worded. The male in the scenario apologizes, which is a form of taking blame, before he resolves the conflict. Future research could eliminate this problem by having participants choose simply from the options of cessation, resolution, and escalation.

Study 2 participants weren't affected by either of the independent variables of crying or stress. I believe that this result is again due to the methodology. Although the methodology was superior to study one because of the visual representation of the cry signal versus the written form in study one there are some things that could be improved. To manipulate crying I had the confederate express her loss with tears and then same the same thing with no tears. I believed her tears were enough to signal to female participants that she was in need and this would result in stronger feelings of

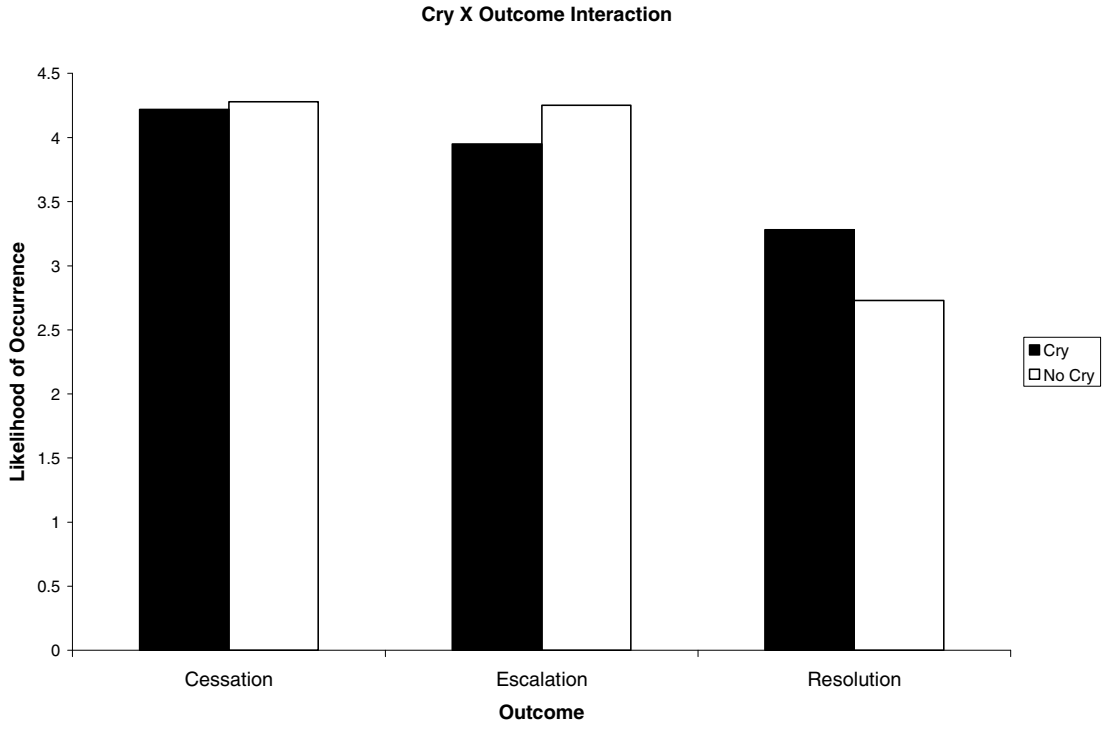
closeness. When the female confederate didn't cry she still made a "sad face." This "sad face" also signals a need for assistance. In future research, the chosen methodology could be improved by using the "cry face" in different situations. Crying is a signal of social motives and intention and is separate from emotion (Fridlund, 1994). People cry for a multitude of reasons so it would be easy to have females shed tears in different situations and see if there is a difference in the situations where she doesn't cry. The no cry situations won't signal to the female participants that assistance is needed the way the "sad face" did.

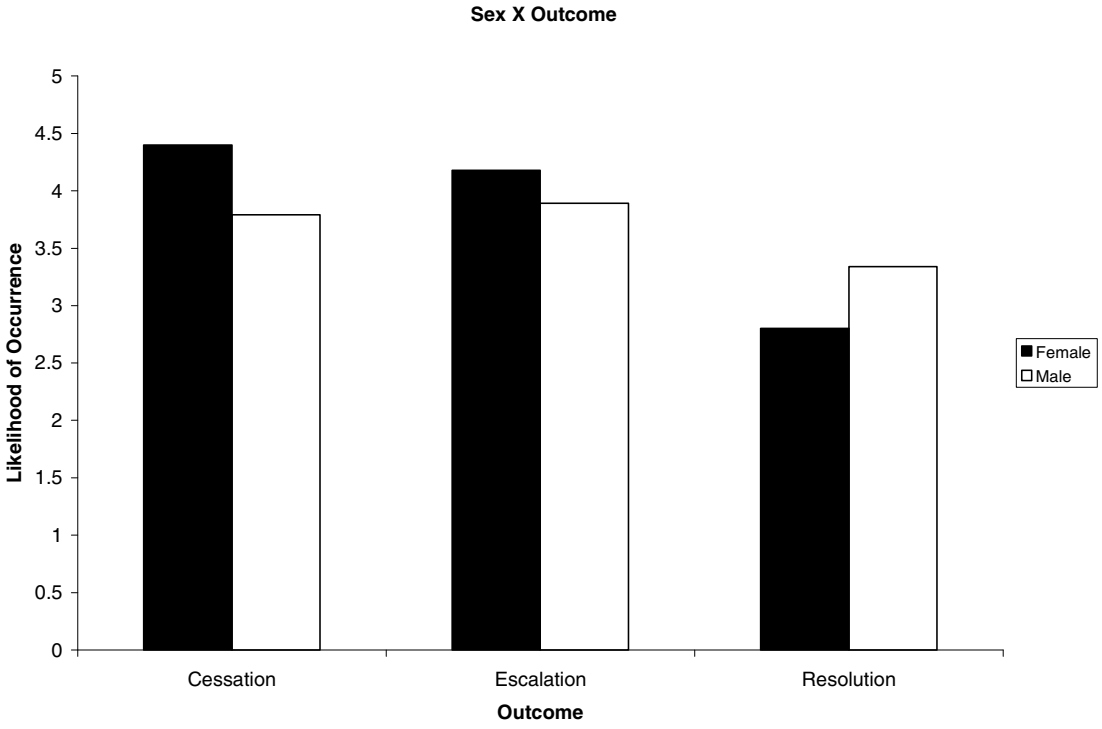
The stress condition of Study 2 may also have suffered from methodological problems. The chosen manipulation of stress was a high-pitched noise with visual distortion appearing briefly at the beginning of the film clip. This particular stress technique was chosen based on previous stress research that used noise as method for stressing participants. However, without a manipulation check there is no way to ensure that our participants were in fact stressed. It is also possible that this particular situation, where the participant believes they will be meeting with the female who is really upset and lost their mother to colon cancer is so stressful that it overwhelms the noise manipulation of stress. Future studies would benefit from including a manipulation check and should consider implementing a situation that isn't stressful to the participants Also, pre-testing to determine the degree to which different stressors are actually perceived as stressful by participants would be advantageous. The past research on the evolution of facial displays as well as the partial support from this study lead

researchers to believe that with methodological changes it would be possible to find evidence that does support the idea that females crying evolved to aid in their survival.

APPENDIX A

FIGURES


Cry X Outcome Interaction
Likelihood of Occurrence
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Cessation
Escalation
Resolution
Outcome
Cry
No Cry


Sex X Outcome
Likelihood of Occurrence
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Cessation
Escalation
Resolution
Outcome
Female
Male

APPENDIX B

TABLES

Table 1 – Study 1

Means & Standard Deviations for Outcome in Cry and No Cry Condition

	Cry		No Cry	
Outcome	*Mean*	*Standard Deviation*	*Mean*	*Standard Deviation*
Cessation	4.22	1.17	4.28	1.19
Resolution	3.28	1.06	2.73	1.14
Escalation	3.95	1.10	4.25	1.06

Table 2 – Study 2

Means & Standard Deviations for Outcome between Male and Female Participants

	Male		Female	
Outcome	*Mean*	*Standard Deviation*	*Mean*	*Standard Deviation*
Cessation	3.79	1.25	4.40	1.12
Resolution	3.34	1.06	2.89	1.14
Escalation	3.89	1.05	4.18	1.09

Table 3 – Study 2

Closeness scores for cry & no cry groups for male and female participants

	Male Participants			Female Participants		
	M	*SD*	*N*	*M*	*SD*	*N*
Stress	Cry/No Cry	Cry/No Cry	Cry/No Cry	Cry/No Cry	Cry/No Cry	Cry/No Cry
Yes	2.15/ -.81	4.62/3.28	11/10	-.72/-.44	4.14/4.55	45/41
No	1.14/.51	3.27/3.95	8/13	-1.62/-1.24	2.60/3.41	*9/30

* The smaller *N* in the Cry/No stress condition was due to an experimental error. 40 participants were removed from analysis.

APPENDIX C

TEST INSTRUMENTS

Co-worker/Co-worker – Crying condition

Paul and Sue are employees at a popular Mexican food restaurant in downtown Austin, TX. Paul is a server and Sue is a hostess responsible for seating people. Sue is new and has (over-seated) Paul's section several times already this week. Paul realizes that she is new and hasn't said anything, hoping that she would get the hang of it. However, today he is having an especially horrible day and he stops her in the kitchen. He begins yelling at Sue for over-seating his section and explains it is starting to cost him money in tips. She apologizes and explains that she is doing her best. Paul is frustrated and tells her that her best isn't good enough. He continues to yell at Sue. She apologizes again, but Paul doesn't let up. Sue doesn't know what to do and tears begin to stream down her face.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. Paul apologizes in an attempt to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. Paul gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Co-worker/Co-worker – no crying condition

Paul and Sue are employees at a popular Mexican food restaurant in downtown Austin, TX. Paul is a server and Sue is a hostess responsible for seating people. Sue is new and has (over-seated) Paul's section several times already this week. Paul realizes that she is new and hasn't said anything, hoping that she would get the hang of it. However, today he is having an especially horrible day and he stops her in the kitchen. He begins yelling at Sue for over-seating his section and explains it is starting to cost him money in tips. She apologizes and explains that she is doing her best. Paul is frustrated and tells her that her best isn't good enough. He continues to yell at Sue. She apologizes again, but Paul doesn't let up. He continues to yell at Sue. Sue doesn't know what to do and continues to apologize.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. Paul apologizes in an attempt to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. Paul gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Girlfriend/Boyfriend – crying condition

Jill and Kurt have been together for a year and have discussed getting engaged. Kurt recently started a new job and has had to put in a lot of extra hours. Jill realizes that Kurt needs to put in the extra time to show his bosses' that he is committed to the company. However, it has been a month and she has seen very little of Kurt. She is beginning to feel neglected and attempts to discuss her feelings with Kurt. Kurt is immediately defensive with Jill. He tells her she should understand the situation and be supportive of him. Jill is surprised by his reaction and tells him that she has spent the last month being more than supportive. She has barely seen him. He gets angrier and questions whether their relationship can work if she can't be supportive in tough times. Jill knowing that she has been supportive still tries to explain that she misses him and that spending some time together is important for a healthy relationship. Kurt isn't interested in Jill's reasoning and yells that she knows what the situation is and that she will just have to learn to deal. Jill feels like Kurt isn't listening to her and is afraid of making him angrier and tears begin to run down her cheeks.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. Kurt apologizes and attempts to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. Kurt gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Girlfriend/Boyfriend – no crying condition

Jill and Kurt have been together for a year and have discussed getting engaged. Kurt recently started a new job and has had to put in a lot of extra hours. Jill realizes that Kurt needs to put in the extra time to show his bosses' that he is committed to the company. However, it has been a month and she has seen very little of Kurt. She is beginning to feel neglected and attempts to discuss her feelings with Kurt. Kurt is immediately defensive with Jill. He tells her she should understand the situation and be supportive of him. Jill is surprised by his reaction and tells him that she has spent the last month being more than supportive. She has barely seen him. He gets angrier and questions whether their relationship can work if she can't be supportive in tough times. Jill knowing that she has been supportive still tries to explain that she misses him and that spending some time together is important for a healthy relationship. Kurt isn't interested in Jill's reasoning and yells that she knows what the situation is and that she will just have to learn to deal. Jill feels like Kurt isn't listening to her and is afraid of making him angrier.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. Kurt apologizes and attempts to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. Kurt gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Varied makeup – Filler # 1 no crying

Megan, Derek, Brenda, and Robert decided it would be fun to go on a double date. The couples often got together at each others' homes. They decided to do something different and go out on the town. Unfortunately, it isn't as simple as they thought it would be. Megan and Brenda both want to go out to a nice restaurant and then to a movie. The guys had decided that it would be fun to take the girls bowling or to an amusement park. Neither sex is willing to budge, an argument begins. Both pairs feel like the other normally gets to choose and neither wants to give in. The guys are angry that girls aren't more excited about the plans they had worked on and the girls are upset that the guys didn't plan something more romantic.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. The guys apologize and attempt to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. The guys gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Varied makeup – Filler #2 no crying

Bob and Sheila are roommates. They have lived together for about a month and things have gone pretty smoothly. However, the one issue that seems to cause problems is the television. There is only one television and because they are poor college students they split the cost of the television when they purchased it. On Monday nights Bob and Sheila are both home at the same time and Bob really wants to watch Monday night football and Sheila really wants to watch Medium on NBC. Since the TV doesn't technically belong to either one of them they often argue over who gets to watch their program. This particular Monday is horrible because it is the season premiere of Medium and a big game between the Dallas Cowboys and the Kansas City Chiefs. A very loud argument begins between the two.

Please circle the response that represents how likely the above situation would end in the following ways:

1. The situation is terminated by one party walking away.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

2. Bob apologizes and attempts to resolve the issue.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

3. Bob gets even angrier and the situation gets worse.

1	2	3	4	5	6
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

ADULT ATTACHMENT QUESTIONNAIRE (AAQ)

Please indicate how you typically feel toward romantic (dating) partners *in general.* Keep in mind that there are no right or wrong answers. Use the 7-point scale provided below and darken the appropriate number for each item on the scantron.

1 2 3 4 5 6 7

I strongly disagree — I strongly agree

1. I find it relatively easy to get close to others.
2. I'm not very comfortable having to depend on other people.
3. I'm comfortable having others depend on me.
4. I rarely worry about being abandoned by others.
5. I don't like people getting too close to me.
6. I'm somewhat uncomfortable being too close to others.
7. I find it difficult to trust others completely.
8. I'm nervous whenever anyone gets too close to me.
9. Others often want me to be more intimate than I feel comfortable being.
10. Others often are reluctant to get as close as I would like.
11. I often worry that my partner(s) don't really love me.
12. I rarely worry about my partner(s) leaving me.
13. I often want to merge completely with others, and this desire sometimes scares them away.
14. I'm confident others would never hurt me by suddenly ending our relationship.
15. I usually want more closeness and intimacy than others do.
16. The thought of being left by others rarely enters my mind.
17. I'm confident that my partner(s) love me just as much as I love them.

Note: Items 1, 3, 4, 12, 14, 16, and 17 must be reversed-keyed prior to constructing each scale. The Avoidance scale is comprised of items 1-3 and 5-9. Higher scores on this dimension reflect greater avoidance. The Ambivalence scale is comprised of items 4 and 10-17. Higher scores on this dimension reflect greater ambivalence. Greater attachment security is defined by lower scores on both scales. When referencing the AAQ, please cite the following paper:

Simpson, J. A., Rholes, S. W., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71*, 899-914.

Adult Crying Inventory (ACI)

This questionnaire focuses on feelings and emotional experiences. When the word "crying" is used, it refers to **tears in one's eyes** due to emotional reasons (sobbing and sniffling is not a necessary condition to meet our definition of crying), not because of irritation to the eye.

Please, read every item carefully; answer it honestly, but do not spend too much time on any one item. The first thought that comes to mind is most often the best answer. There are no right or wrong answers; the only thing that is important is that you are honest.

Questionnaires with missing data are unsuited for analysis, so please do not skip any item, even if you feel it is difficult to answer. Unless explicitly stated otherwise, **always check only that response alternative that applies the most**.

The questionnaire consists of five parts. Part A concentrates on the situations and mood states, that make you cry, while Part B focuses on the functions of crying, i.e., the purposes of crying. In Part C, we ask you to indicate which factors are important determinants of your shedding tears. Part D focuses on your last crying episode, in particular, its context. The last part, Part E, contains questions that only pertain to females. These questions concern the relationship between crying and phase of the menstrual cycle and pregnancy.

Please, do not write your name or put any other identifying remarks on the questionnaire. We would like your responses to be completely anonymous.

Sex: Male Female (Check alternative that applies)

Age:_____

Education:_____

If you have never cried since you were 17, put a check in this box ……..☐

In that case you are not supposed to fill in the rest of the questionnaire.

We nevertheless expect that your return the questionnaire.

!! PLEASE DO NOT OMIT ANY QUESTIONS!!

PART A

Each of the following items describe a situation in which one might cry, or an emotion that makes one cry. Please, indicate after each item how frequently you cry in such conditions.

		never=							always
1.	I cry when I feel sad		1	2	3	4	5	6	7
2.	I cry when I have to say goodbye to beloved persons		1	2	3	4	5	6	7
3.	I can be moved to tears by the beauty of natural scenes		1	2	3	4	5	6	7
4.	I cry when making love		1	2	3	4	5	6	7
5.	I cry when I feel ashamed		1	2	3	4	5	6	7
6.	I deliberately cry in order to make someone else feel sorry for me		1	2	3	4	5	6	7
7.	I cry when I feel relief		1	2	3	4	5	6	7
8.	I cry over the loss of a love relationship		1	2	3	4	5	6	7
9.	I cry when I do not succeed in getting things together		1	2	3	4	5	6	7
10.	I cry when I experience disgust or contempt for something or somebody		1	2	3	4	5	6	7
11.	I cry when I feel very happy		1	2	3	4	5	6	7
12.	I cry when things do not go well at work or at school		1	2	3	4	5	6	7
13.	I cry when a movie or television program has a happy ending		1	2	3	4	5	6	7
14.	I cry when I hear a happy song		1	2	3	4	5	6	7
15.	I cry when someone does something very special for me or someone else		1	2	3	4	5	6	7
16.	I cry if I remember sad things that have happened to me		1	2	3	4	5	6	7
17.	I cry because of the problems of someone else		1	2	3	4	5	6	7
18.	I cry at happy memories of the past		1	2	3	4	5	6	7
19.	I cry when involved in quarrels and conflicts		1	2	3	4	5	6	7
20.	I cry at weddings		1	2	3	4	5	6	7
21.	I cry when I hear a sad song		1	2	3	4	5	6	7
22.	I cry while reading poetry		1	2	3	4	5	6	7
23.	I cry when I feel powerless		1	2	3	4	5	6	7
24.	I cry when having been humiliated or insulted		1	2	3	4	5	6	7
25.	I cry when reading certain books		1	2	3	4	5	6	7
26.	I cry at funerals		1	2	3	4	5	6	7
27.	I cry in response to the beauty of art (music, literature, visual arts)		1	2	3	4	5	6	7
28.	I cry when I experience opposition from someone else		1	2	3	4	5	6	7
29.	I cry when I feel frightened		1	2	3	4	5	6	7
30.	I cry when I feel angry		1	2	3	4	5	6	7
31.	I cry when a tragic event happens to me		1	2	3	4	5	6	7
32.	I cry when someone criticizes or lectures me		1	2	3	4	5	6	7
33.	I cry when watching the awards ceremony at sporting events such as the Olympics		1	2	3	4	5	6	7
34.	I cry when feeling self-pity		1	2	3	4	5	6	7
35.	I cry when things don't go as I want them to go		1	2	3	4	5	6	7
36.	I cry when I feel guilty		1	2	3	4	5	6	7
37.	I cry out of pity for others		1	2	3	4	5	6	7
38.	I cry when I experience (physical) pain		1	2	3	4	5	6	7
39.	I cry when I am in despair		1	2	3	4	5	6	7
40.	I cry when I feel rejected by others		1	2	3	4	5	6	7
41.	I cry when I feel that I am in a blind-alley situation		1	2	3	4	5	6	7
42.	I sometimes laugh so hard that I start to cry		1	2	3	4	5	6	7
43.	I cry when talking with my therapist/doctor		1	2	3	4	5	6	7
44.	I cry when I am ill		1	2	3	4	5	6	7
45.	I cry while I watch sad movies or television programs		1	2	3	4	5	6	7

46.	I cry when practicing religious activities such as praying, listening to preachers, reading holy books	1	2	3	4	5	6	7
47.	I cry when I hear the national anthem and/or see the national flag rise	1	2	3	4	5	6	7
48.	I cry when I experience painful memories	1	2	3	4	5	6	7
49.	I cry when I realize my own vulnerability and mortality	1	2	3	4	5	6	7
50.	I cry when I see or witness other people suffering	1	2	3	4	5	6	7
51.	I cry when I attend or witness memorial meetings	1	2	3	4	5	6	7
52.	I cry when I am reuniting with friends or family members	1	2	3	4	5	6	7
53.	I cry when I watch other people crying	1	2	3	4	5	6	7
54.	I cry when watching or hearing an admired person	1	2	3	4	5	6	7
55.	I cry when I have achieved success	1	2	3	4	5	6	7
56.	Has your tendency to cry permanently significantly changed (either increased or decreased) after having experienced a dramatic life event as compared with before that event? Yes or No							
57.	If yes, could you specify the event?							

57. How do you generally feel after a crying episode as compared with just before? (Circle for each emotion/mood the most appropriate alternative!)

	1	2	3
(a) relaxed:	less	same	more
(b) tense:	less	same	more
(c) in control:	less	same	more
(d) depressed:	less	same	more
(e) sad:	less	same	more
(f) happy:	less	same	more
(g) relieved	less	same	more

58. Can you estimate how often you have cried in the *Last four weeks?*
_____ times

59. How would you rate your general tendency to cry?
I hardly ever cry 1 2 3 4 5 6 7 8 9 10 I can very easily cry

PART B

The following items describe some of the function of crying as well as some emotions that are associated with crying. Please, indicate after each item to what extent you agree.

		do not agree=							= agree
1.	Crying helps me to deal with my problems		1	2	3	4	5	6	7	
2.	I believe that it is useful to cry when life becomes stressful		1	2	3	4	5	6	7	
3.	My life would be better if I were able to really have a good cry		1	2	3	4	5	6	7	
4.	I use crying to help me feel better, when I have problems		1	2	3	4	5	6	7	
5.	Crying is an important and effective way of dealing with life's difficulties		1	2	3	4	5	6	7	
6.	I would rather cry about a problem than keep all my sadness inside		1	2	3	4	5	6	7	
7.	Under certain conditions, when things are bad enough, I have cried almost uncontrollably		1	2	3	4	5	6	7	
8.	If I let myself cry deeply I sleep better		1	2	3	4	5	6	7	

9.	I find that I feel better after a good cry	1	2	3	4	5	6	7
10.	I feel relaxed after a good cry	1	2	3	4	5	6	7
11.	After a good crying spell I am better able to cope with my problems	1	2	3	4	5	6	7
12.	After a good cry I am more optimistic about he future	1	2	3	4	5	6	7
13.	I try not to cry when I am upset	1	2	3	4	5	6	7
14.	After crying I feel warm all over	1	2	3	4	5	6	7
15.	I feel peaceful after a good cry	1	2	3	4	5	6	7
16.	Crying is the healthiest thing you can do when you are feeling sad	1	2	3	4	5	6	7
17.	When I am not able to cry in a stress situation I stay feeling tense	1	2	3	4	5	6	7
18.	Mostly I can control my tears	1	2	3	4	5	6	7
19.	I feel ashamed when I am crying	1	2	3	4	5	6	7
20.	After crying I feel often more miserable than before	1	2	3	4	5	6	7
21.	I like to cry	1	2	3	4	5	6	7
22.	Other people generally become gentler when I cry	1	2	3	4	5	6	7
23.	I hate to cry	1	2	3	4	5	6	7
24.	I can manipulate others with tears	1	2	3	4	5	6	7

PART C

Which factors determine whether or not you break out in tears at a certain moment? Indicate for each of the factors listed below how important they are for you.

		not at all					very much
(a)	The actual occurrence or actual memory of an emotional event	0	1	2	3	4	5
(b)	My mood *before* the event takes place	0	1	2	3	4	5
(c)	Hormones	0	1	2	3	4	5
(d)	Whether I am willing to give in to shedding tears	0	1	2	3	4	5
(e)	My physical condition (fatigue, hunger, etc.)	0	1	2	3	4	5
(f)	My location (at home, outside, at the workplace)	0	1	2	3	4	5
(g)	The nature of the emotion evoked by the event	0	1	2	3	4	5
(h)	The presence of other people with whom I an intimate	0	1	2	3	4	5
(i)	Preceding drugs or alcohol use	0	1	2	3	4	5
(j)	My personality	0	1	2	3	4	5
(k)	The way I was brought up	0	1	2	3	4	5
(l)	How happy I generally feel in my life	0	1	2	3	4	5
(m)	My education	0	1	2	3	4	5
(n)	My age (as an adult)	0	1	2	3	4	5
(o)	My social status	0	1	2	3	4	5
(p)	The season	0	1	2	3	4	5

(q)	Specific time of the day	0	1	2	3	4	5
(r)	My level of self-esteem	0	1	2	3	4	5
(s)	Genetic factors (I was born this way)	0	1	2	3	4	5
(t)	Whether or not I have an adequate coping response available	0	1	2	3	4	5
(u)	The presence of strangers	0	1	2	3	4	5
(v)	The food and drinks I had just before crying	0	1	2	3	4	5
(w)	Whether the situation or event that led me to cry will be resolved in a positive manner	0	1	2	3	4	5
(x)	Ever having experience a dramatic event *in the* past	0	1	2	3	4	5
(y)	any other factors, namely……	0	1	2	3	4	5
	……	0	1	2	3	4	5

PART D

In this part of the questionnaire we want to learn about your **last** (most recent) crying episode. First, we ask you to give a short description of the situation that elicited your crying response. In addition, there are some questions concerning several aspects of your crying of the context of your crying.

1. Please, give a short description of the <u>most recent</u> situation or event that made you feel tears in your eyes. Try to be as accurate as possible.

---

2. How long ago did this most recent crying episode occur?
   1. less than 1 day
   2. 2-5 days
   3. 6-10 days
   4. 11-30 days ago
   5. 1-6 months ago
   6. 7-12 months ago
   7. more than 1 year ago

3. How long did the crying episode last?
   1. less than 5 minutes
   2. 5-12 minutes
   3. 16-30 minutes
   4. 31-60 minutes
   5. more than 60 minutes
   6. it were repeatedly recurring spells

4. How intense was your crying?
   1. just wet eyes
   2. wet eyes and silent sobbing
   3. wet eyes, sobbing and howling
   4. wet eyes, sobbing, howling body movements and vocalizations

5. How much time passed between the confrontation with the situation described above and your crying response?

0 It is/was an ongoing situation
1 less than 5 minutes
2 5-15 minutes
3 15-60 minutes
4 1-8 hours
5 8-24 hours
6 1-7 days
7 1-4 weeks
8 1-6 months
9 7-12 months
10 more than 1 year

6. Where were you when you cried (please, answer in as much detail as possible; e.g., 'in the bedroom' or 'in the kitchen' instead of 'at home')?

_____
__

7. What time was it when you cried (indicate the exact time e.g. 5 PM, 9:20 AM)?_____
_

8a. How many other people were present? _____

8b. If less than 6 persons were present, please specify who (boyfriend, mother, colleague, sister, etc). Otherwise, give a short description of the composition of the group.

_____
_____
_____
_____
_____
_____

9. Who or what was responsible for the situation that made you cry? (check all that apply)

0 does not apply
1 myself
2 my partner or boy/girl friend
3 family members
4 close friends
5 colleagues, acquaintances
6 superiors, authorities
7 strangers
8 fate, (supera) natural forces
9 otherwise, please specify

_____

10. Which emotions or feelings did you experience? (check **all** that apply)

0 don't know
1 relief
2 joy
3 contempt
4 sadness
10 anger
11 disgust
12 guilt
13 elation
14 frustration

5 fear
6 humiliation
7 (self) pity
8 powerlessness
9 satisfaction
15 dismay
16 being touched
17 rapture
18 any other emotion or feeling (please specify)

_____

11. Did your crying change the relationship with somebody who was present while you cried?
0 Does not apply
1 yes, it became worse
2 no
3 yes, it improved

12. Did your crying change any further aspect of the situation for the better or did it make the situation worse?
0 Does not apply
1 yes, it became worse
2 no
3 yes, it improved

13. If an intimate or familiar person was present while you cried, how did he/she react? (in case more than one intimates were present, limit your answer to the one who you felt is most close to you) **Check all that apply!**
0 does not apply
1 he/she ignored my crying
2 he/she offered comfort with words
3 he/she comforted me by putting an arm around me
4 he/she became mad at me
5 he/she did not know how to behave
6 he/she was embarrassed
7 he/she expressed understanding
8 he/she stopped being nasty
9 he/she became more friendly or warm
10 otherwise, please specify

---

14. If a stranger or less familiar person was present while you cried, how did he/she react (in case more strangers were present, limit your answer to the one being nearest to you) **Check all that apply!**
0 does not apply
1 he/she ignored my crying
2 he/she offered comfort with words
3 he/she comforted me by putting an arm around me
4 he/she became mad at me
5 he/she did not know how to behave
6 he/she was embarrassed
7 he/she expressed understanding

8 he/she stopped being nasty
9 he/she became more friendly or warm
10 otherwise, please specify

---

15. How did you feel *mentally* after the crying episode in comparison with before?
1 worse than before
2 same as before
3 better than before

16. How did you feel *physically* after the crying episode in comparison with before?
1 worse than before
2 same as before
3 better than before

17. When did you stop crying? **Check all that apply!**
1 I felt re-stabilized emotionally
2 other people were watching me
3. I felt "dried up"
4 shame/ embarrassment
5 comforting words and behaviors of others
6 the situation had changed significantly for the better
7 other people had forbidden me to cry
8 I had reached an important goal
9 I had to concentrate on ongoing activities
10 I simply had the feeling "it was enough"
11 continuing would not do my physical health any good (e.g. headache)
12 I fell asleep
13 my perception of the situation had changed
14 I had made my peace with the situation
15 other reasons, namely

PART E

Only for women
1. Do you feel that your tendency to cry is dependent of the phase of your menstrual cycle……. yes
no

If yes, when are you more willing to cry than usual?
(Please, mark all those days by putting a circle around each of them)
1a. Days before menstruation 14 13 12 11 10 9 8 7 6 5 4 3 2 1
1b. Days during menstruation 1 2 3 4 5 6
1c. Days after menstruation 1 2 3 4 5 6 7 8 9 10 11 12 13 14

2. Do you at present use birth control pills? …… yes
no

If you ever have been pregnant

3. Was your tendency to cry greater during certain months of pregnancy? yes
no

3a. **If yes**, during which month(s) (please, mark all those months by putting a circle around each of them) 1 2 3 4 5 6 7 8 9

4. Did you have any "crying-days" after the birth of your baby?.....yes
no

4a. **If yes**, during which postpartal day(s)? (please, mark all those days by putting a circle around each of them) 1 2 3 4 5 6 7 8 9 10
11-14 15-19- 20-further

5. Did you breastfeed your baby?.....yes
no

If you have more than one child

6. Did you experience any difference in tendency to cry during the first pregnancy and any later pregnancies? ……yes
no

6a. **If yes**, how?

(a) I cried more frequently during my first pregnancy
(b) I cried more frequently during my later pregnancy

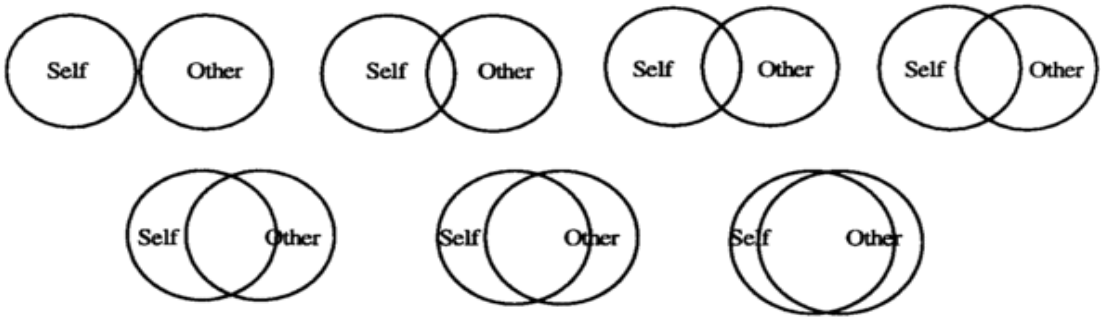
7. Did you experience any difference in having experienced any "crying days" after the first delivery compared to any later deliveries? ……yes
no

(7a) If yes, how?

(a) I cried more frequently after the first delivery
(b) I cried more frequently after any later deliveries.

Select the picture that best describes how close you think you will feel after meeting with the woman in the film clip.

Please circle the picture below which best describes your relationship



Please answer the questions below in response to how you will feel when you meet the woman on the film clip.

1. How close do you feel toward the woman in the film clip compared to other female relationships you have?
    a. closer
    b. just as close
    c. not as close
    d. not close at all
2. Do you think this is someone that you would consider being friends with?
    a. yes
    b. no
    c. maybe
3. From the film clip how likeable does the woman seem to you?
    a. Very likeable
    b. likeable
    c. Somewhat likeable
    d. Not likeable at all
4. Do you think you will enjoy working on this task with her?
    a. Yes
    b. No
    c. maybe
5. Based on what you have seen and heard from this woman how attractive of a person is she?
    a. Very attractive
    b. Attractive
    c. Somewhat attractive
    d. Not at all attractive

Please indicate your level of agreement or disagreement to the following statements. Keep in mind that there are no right or wrong answers. Use the 7-point scale provided below and put the answer at the end of the sentence.

1 2 3 4 5 6 7

I strongly disagree — I strongly agree

1. If someone I'm talking with begins to cry, I get teary-eyed.
2. Being with a happy person picks me up when I'm feeling down.
3. When someone smiles warmly at me, I smile back and feel warm inside.
4. I get filled with sorrow when people talk about the death of their loved ones.
5. I clench my jaws and my shoulders get tight when I see the angry faces on the news.
6. When I look into the eyes of the one I love, my mind is filled with thoughts of romance.
7. It irritates me to be around angry people.
8. Watching the fearful faces of victims on the news makes me try to imagine how they might be feeling.
9. I melt when the one I love holds me close.
10. I tense when overhearing an angry quarrel.
11. Being around happy people fills my mind with happy thoughts.
12. I sense my body responding when the one I love touches me.
13. I notice myself getting tense when I'm around people who are stressed-out.
14. I cry at sad movies.
15. Listening to the shrill screams of a terrified child in a dentist's waiting room makes me feel nervous.

Cover Story – Study 2

Colon cancer is the second leading cancer killer in the US. It is easily detectable and in the early stages still treatable. However, in the early stages the symptoms aren't alarming enough for patients to go in for screening. Today we are going to have you interact and brainstorm ways that we can influence people, especially those, age 50 and older to go in for preventative cancer screening. We realize that you all aren't experts in the area, so you will be provided with summaries about what has been done in the area. We also thought that it would be helpful and likely to produce more ideas if you have a member of your group who has lost a loved one because the need and importance of screening hasn't been well publicized. The person who is helping us has just recently lost their loved one and feels that it would be easier to explain the event once rather than multiple times with each group she works with. You will be watching a brief description of what happened, fill out some questionnaires, and then be asked to meet with her and brainstorm the ideas.

Script for Colon Cancer female confederate

Hi, thanks for coming in today and volunteering your time. My name is Jane Anderson and I am a UTA student. I was a student of Carrie's and we decided to put together this project to help me deal with my loss and prevent others from experiencing what I have been going through. In an effort to reduce my own personal pain of reliving what happened with my mother we put together this video clip so that I only have to tell my story once.

I am sure that you have heard of colon cancer, but you may, like me and my family, know little about it. My goal here is to share my loss and hopefully together we can brainstorm ways to get knowledge of colon cancer and screening to as many people as we can so that we won't lose our loved ones.

My mother died a year ago from colon cancer. My mother was 51 years old. Most of us probably assume that when you find out your parent has cancer it is almost inevitable that they will die. The part that is the most upsetting about losing my mother is that it could have been prevented. We just didn't know (crying condition…start crying). When my mother went in to the doctor it was too late. The disease had spread into her liver and lungs (more tears). The doctor asked her when she started experiencing any of the following symptoms, a change in her bowel habits, diarrhea or constipation, narrower than normal stools, unexplained weight loss, constant tiredness, blood in the stool, abdominal discomfort, gas, bloating, fullness, cramps, etc.

I am the oldest you see and she was actively taking care of my 14 year old sister and she often watched my brother's daughter and with the everyday stressors of four children and a granddaughter she just assumed that any changes in her bathroom behaviors were because of stress. It seemed normal to be tired with all she was doing at home. It seemed normal to have gas, bloating, we all get gas and feel bloated. These symptoms weren't alarming enough for my mother to think anything was wrong…(more tears).

My mother was a good, loving person. She would have gone and had colon cancer screening if she has only known she needed it. I would have made her go if I had only

known she needed to…(tears…) We made my mother as comfortable as we could and she died a short time later from complications of the spread of the cancer. It is my wish that no other child has to lose a parent to this cancer, this treatable cancer. (more tears). My mother's death won't be for nothing with your help. Thank you.

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