

AGGRESSION, SELF-ESTEEM, AND PERCEIVED THREAT  
FOR UNIVERSITY UNDERGRADUATE  
RESEARCH FELLOWS

A Senior Honors Thesis

by

CHRISTOPHER LLOYD BAUMBACH

Submitted to the Office of Honors Programs  
& Academic Scholarships  
Texas A&M University  
In partial fulfillment of the requirements of the

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Group: Psychology I

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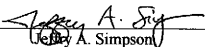
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ABSTRACT

Aggression, Self-Esteem,  
and Perceived Threat. (April 2001)

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Based on a study by Bushman and Baumeister (1998), we hypothesized that high global self-esteem and high collective self-esteem should be predictive of greater aggression. We also hypothesized that participants with high narcissistic tendencies should be more likely to aggress than those with less narcissistic tendencies or lower self-esteem. Finally, we believe that men (in general) should more likely aggress in response to a perceived threat (a personal insult) than women in the same situation. In the present study, participants wrote an essay and then received a manipulated evaluation (either positive or negative) of the essay supposedly from another participant. They were later given the chance to aggress against their evaluator. Global self-esteem, collective self-esteem, and narcissism did not predict aggression. However, males were more likely to be aggressive than females, particularly in the negative evaluation condition.

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### Aggression, Self-Esteem, and Perceived Threat

In light of numerous recent highly publicized U.S. High School shooting tragedies, mainly Columbine High School and recent tragedies at two California high schools, research on aggressive behavior is timely. As far as we know, aggression has been forever a part of human social behavior. Likewise, aggression has long been a major focus in the field of psychology and a vast array of personal, social, and cognitive factors have been examined to understand what predicts aggressive behavior (See Green, 1998 for a review).

One important variable for studying aggression is self-esteem (SE). Baumeister and Boden (1998) suggest that aggression and SE may be the two most studied topics in the entire field of psychology. Unfortunately, little is known about the relationship between them. A proper understanding of this relationship is very timely, as the public's interest in SE has increased in the recent years. Low SE has been the leading explanation for a variety of behavioral and social problems. For example, after most school shootings, many media and students have blamed aggressive behavior on the fact that violent students had been picked on or outcasts in their school.

Baumeister and Boden (1998; Baumeister, Smart & Boden, 1996) reported that psychologists have long assumed that aggression is associated with low SE. Based on their review of the SE research, however, they concluded that there is little evidence for this claim; in fact, the opposite appears to be true. High SE may be associated with more aggressive behavior. A large amount of research has shown that people with higher SE display a variety of dysfunctional and problematic responses to criticism and failure not

shown by people with lower SE. Certain forms of high SE may lead certain people to be more aggressive. Self-deprecating, shy, and insecure people are rarely represented among populations of violent criminals. Finally, higher collective SE is associated with hate groups such as Nazis, street gangs, and the Ku Klux Klan (Baumeister et al., 1996).

High SE is not the only predictor of aggression, as many high SE people never behave aggressively, and those who do not necessarily aggress in most circumstances. Rather, the relationship between high SE and aggression is likely due to two factors: (1) situational variables that elicit aggressive responses, and (2) differences in the type and degree of SE people have. These two factors are the basis for the interactive model proposed by Baumeister et al., which suggests that aggressive responses are elicited by ego threat (e.g., “favorable views of the self that are disputed or that in some way encounter an external appraisal that is far less favorable”; Baumeister & Boden, 1998, p. 114). The crucial factor in their model is the perception of threat: When favorable views about oneself are questioned or put into jeopardy, people may aggress. In particular, they will aggress against the source of the threat” (Baumeister et al., 1996, 25)

According to Baumeister and colleagues people with some forms of high SE should be more likely to perceive threats than other people. Specifically, people with an inflated sense of SE should be more vulnerable to reacting violently when threatened than others. Their highly positive, yet brittle views about themselves and the world are not shared by their fellow peers. Thus, these people are more likely to encounter disputed personal feedback more frequently than persons who hold less inflated self-



views, who, are likely to have reassuring and confirming thoughts about their views. In addition, people whose self-appraisals are constantly variable, or that depend on strong reassurance from others, should be more vulnerable to threats than those who hold confident and stable self appraisals, and are less dependent on their peers' regard (Baumeister et al., 1996).

According to Baumeister and Boden's research (1998), inflated views of the self are typically assessed by measures of narcissism, particularly the components of grandiosity, seeing oneself as superior to others, and exhibitionism, (behaving in ways to advertise the belief that they are superior to others). Narcissism is empirically related to general disregard for others and their welfare (Wink, 1991), constructs that also predict aggression.

In two tests of this model of narcissism, Bushman and Baumeister (1998) measured SE and narcissism in college students and then exposed them to either negative or positive feedback (supposedly from another participant) about the quality of an essay they had just written. Students were then given the opportunity to aggress against their "evaluators" by punishing them with loud bursts as part of a reaction time game. In both studies, higher levels of narcissism interacted significantly with perceptions of threat in the negative feedback condition.

While this study makes a contribution to our understanding of SE and aggression, it raises questions about generalizability and interpretation. First, narcissism is a problematic construct because it is not clear how narcissism relates to the more generalized construct of SE. Second, ego threat is problematic because little is known

about which situations tend to elicit threat in different people. Third, the Bushman and Baumeister (1998) results do not indicate why measures of global SE do not predict aggression. Although global SE measures did not predict aggression, specific domains of SE might. Some forms of SE could be positively correlated to aggression, while other types might be inversely related (resulting in no overall effects for general SE). These points suggest the need to test a broader theory of SE and its various components

#### Aggression and the Domain Specificity of Self-Esteem

The structures and functions of SE offer a variety of sources for hypotheses about the way in which different aspects of SE may or may not be associated with aggression. Furthermore, they provide a research strategy for approaching questions raised by Bushman and Baumeister's (1998) findings: (1) why does narcissism, but not global SE, predict aggression?, and (2) might other aspects of SE predict aggression differently?

#### Narcissism and Global Self-Esteem

As stated earlier we believe different domains of SE should be related differently to aggression. The positive findings for narcissism discussed above probably reflect the fact that narcissism is a special and perhaps unique component of global SE.

Narcissism should be related to higher SE with regard to within-group competition for status or dominance. If global SE is based on the averages of various domain-specific markers of SE, narcissists may be people whose competitive sociometers (i.e., feelings of self-worth in groups) heavily influence their self-views. The form of narcissism that is most strongly associated with aggression is feeling superior to others, according to Baumeister and his colleagues. Thus, perceived threats

should be strongly evoked for these people in situations that challenge their competitive status. In Bushman and Baumeister's study (1998) the perceived threat was a challenge to the individual's ability in writing a good essay, a task that is viewed as very important and valued by most college students (due to its logical connection with general intelligence). This domain of SE has consistently been found to produce heightened aggression in evolutionary literature (see Kirkpatrick et al., 2001)

Aggressive responses also may be triggered when a threat jeopardizes an individual's sense of social inclusion. For example, if an individual feels "socially included" in a good, stable romantic relationship, direct threats to that relationship may elicit feelings of jealousy, which is known to be a good predictor of violence (Daly & Wilson, 1988). In the present case, if someone feels a part of the honors group of students on campus, any threat to his or her intellectual competency may elicit an aggressive response to defend his/her inclusionary status.

Kirkpatrick and Ellis (2001) have suggested that relations between SE and social inclusion are only partially determined by how included a person feels to a particular group (indexed by the degree of collective SE). Greater perceived social inclusion should predict more aggression when the threat is directed at the individual's group or coalition. Crocker and Luhtanen (1990) have found that people who score high in collective SE respond to negative evaluations of their group by attacking outgroups. Therefore, threats against a person's valued groups should elicit more aggressive responses in people with higher collective SE.

Finally, the last area of study addresses the role of sex differences. Baumeister et al. (1996) noticed that men tend to have higher SE and are more aggressive than women, on average. According to evolutionary principles (Trivers, 1972), men should compete against themselves more than women to obtain status or dominance, since these are highly valued traits of the opposite sex (see Eagley & Wood, 1999).

#### Summary of Hypotheses

(1) The relation between SE and aggression should depend on the domain or type of self-esteem. I hypothesize that, for certain kinds of threats like the ones employed by Bushman and Baumeister (1998), narcissism should predict more aggressive responses. Social inclusion (perceived acceptance within important groups or relationships) and collective SE (the perceived value of these groups), in contrast, should be either unrelated or perhaps inversely related to aggression in this context, (though both should be predict aggression to other types of threats).

(2) The relation between SE and aggression should depend on the specific nature of the threat. Aggression should be elicited most strongly when the type of threat corresponds to the domain in which a person has high SE. Thus, perceived threats that directly insult one's honor, status, self-image or reputation should elicit particularly high levels of aggression in individuals with higher competitive SE.

(3) The relation between SE and aggression might be moderated by sex for certain types of SE and levels of threat. In general, men should behave more aggressively than women in response to threats involving their within-group competitive

status/prestige and perhaps their instrumental coalitions. This effect might emerge independently of the predicted main effect of sex on aggression, however.

### The Present Study

In the present study, participants first completed a battery of SE scales measuring different domains of SE. Participants then wrote an essay on how and why they choose their college major (to ensure that the “threat” involved a personal evaluation of the participant). Participants were then exposed to experimentally manipulated feedback (either positive or negative) about the essay they wrote, thinking that the evaluation came from another student participating in the same experiment with them. Participants were then told would do a different experiment dealing with personality and food likes or dislikes, giving them a chance to “retaliate” against their evaluator (see below). Once they completed this measure of aggression, they completed a manipulation checklist and a brief thought listing form. This allowed participants to list all the thoughts or feelings they had when they received their essay evaluation..

The aggression measure was borrowed from the hot sauce paradigm (Lieberman et al., 1999; McGregor et. al., 1998). Each participant was allowed to prepare a “food sample” for his or her evaluator to consume. The aggression measure was the amount of hot sauce allocated (weighed in grams).

### Method

#### Participants

The participants were 133 college students (67 males and 66 females) aged 17-22 at a southwestern state university. They received 1 hour of experimental credit for their

Introductory Psychology course in exchange for participation. After eliminating data from participants who expressed any suspicion about the deception of the experiment or the true purpose of the study, the final sample consisted of 121 people (included 60 males and 61 females).

### Materials

Questionnaire measures of self-esteem. The questionnaire packet contained the two self-esteem measures employed by Bushman and Baumeister (1998): the 10-item Rosenberg (1965) scale for assessing global self-esteem (Cronbach alpha = .85), and the 40-item Narcissistic Personality Inventory (Raskin & Terry, 1988) for measuring narcissism (alpha = .83). It also contained the 16-item Collective Self-Esteem scale developed by Luhtanen & Crocker, (1992) to assess between-group self-esteem (alpha = .87).

Responses to all 3 scales were provided on standard Likert-style scales.

Other materials. The bogus college major essays from other participants that were read and evaluated by participants (see below) were written by the experimenters. The bogus evaluations of the participants' own essays were also written by the experimenters. A female experimenter wrote the essay evaluations by hand for female participants, and a male experimenter wrote the essay evaluations by hand for male participants to lend the impression that feedback (positive or negative) came from a same-sex person. A manila folder was used to deliver the essay and bogus evaluation to each participant.

The hot sauce was prepared by pureeing 10 jalapenos, 10 habaneras, and 10 cerano peppers. This mixture was then combined with 17 fluid ounces of Tabasco sauce. The hot sauce was stored in a 2 quart Mason jar. Other materials for the hot sauce portion of the experiment included two plastic spoons for participants to use in allocating and tasting the hot sauce; an eight ounce Styrofoam cup (with lid) into which the hot sauce samples were spooned; one eight ounce Styrofoam cup full of water for the participant to drink (after tasting the hot sauce); Premium Saltine crackers for participants to taste as part of the bogus taste-preference tasks; Ziploc bags in which the saltine crackers were delivered to participants; and an Acculab scale to weigh the hot sauce samples.

Participants also filled out a bogus taste preference inventory survey; a bogus food evaluation scale; a hot sauce checklist that explained the procedures for allocating the hot sauce to the other participant (including a space for how many spoonfuls of hot sauce were given); a thought-feeling form where participants listed the thoughts or feelings they had when they first received the essay feedback evaluations; and a questionnaire asking how insulted or threatened they felt when they received their essay evaluation.

### Procedure

Participants were tested individually, each separated in isolated rooms. They were told that they were participating in an experiment dealing with “personality, attitudes, and taste preferences.”

After signing a consent form, they completed the 128-questionnaire packet (see above). Upon completion, they were then asked to write an essay about why they chose their college major (believing this was for the “personality and attitudes part of the experiment”). They had ten minutes to write as much as they could. After ten minutes, the participant was led to believe that a same-sex participant in another room would evaluate their essay. When the experimenter came back to pick up the essay written by the participant, they handed the participant a bogus essay (ostensibly written by the “other” participant) and were told to evaluate it using rating scales that would be seen by the experimenter.

A few minutes later, the experimenter returned with the participant’s essay and the ratings made by the “other” participant, with the explanation that “many people are curious to know how the other participant rated their essays.” The essay evaluations were bogus rankings that constituted the feedback manipulation. Half the participants received positive ratings in the following categories: organization, originality, writing style, clarity of expression, persuasiveness, and overall quality; at the bottom of the evaluation under (“written comments”) was a handwritten remark stating, “This person is clearly bright and articulate. The essay is well written and the points are well made.” The other half of the participants received negative ratings and a handwritten comment that stated, “This person must be an idiot. The essay is poorly written and the points don’t make sense.”

Hot-Sauce Procedure. Next, participants were taken to an isolated cubical across the hallway and were told that they would now be participating in a different “taste



preferences” experiment. They were told they would taste and evaluate a food sample, either a “dry” or “spicy” food based on random assignment. The participants were also told that the experimenters would not know what condition they were in (dry or spicy), and they would have to administer the food samples to each other (these details exactly follow Lieberman et al., 1999.) Participants were then told to complete a “taste preference inventory” sheet that listed their liking or disliking for salty, spicy, dry, sweet, sour, and creamy foods on a 21-point scale (1 equal to extreme disliking, 21 equal to extreme liking), and to place the response sheet into an envelope.

The experimenter returned a few minutes later and told the participant he or she was assigned to the dry food condition. The experimenter then took the envelope with the responses and explained that the other participant (who ostensibly had rated their essay in the earlier study) would give them a dry food, depending on their ratings. A couple of minutes later, the experimenter returned with a saltine cracker in a Ziploc bag and a food evaluation scale ranging from 1 (complete dislike) to 9 (extreme liking). The experimenter told the participant to consume the entire cracker and then rate it.

A few minutes later, the experimenter returned with a tray containing the hot sauce, two spoons, a cup of water, and an empty cup with a lid. The participants were instructed to prepare a sample of hot sauce for the person who had just evaluated their essay (who had been “randomly assigned” to the spicy food condition). The experimenter told the participant that, just like the other person had seen their taste preference inventory, they too would get to see the other person’s inventory. This taste

preference indicated that the other participant disliked hot sauce and gave the spicy food category a low rating.

Participants were then given a hot sauce checklist that outlined the steps of the hot sauce allocation. The experimenter instructed them to place as much or as little hot sauce in the cup (it was up to them) and cover it with the lid so the experimenter would remain blind to their experimental condition (dry v. spicy food). They were also told that the entire amount of hot sauce placed in the cup would have to be consumed by the other participant, just like they had to consume the entire cracker, but the other participant would be given chips to eat with the hot sauce. They were then instructed to take the other spoon and taste a little sample of the hot sauce, just to be sure they knew exactly how hot it was (very hot).

After a few minutes, the experimenter returned to pick up the hot sauce and handed the participant a manipulation checklist. This 5-item checklist asked people to indicate how angry, insulted, upset, threatened, and offended they felt when they received their essay feedback (where 1 = not at all and 7 = extremely). After a couple more minutes, the experimenter returned with a thought/feeling form, and instructed the participant to list all the thoughts or feelings they had when they received their essay evaluation.

After participants had completed the last two scales, they were thoroughly debriefed. The hot sauce samples were then weighed after the participants had departed.

## Results

### Descriptive Analyses

Descriptive statistics for the full sample are reported in Table 1 (for men) and in Table 2 (for women). In each table, the means, standard deviations, and actual ranges of each variable. For both sexes, the means, standard deviations, and ranges were similar to past samples of college students, and all were within typical range.

An examination of the distributions of each variable revealed that one variable was highly (positively) skewed: participants' allocation of hot sauce (measured in grams). Thus, this variable was transformed by computing the natural logarithm of the weight of the hot sauce ostensibly given to the other person in the study. This transformation produced an approximately normal distribution.

Correlations between the independent variables (sex, experimental condition, narcissism, global self-esteem, and collective self-esteem) and the dependent variable (transformed hot sauce allocation scores) are shown in Table 3 for men and in Table 4 for women. As expected, for both sexes, the 3 self-esteem measures correlated positively and significantly with each other (all  $ps < .05$ ).

In addition, and as predicted, both sex and experimental condition were significantly correlated with hot sauce allocation (see the main analyses reported below). The manipulation check and the condition to which participants had been randomly assigned (positive vs. negative essay feedback) also correlated positively and significantly ( $p < .01$ ), indication that the negative feedback condition generated higher levels of threat, anger insult, etc., than did the positive feedback condition.

Table 1

Descriptive Results for Males

	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Std. Deviation</u>
Narcissism	45.00	72.00	58.95	7.02
Rosenberg Global SE	21.00	50.00	41.65	6.12
Collective SE	46.00	109.00	86.30	12.46
Manipulation Check	5.00	35.00	11.79	9.77
Hot Sauce	.10	128.15	13.07	19.53

Table 2

Descriptive Results for Females

	Minimum	Maximum	Mean	Std. Deviation
Narcissism	44.00	73.00	57.93	6.57
Rosenberg Global SE	26.00	50.00	42.41	6.00
Collective SE	51.00	111.00	90.26	13.07
Manipulation Check	5.00	35.00	11.08	8.31
Hot Sauce	.09	99.62	6.03	13.34

Table 3

Correlations Among Measures for Males

	Condition	Narcissism	Global SE	Collective SE
Experimental Condition				
Narcissism	-0.01			
Global Self-Esteem	-0.02	0.32		
Collective Self-Esteem	-0.19	0.09	0.31	
Hot Sauce	-0.51	0.02	-0.04	-0.04

Table 4

Correlations Among Measures for Females

	Condition	Narcissism	Global SE	Collective SE
Experimental Condition				
Narcissism	.09			
Global Self-Esteem	.14	.26		
Collective Self-Esteem	.14	.40	.58	.01
Hot Sauce	-.18	-.04	.05	.01

### Primary Analyses

In terms of the primary analyses, the basic design of the study was a 2 (condition) x 2 (sex) x 2 (type of self-esteem) between-groups factorial, with transformed hot sauce scores as the dependent variable. As predicted, participants who received a negative evaluation on their essay allocated a significantly greater amount of hot sauce ( $M = 1.75$  grams) than participants who received a positive evaluation ( $M = 0.64$  grams),  $F(1, 113) = 16.74, p < .01$ . Also, men ( $M = 1.63$  grams) allocated significantly more hot sauce than did women ( $M = .85$  grams) across the experimental conditions,  $F(1, 113) = 7.70, p < .01$ .

A sex by condition interaction also emerged,  $F(1, 113) = 4.99, p < .03$ . It revealed that men who were insulted ( $M = 2.35$  grams) gave significantly more hot sauce than did women who were insulted ( $M = 1.09$  grams), whereas the sexes did not differ in their application in the positive evaluation condition. The main effect results are consistent with the findings of Bushman and Baumeister (1998) and Kirkpatrick et al (2001), and they support the validity of the hot sauce paradigm as a measure aggression.

Although several facets of self-esteem were examined, the focal self-esteem variable was narcissism. The results of the 2 X 2 X 2 ANOVAs revealed that none of the self-esteem measures—narcissism, general (Rosenberg) self-esteem, or collective self-esteem—predicted the amount of hot sauce allocated, either as main effects or in interaction with sex or condition (all  $F_s < 2, ns$ ).

In terms of the manipulation check scale, participants in the negative feedback condition ( $M = 16.33$ ) felt significantly more threatened, angry, insulted, offended, and



upset than did those in the positive feedback condition ( $M = 5.53$ ),  $F(1, 116) = 64.21$ ,  $p < .01$ .

Finally, none of the self-esteem variables (e.g., narcissism) significantly predicted hot sauce allocation when the other self-esteem variables (e.g., general self-esteem and collective self-esteem) were statistically controlled. Thus, contrary to predictions, the self-esteem variables were not related to hot sauce allocation.

### Discussion

This study examined whether certain types of SE predict aggression under conditions of personal threat. We found that males were significantly more likely to aggress than were females, especially when they were insulted and felt threatened. However, neither narcissism nor the other measures of SE interacted with our experimental threat manipulation to predict increased levels of aggression. The manipulation check showed that the experimental feedback was effective in inducing threat. These and other findings are discussed below.

### Experimental Condition and Sex

The results showed that when insulted males were significantly more likely to aggress against their evaluator than were females. Past research has found that men are more likely to compete for dominance and status than is true of women (see Buss, 1989). Furthermore, men report having slightly higher SE and typically are more aggressive than women, on average (Baumeister et al., 1996). These sex differences are likely to be a product of sex-differentiated socialization, but may also reflect hormonal differences. Either way, the current sex difference for aggression is consistent with past research.

### Self-Esteem

Contrary to our hypotheses, narcissism, global SE, and collective SE did not predict greater allocation of hot sauce, either by themselves or in interaction with each other. It is possible that some dimensions of SE that were not measured in this study may actually provoke aggressive reactions under conditions of personal threat. Indeed, using a similar experimental paradigm, Kirkpatrick et al. (2001) have found that narcissism does predict heightened aggression when measures of general self-esteem are statistically controlled. However, when global SE was partialled from the measure of narcissism in the present study, no significant effects emerged. Future research needs to reconcile these contradictory findings.

### Limitations and Future Directions

This study had some limitations. In addition to the common concerns of generalizability, the exclusive use of college students and the drawbacks of self-report measures of SE, the study did not have high statistical power. Moreover, as mentioned above, it is conceivable that different domains of SE that were not assessed in this study may related to aggression, something that needs to be examined in future research

In addition, our script may not have been completely believable to all participants. There were instances, particularly in the negative condition, where participants knew what we were trying to measure. They had just been insulted, and were then given a “convenient” opportunity to aggress against the person who had just insulted them. In the future, researchers may want to create a better storyline to conceal that aggression is the focal dependent measure.

Another problem involved receiving the cracker. We wanted participants to receive the cracker so they would believe they were taking part in a taste test. However, when it came time for them to allocate the hot sauce, rather than basing their allocation decisions solely on their essay feedback and level of SE, they may have based their allocation decisions on the food they apparently received from the other participant. For example, one participant said that “since that person gave me one cracker, I gave him one spoonful.” Thus, rather than having the participants be the first to receive the food, future studies should have the participants allocate the food to the other participant first.

Another potential limitation is that the domains of SE we assessed were too general and broad, as previously stated. In future research, investigators may want to take a more specific approach to studying aggression by examining different components of SE, such as self-attributes, mate value, social dominance, or any other aspects of SE that may interact to predict heightened aggression.

In summary, self-esteem and aggression will always be a central focus in psychology, both for theoretical and applied reasons. Even though our results were inconclusive regarding how different components of SE were related to aggression, this does not diminish the importance of comprehending and continuing to study the complex relationships between measures of self-concept, situational threats, and aggressive behavior.

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APPENDIX A

Experimenter Script

### **Verbatim Script for Self-Esteem Study**

EXPERIMENTER GREETS INDIVIDUAL AS HE/SHE ARRIVES TO ROOM  
358/359

“Hello, welcome to the study of personality, attitudes, and taste preferences. Please look over this informed consent form and then sign it. I will be with you shortly.” (*Leave room.*)

*ONCE THE PARTICIPANT IS IN THE ROOM, SAY THE FOLLOWING:*

“Welcome again to our study. I hope you have read the informed consent form and signed it already. Do you have any questions? (*Answer any questions.*) Okay, let’s get this started then. The first part of the study deals with personality differences and attitudes, while the second part involves assessing your food preferences. In the first part, you will be filling out a questionnaire, then writing and evaluating an essay written by someone else. The second experiment will consist of a taste preference test during which you will help the experimenters out a little bit. Do you have any questions? Remember that if you feel at all uncomfortable at any time in this study, you have every right to stop participating. You will still get full credit.” (*Answer any questions.*)

“All right, here’s the first part of the study. Please fill out this questionnaire, and feel free to take your time. When you have finished the questionnaire, just push the brown button and it will ring me to come back. We will then begin the second experiment. Please remember that all of your responses will be confidential, identified only by a subject number on each of the materials used in this research.” (*Leave room.*)

*ABOUT 20 MINUTES LATER, AFTER THEY RING THE BUTTON*

“Do you have any questions about the questionnaire? (*Answer any questions.*) OK, in this next part of the experiment, we would like you to write a short essay on why you chose your college major. You can write whatever you want, from any angle you want. You will have 5-6 minutes to complete the essay, at which time I will return and exchange your essay

with another participant's essay. The other participant is in another room in our lab. You will then evaluate this other participant's essay using ratings scales that I will provide. Meanwhile, that person will evaluate your essay as well. For this research, we are interested in participants' own attitudes, as expressed in their essays, and also in their responses to other people's essays. Any questions? (*Answer any questions.*) Remember, you have 5-6 minutes to write on any aspect of why you chose your college major. I will return shortly." (*Leave room.*)

*return 5-6 minutes later*

"Okay, you can stop writing now. I am going to take your essay to the guy/girl in the other room for it to be evaluated. Here is his/her essay. [*Note: All participants will be led to believe that they have been paired with a same-sex partner*]. You will have 3-4 minutes to evaluate it using these ratings scales (*hand participants the bogus essay and a ratings scale*). Feel free to write any additional comments on the ratings scale if you have any. I'll return in 3-4 minutes to pick up your evaluations and return it to the other participant." (*Leave room.*)

*GET THE CAMERA TURNED ON TO VIDEOTAPE THE FACIAL REACTIONS OF THE SUBJECT WHEN THEY READ THE EVALUATION OF THEIR ESSAY. RETURN TO THE ROOM*

"Okay, I see that you are all finished. Here is the other guy's/girl's evaluation of your essay. (*Note: Make sure you hand the evaluation sheet to each participant upside down*). We figured you would probably be curious to see it -- most people are. I'll be right back to start the second experiment." (*Leave room.*)

*VIDEOTAPE THEIR FACIAL REACTIONS FOR 30 SECONDS AFTER THEY START READING THEIR EVALUATION. RETURN 1-2 MINUTES LATER*

"All right, now we'll start the second experiment. Please follow me to another room." (*Take participant to cubicle 381, 382, or 383*).

“This experiment deals with personality and food preferences. We are interested in whether different types of people prefer different types of food and how quantity of food samples and personality affect such preferences. For example, certain types of people might prefer salty foods, other types might prefer sweet foods. To study this, we’re going to have you taste and give impressions of a food sample. The foods will either be dry foods or spicy foods depending upon which condition you are in. Now, the tricky part is that we experimenters must be blind to the sample type and quantity of food tasted to prevent any experimenter bias, so you will have to help us out in administering the food samples to the person who just evaluated your essay. Any questions?” (*Answer any questions.*)

“Good, then here is a taste preference inventory that you need to fill out. This will tell us what kind of food you prefer. (*Hand participant the taste preference inventory.*) When you are done, stick it in this envelope, and write your subject number on the outside. I will return in a few minutes to give you time to complete the questionnaire and to determine which group you will be in, dry or spicy foods.” (*Leave room.*)

return a 2-3 minutes later

“All done? Good, it turns out that you were randomly selected to be in the dry food tasting group, which means you will be allocating taste samples to people in the spicy food condition. You have also been selected to receive the food first, so I’ll return in a moment with your partner’s allocation of the dry food.” (*Leave room.*)

RETURN 2-3 MINUTES LATER

“OK, here in this sealed zip-lock bag is a sample of the dry food that the other participant prepared for you (*hand participant sealed bag with cracker in it*). There were a number of crackers from which the other participant could choose ranging in dryness and taste, and this is the one they chose for you to eat. He/she was also free to choose how many you’d have to eat. Please consume it all, and then evaluate the food using this scale (*hand participant the food evaluation scale*). I will return in a few minutes with the spicy food that you will give to him/her.” (*Leave room.*)

*RETURN A FEW MINUTES LATER WITH A TRAY CONTAINING:  
THE HOT SAUCE, STYROFOAM CUP, PLASTIC LIDS, PLASTIC SPOON, AND  
CUP OF WATER*

“Now, you will be preparing a sample of hot sauce to be consumed by the guy/girl in the other room. Participants are often curious about the taste preferences of other people, so you can look at the taste preference survey of the person you’ ll be giving the hot sauce to. To administer the hot sauce, use the plastic spoon and place the hot sauce into the Styrofoam cup. Feel free to put in as little or as much as you would like. Just as I asked you to consume the entire sample of dry food, the other person will have to consume the entire sample of hot sauce you provide. The hot sauce is quite hot, but the person will have chips to put the sauce on. Just to be sure that you understand what exactly you are allocating, go ahead and use a plastic spoon to take a little taste. It is very important that you cover the cups with the lids. For ease of data collection, you will be allocating this sample of hot sauce to the same participant who evaluated your essay. Here is a checklist of this process if you don’ t remember exactly what to do. (*Hand participant the checklist.*) I will return in 2-3 minutes to collect the hot sauce and give it to the other participant.” (*Leave room.*)

*return 1-2 minutes later*

“Now that you have finished, just for our information, please fill out this short questionnaire. I will give this hot sauce to the other participant and I will be back in a few minutes.” (*Leave cubicle, and take hot sauce sample.*)

*RETURN 3-4 MINUTES LATER*

“The last thing we need you to do is to complete this sheet that asks you to list all of the thoughts or feelings you had when you first read the feedback on your essay (that was given by the other participant). (*Hand participant the thought/feeling sheet.*) I will be back in a couple of minutes.”

*RETURN 2-3 MINUTES LATER WITH VIDEOTAPE RELEASE FORM*

“While you were reading the evaluation of your essay, we videotaped your facial reactions to get a measure of how upset, happy, amused, etc. you appeared to be. We did not inform you about the videotaping beforehand because past research has shown that telling people they are going to be videotaped alters their behavior in unnaturalistic ways. We would like to ask you to give us permission to use your videotape for research purposes only. If you agree, next semester a psychologist at another university will rate your facial reactions using a standardized set of rating scales. She will not be given your name or any other identifying information. If you are willing to release your videotape for coding, please sign this release form. (*Give participant the release form*). Thank you very much for your cooperation and for helping us out.”

**DEBRIEFING**

“You have now completed the study. We will now debrief you, meaning that we will tell you a little more about the purpose of our study and answer any questions you might have.

First, I'd like to ask you a question: What do *you* think this study was about? (*Discuss and record answers.*) Thank you for your insight. Your responses are really helpful in figuring out whether we are on the right track.

The actual purpose of our study is to observe the relationship between different types of self-esteem and aggression. Traditionally, researchers have thought there is a relationship between low self-esteem and aggression. More recently, there have been some studies that have shown a different relationship between these two variables. At times even contradictory effects have been found between self-esteem and aggression, especially certain subtypes of self-esteem. We want to investigate how different types of self-esteem are related to aggression under different circumstances.

The first part of the study, we measured self-esteem in several different ways. That is why you answered the long questionnaire. You might have noticed that most of these questions concerned how you feel about yourself in one way or another.

The second study was designed to provoke an aggressive reaction if you received negative feedback on your essay. In this study, we used some deception tactics to better observe your reactions to this particular circumstance. This deception involved making you believe someone was actually evaluating your essay, when in fact you were randomly assigned to receive either a good or a bad evaluation. The essay you were asked to evaluate was also a part of this bogus information. That essay was pre-written by us, and no one actually evaluated your writing.

The third part of the study also involved some deception. We led you to believe that you were part of a study on personality and food preferences. In actuality, we simply wanted to observe whether or not receiving a good or bad evaluation on your essay affected how much hot sauce you allocated to your evaluator. The amount of hot sauce given is a measure of aggression -- a method that we borrowed from some other researchers who have found that it is an indirect way to measure aggression. In fact, rest assured that no one ever had to consume any hot sauce. In our data analysis, we will examine the degree to which different types of self-esteem, as measured by the scales you completed at the beginning, are predictive of aggressive responses to the positive versus negative essay feedback you received.

We hope you are not troubled in any way by the fact that we deceived you, but it was necessary to validly test of our hypothesis. An alternative would have been, for example, to simply ask people whether they think they would respond aggressively in a particular situation, but you can probably think of many reasons why what people say about this might differ considerably from how they would actually behave. Deception procedures like the ones we used are common in social psychology for just this reason. We are sorry about having to use some deception, but hope you understand why it was necessary. OK?



Also, please don't worry about whether you are an aggressive person simply because you allotted a large amount of hot sauce. This type of measure of aggression has only been used empirically once before, and we are not even sure whether it is a good measure of physical aggression. Also, we have no way of telling what is actually a large or small amount of hot sauce, so we have no way of knowing if your response was aggressive compared to other people's responses. In any case, rest assured that you were only reacting to a particular situation that we created deliberately to induce certain kinds of behavior, and your responses are in no way a measure of what you are like as a person generally.

To ensure confidentiality, you have been given a random, confidential identification number. Your videotape and thought-listing data will be coded by 6-8 trained researchers for evidence of thoughts, feelings, and behaviors that signify feels of being threatened. After the coding is completed (within 5 years), your videotape will be erased. This procedure will guarantee that your name will *never* be associated with your questionnaire data, your videotaped interaction, or your thought/feeling responses.

If you would like to speak with someone about issues related to this study, you can contact the Student Counseling Service at 845-4427 or the Helpline (after 5:00 p.m. and on weekends) at 845-2700.

If you are interested in this study and would like to know more about it, you can request a written copy of the results upon its completion. The study will be finished in late April. We will send out a summary of our findings via email to those who request it. If you would like a summary, please write down your name and email address on this sheet of paper. (*Give interested participants the sheet*).

**In order for our study to be valid, it is imperative that you do not discuss this study with any other students in Psychology 107.**

If you have further questions about this research, please contact Dr. Jeff Simpson (291 Psychology Building, 845-3799). Thank you for helping us complete this research project. Do you have any questions? We will

make sure that you get the appropriate course credit for participating.  
Thank you very much for participating – you've been a great help to us!"

**When the Subject has left:**

1. Make sure each subject's ID #s is clearly written on the scantron and each rating sheet.
2. Turn the camera on, go into the videotaping room, and read the subject's ID # into the camera (then come back and turn the camera off).
3. Weigh the hot sauce with the scale in 362. Write the weight at the bottom of each subject's last rating sheet (where they indicate how upset they were when they got their essay feedback). Also, write down which experimental condition (+ or – essay feedback) the subject was in by writing the words "positive condition" or "negative condition."
4. Put each subject's data into an inter-campus envelope. Write the subject's ID # on the outside the envelope. Then store the envelope in our box in the filing cabinet in the control room (362).

**APPENDIX B**

**Participant Data Sheets**

SELF-ESTEEM QUESTIONNAIRE

In each of the following pairs of attitudes, choose the one that you **MOST AGREE** with. Mark your answer by **writing EITHER 1 or 2** for each item on the scantron. **Only mark ONE ANSWER** for each attitude pair, and please **DO NOT** skip any items. Answer all items **on the scantron**.

1. 1 I have a natural talent for influencing people.  
2 I am not good at influencing people.
2. 1 Modesty doesn't become me.  
2 I am essentially a modest person.
3. 1 I would do almost anything on a dare.  
2 I tend to be a fairly cautious person.
4. 1 When people compliment me I get embarrassed.  
2 I know that I am a good person because everybody keeps telling me so.
5. 1 The thought of ruling the world frightens the hell out of me.  
2 If I ruled the world it would be a better place.
6. 1 I can usually talk my way out of anything.  
2 I try to accept the consequences of my behavior.
7. 1 I prefer to blend in with the crowd.  
2 I like to be the center of attention.
8. 1 I will be a success.  
2 I am not too concerned about success.
9. 1 I am no better or no worse than most people.  
2 I think I am a special person.
10. 1 I am not sure if I would make a good leader.  
2 I see myself as a good leader.

11. 1 I am assertive.  
2 I wish I were more assertive.
12. 1 I like having authority over other people.  
2 I don't mind following orders.
13. 1 I find it easy to manipulate people.  
2 I don't like it when I find myself manipulating people.
14. 1 I insist upon getting the respect that is due me.  
2 I usually get the respect I deserve.
15. 1 I don't particularly like to show off my body.  
2 I like to show off my body.
16. 1 I can read people like a book.  
2 People are sometimes hard to understand.
17. 1 If I feel competent I am willing to take responsibility for making decisions.  
2 I like to take responsibility for making decisions.
18. 1 I just want to be reasonably happy.  
2 I want to amount to something in the eyes of the world.
19. 1 My body is nothing special.  
2 I like to look at my body.
20. 1 I try not to be a show off.  
2 I will usually show off if I get the chance.
21. 1 I always know what I am doing.  
2 Sometimes I am not sure what I am doing.
22. 1 I sometimes depend on people to get things done.  
2 I rarely depend on anyone else to get things done.
23. 1 Sometimes I tell good stories.  
2 Everybody likes to hear my stories.
24. 1 I expect a great deal from other people.  
2 I like to do things for other people.

25. 1 I will never be satisfied until I get all that I deserve.  
2 I will take my satisfactions as they come.
26. 1 Compliments embarrass me.  
2 I like to be complimented.
27. 1 I have a strong will to power.  
2 Power for its own sake doesn't interest me.
28. 1 I don't care about new fads and fashion.  
2 I like to start new fads and fashion.
29. 1 I like to look at myself in the mirror.  
2 I am not particularly interested in looking at myself in the mirror.
30. 1 I really like to be the center of attention.  
2 It makes me uncomfortable to be the center of attention.
31. 1 I can live my life anyway I want to.  
2 People can't always live their lives in terms of what they want.
32. 1 Being in authority doesn't mean much to me.  
2 People always seem to recognize my authority.
33. 1 I would prefer to be a leader.  
2 It makes little difference to me whether I am a leader or not.
34. 1 I am going to be a great person.  
2 I hope I am going to be successful.
35. 1 People sometimes believe what I tell them.  
2 I can make anyone believe anything I want them to.
36. 1 I am a born leader.  
2 Leadership is a quality that takes a long time to develop.
37. 1 I wish someone would someday write my biography.  
2 I don't like people to pry into my life for any reason.

38. 1 I get upset when people don't notice how I look when I go out in public.  
2 I don't mind blending into the crowd when I go out in public.
39. 1 I am more capable than other people.  
2 There is a lot I can learn from other people.
40. 1 I am much like everybody else.  
2 I am an extraordinary person.

**INDICATE THE DEGREE TO WHICH YOU DISAGREE OR AGREE WITH EACH STATEMENT BELOW BY WRITING A NUMBER BETWEEN 1 AND 5 FOR EACH ITEM ON THE SCANTRON.**

- 1 = Strongly disagree
- 2 = Slightly disagree
- 3 = Neither agree nor disagree
- 4 = Slightly agree
- 5 = Strongly agree

- 41. If I decide on a Friday afternoon that I would like to go to a movie that evening, I could find someone to go with me.
- 42. No one I know would throw a birthday party for me.
- 43. There are several different people with whom I enjoy spending time.
- 44. If I wanted to have lunch with someone, I could easily find someone to join me.
- 45. I don't often get invited to do things with others.
- 46. Most people I know don't enjoy the same things that I do.
- 47. When I feel lonely, there are several people I could call and talk to.
- 48. I regularly meet or talk with members of my family or friends.
- 49. I feel that I'm in the fringe in my circle of friends.
- 50. If I wanted to go out of town for the day, I would have a hard time finding someone to go with me.
- 51. I sometimes feel that other people avoid interacting with me.
- 52. I can't rely on my friends or family in times of need.
- 53. People often seek out my company.
- 54. If I want to socialize with my friends, I am generally the one who must seek them out.
- 55. I am fortunate to have many caring and supportive friends.
- 56. Others shun me.
- 57. I think there are many people who like to be with me.
- 58. I often feel like an outsider in social gatherings.
- 59. I feel welcome in most social situations.



Rate the degree to which each statement is true or characteristic of you by darkening a number from 1 and 5 for each item.

- 1 = Not at all true or characteristic of me.
- 2 = Slightly true or characteristic of me.
- 3 = Moderately true or characteristic of me.
- 4 = Very true or characteristic of me.
- 5 = Extremely true or characteristic of me.

- 60. I doubt whether I would make a good leader.
- 61. When I work on a committee I like to take charge of things.
- 62. I must admit that I try to see what others think before I take a stand.
- 63. I would be willing to describe myself as a pretty "strong" personality.
- 64. There are times when I act like a coward.
- 65. I would rather not have very much responsibility for other people.
- 66. It is pretty easy for people to win arguments with me.
- 67. I have a natural talent for influencing people.
- 68. I like to give orders and get things moving.
- 69. People seem naturally to turn to me when decisions have to be made.
- 70. Taking charge comes easily to me.

**This questionnaire has to do with your attitudes about some of your activities and abilities. For the first ten items below, rate yourself relative to *other college students* your own age (and sex) by using the following scale:**

0	1	2	3	4	5	6	7	8	9
bottom	lower	lower	lower	lower	upper	upper	upper	upper	top
5%	10%	20%	30%	50%	50%	30%	20%	10%	5%

**AN EXAMPLE OF THE WAY THE SCALE WORKS IS AS FOLLOWS: IF ONE OF THE TRAITS THAT FOLLOWS WERE "HEIGHT", A WOMAN WHO IS JUST BELOW AVERAGE IN HEIGHT WOULD DARKEN "4" FOR THIS QUESTION, WHEREAS A WOMAN WHO IS TALLER THAN THE 80% (BUT NOT TALLER THAN 90%) OF HER FEMALE CLASSMATES WOULD DARKEN "7", INDICATING THAT SHE IS IN THE TOP 20% ON THIS DIMENSION.**

71. intellectual/academic ability
72. social skills/social competency
73. artistic and/or musical ability
74. athletic ability
75. physical attractiveness
76. leadership ability
77. common sense
78. emotional stability
79. sense of humor
80. discipline
81. moral/ethical ideals
82. trustworthiness/loyalty
83. generosity/helpfulness
84. creativity
85. unique talents/abilities

**INDICATE THE DEGREE TO WHICH YOU DISAGREE OR AGREE WITH EACH STATEMENT BELOW BY DARKENING A NUMBER FROM 1 TO 5 USING THE SCALE PROVIDED BELOW.**

- 1. Strongly Disagree    2. Disagree    3. Neither Agree nor Disagree    4. Agree    5. Strongly Agree**

86. I feel that I am a person of worth, at least on an equal basis with others.
87. I feel that I have a number of good qualities.
88. All in all, I am inclined to feel that I am a failure.
89. I am able to do things as well as most other people.
90. I feel I do not have much to be proud of.
91. I take a positive attitude toward myself.
92. On the whole, I am satisfied with myself.
93. I wish I could have more respect for myself.
94. I certainly feel useless at times.
95. At times I think I am no good at all.
96. My opinion of myself tends to change a good deal instead of always remaining the same.
97. I find that on one day I have one opinion of myself and on another day I have a different opinion.
98. I change from a very good opinion of myself to a very poor opinion of myself.
99. I have noticed that my ideas about myself seem to change very quickly.
100. I feel that nothing can change the opinion I currently hold of myself.

**INDICATE THE DEGREE TO WHICH YOU DISAGREE OR AGREE WITH EACH STATEMENT BELOW BY DARKENING A NUMBER FROM 1 TO 4, USING THE SCALE PROVIDED BELOW.**

- 1. STRONGLY DISAGREE      2. DISAGREE      3. AGREE      4. STRONGLY AGREE**

101. I sometimes wish I were more physically attractive.
102. Members of the opposite sex seem to like me.
103. I feel as if no one of the opposite sex is 'out of my league.'
104. It surprises me when someone of the opposite sex shows interest in me.
105. I feel that the chances that I would date one of the most popular persons of the opposite sex on campus are very good.
106. In a social situation, I often find that persons of the opposite sex seem to act as if I'm not even there.
107. I find that, after I go out on a date with someone of the opposite sex, that person wants to go out with me on a second date.
108. I do not find it easy to meet people of the opposite sex.
109. I often get compliments from people of the opposite sex, even when I don't think that I look especially good.
110. I do not regularly "date" or "see" people of the opposite sex.
111. When I start a conversation with someone of the opposite sex whom I do not know, that person usually seems eager to talk to me.
112. I often worry about what people of the opposite sex think about me.

**We are all members of different social groups or social categories. Some of such social groups or categories pertain to *gender, race, religion, nationality, ethnicity, and socioeconomic class*. We would like you to consider your memberships in those particular groups or categories, and respond to the following statements on the basis of how you feel about those groups and your memberships in them. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond darkening the appropriate number for each item, using the following scale:**

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Disagree somewhat
- 4 = Neutral
- 5 = Agree somewhat
- 6 = Agree
- 7 = Strongly agree

- 113. I am a worthy member of the social groups I belong to.
- 114. I often regret that I belong to some of the social groups I do.
- 115. Overall, my social groups are considered good by others.
- 116. Overall, my group memberships have very little to do with how I feel about myself.
- 117. I feel I don't have much to offer to the social groups I belong to.
- 118. In general, I'm glad to be a member of the social groups I belong to.
- 119. Most people consider my social groups, on average, to be more ineffective than other social groups.
- 120. The social groups I belong to are an important reflection of who I am.
- 121. I am a cooperative participant in the social groups I belong to.
- 122. Overall, I often feel that the social groups of which I am a member are not worthwhile.
- 123. In general, others respect the social groups that I am a member of.
- 124. The social groups I belong to are unimportant to my sense of what kind of a person I am.
- 125. I often feel I'm a useless member of my social groups.
- 126. I feel good about the social groups I belong to.
- 127. In general, others think that the social groups I am a member of are unworthy.

128. In general, belonging to social groups is an important part of my self-image.

**Essay Evaluation Form****Rating of the essay:**

Organization	-3 Poor	-2	-1	0	+1	+2	+3 Excellent
Originality	-3 Poor	-2	-1	0	+1	+2	+3 Excellent
Writing Style	-3 Poor	-2	-1	0	+1	+2	+3 Excellent
Clarity of Expression	-3 Poor	-2	-1	0	+1	+2	+3 Excellent
Persuasiveness	-3 Poor	-2	-1	0	+1	+2	+3 Excellent
Overall Quality:	-3 Poor	-2	-1	0	+1	+2	+3 Excellent

**Written comments:**

	Negative condition	Positive Condition
Organization	-3	+3
Originality	-2	+2
Writing Style	-2	+2
Clarity of Expression	-1	+1
Persuasiveness	-1	+1
Overall Quality	-2	+2

**Handwritten comments**

Negative condition: This person must be an idiot. The essay is poorly written and the points don't make sense.

Positive condition: This person is clearly bright and articulate. The essay is well written and the points are well made.

TASTE PREFERENCE INVENTORY

Please rate how much you like or dislike each of the following categories of foods. Subject No. \_\_\_\_\_

	Extreme Disliking				Neutral				Extreme Liking			
	1	5	9	13	17	21						
1. Salty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Spicy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Dry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sweet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Creamy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Manipulated Ratings

- Salty 11
- Spicy 3
- Dry 13
- Sweet 16
- Sour 7
- Creamy 16



**FOOD EVALUATION SCALE**

Please rate the food that you just tasted on the scale below.

Subject No. \_\_\_\_\_

1.....2.....3.....4.....5.....6.....7.....8.....9

Complete Dislike

Extreme Liking

HOT SAUCE ALLOCATION CHECKLIST

Please check off each step as you complete it.

Subject No. \_\_\_\_\_

1. Taste a sample of the hot sauce. \_\_\_\_\_
2. Place hot sauce in Styrofoam cup using plastic spoon \_\_\_\_\_
3. Place lid firmly on top of Styrofoam cup. \_\_\_\_\_

How many spoonfuls of hot sauce did you allocate? \_\_\_\_\_

MANIPULATION CHECKLIST

PLEASE ANSWER THESE QUESTIONS BY WRITING DIRECTLY ON THIS QUESTIONNAIRE.

What is your Sex (circle one): *MALE FEMALE*

Are you currently in a dating relationship? (circle one): *Yes No*

If "yes," for how long have you been in this relationship? \_\_\_\_\_ months

Answer the following questions using this scale:

Not at all 1 2 3 4 5 6 7 Extremely

- \_\_\_\_\_ 1. How personally threatened did you feel when you got the feedback on your essay?
- \_\_\_\_\_ 2. How angry did you feel when you got the feedback on your essay?
- \_\_\_\_\_ 3. How insulted did you feel when you got the feedback on your essay?
- \_\_\_\_\_ 4. How offended did you feel when you got the feedback on your essay?
- \_\_\_\_\_ 5. How upset did you feel when you got the feedback on your essay?

**Thought Feeling Form**

**PLEASE LIST EVERY SEPARATE THOUGHT OR FEELING YOU HAD WHEN YOU RECEIVED THE ESSAY EVALUATION. DESCRIBE EACH THOUGHT OR FEELING IN 1 SENTENCE, AND PUT EACH SEPARATE THOUGHT OR FEELING IN ONE THE BOXES BELOW.**

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