Status, Dominance, or Prestige?: Domains of Self-Esteem as Moderators of Reactions to an Embarrassing Situation

Nicole Reed Buttermore

College of William & Mary - Arts & Sciences

Follow this and additional works at: https://scholarworks.wm.edu/etd

Part of the Behavior and Behavior Mechanisms Commons, and the Psychology Commons

Recommended Citation
Buttermore, Nicole Reed, "Status, Dominance, or Prestige?: Domains of Self-Esteem as Moderators of Reactions to an Embarrassing Situation" (2004). Dissertations, Theses, and Masters Projects. Paper 1539626471.
https://dx.doi.org/doi:10.21220/s2-4cqw-nb92

This Thesis is brought to you for free and open access by the Theses, Dissertations, & Master Projects at W&M ScholarWorks. It has been accepted for inclusion in Dissertations, Theses, and Masters Projects by an authorized administrator of W&M ScholarWorks. For more information, please contact scholarworks@wm.edu.
STATUS, DOMINANCE, OR PRESTIGE?
Domains of Self-Esteem as Moderators of Reactions to an Embarrassing Situation

A Thesis
Presented to
The Faculty of the Department of Psychology
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree of

Master of Arts

by
Nicole Reed Buttermore
2004
APPROVAL SHEET

This thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts

Nicole Reed Buttermore

Approved by the Committee, June 2004

Lee A. Kirkpatrick, PhD

Constance J. Pilkington, PhD

Kelly G. Shaver, PhD
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>v</td>
</tr>
<tr>
<td>List of Figures</td>
<td>vi</td>
</tr>
<tr>
<td>Abstract</td>
<td>vii</td>
</tr>
<tr>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Study 1</td>
<td>21</td>
</tr>
<tr>
<td>Study 2</td>
<td>37</td>
</tr>
<tr>
<td>Study 3</td>
<td>43</td>
</tr>
<tr>
<td>General Discussion</td>
<td>53</td>
</tr>
<tr>
<td>Appendices</td>
<td>78</td>
</tr>
<tr>
<td>References</td>
<td>87</td>
</tr>
<tr>
<td>Vita</td>
<td>91</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

The writer wishes to express her appreciation to Dr. Lee Kirkpatrick, who served as her advisor during her time at William and Mary. His guidance during the preparation of this manuscript and over the past two years has made the author a better student, writer, and researcher. The author is also indebted to Dr. Connie Pilkington and Dr. Kelly Shaver for their careful reading and criticism of the manuscript.

The author would like to express her appreciation to Jenée James, Ryan Johnson, Bryan Koenig, Jonathon LaPaglia, and Salmaan Toor for their help in collecting data.

The author would also like to thank her fellow Evolutionary Psychology students for their knowledge and willingness to make creative and constructive suggestions. She is especially indebted to Jenée James for her careful reading of an earlier version of this manuscript as well as countless invaluable contributions to the author’s work over the past two years.
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Correlations Among Self-Esteem Scales (Study 1)</td>
<td>61</td>
</tr>
<tr>
<td>2. Comparison of Self-Reported Embarrassment Scores from Leary et al. (1996) and Study 1</td>
<td>62</td>
</tr>
<tr>
<td>3. Multiple Regression Predicting Embarrassment from Domain-Specific SE (Study 1)</td>
<td>63</td>
</tr>
<tr>
<td>4. Results for Interaction Terms from Separate Multiple Regressions (Study 1)</td>
<td>64</td>
</tr>
<tr>
<td>5. Results of Multiple Regression Predicting Embarrassment (Study 1)</td>
<td>65</td>
</tr>
<tr>
<td>6. Three Factor Oblimin Rotation of SSSS Subscales (Study 2)</td>
<td>66</td>
</tr>
<tr>
<td>7. Four Factor Oblimin Rotation of SSSS Subscales (Study 2)</td>
<td>69</td>
</tr>
<tr>
<td>8. Correlations Among Self-Esteem Scales (Study 3)</td>
<td>72</td>
</tr>
<tr>
<td>9. Comparison of Self-Reported Embarrassment Scores from Leary et al. (1996) and Studies 1 &amp; 3</td>
<td>73</td>
</tr>
<tr>
<td>10. Multiple Regression Predicting Embarrassment from Domain-Specific SE (Study 3)</td>
<td>74</td>
</tr>
<tr>
<td>11. Results of Multiple Regression Predicting Embarrassment (Study 3)</td>
<td>75</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Embarrassment scores as a function of condition and dominance (Study 1)</td>
<td>76</td>
</tr>
<tr>
<td>2. Embarrassment scores as a function of condition and dominance (Study 3)</td>
<td>77</td>
</tr>
</tbody>
</table>
ABSTRACT

Three studies reexamined the findings of Leary, Landel, and Patton (1996), by investigating how various domains of self-esteem (SE) are related to the tendency to share the emotions with others following an embarrassing event. In Study 1, participants completed measures of dominance, status, prestige, mate value, and global SE, and also performed an embarrassing singing task. Following the singing task, some participants were given the chance to communicate their embarrassment to the researcher, whereas others were not. It was found that dominant individuals experienced significantly less embarrassment after conveying their embarrassment to the researcher than if their feelings remained private. In contrast, low-dominance individuals’ levels of self-reported embarrassment did not differ whether or not they had the opportunity to express their feelings to others. Study 2, which involved a large exploratory factor analysis, improved upon the existing measures of dominance, status, and prestige. Study 3 was an attempt to replicate Study 1, using the improved measures of dominance, status, and prestige. However, the study failed to duplicate the finding that the motivated expression of embarrassment was related to dominance. Instead, it was found that self-reported embarrassment was related to status and global SE. The relative merit of Study 1 and Study 3 for understanding individual differences in reactions to embarrassment are discussed.
STATUS, DOMINANCE, OR PRESTIGE?
INTRODUCTION

Individuals differ widely in their susceptibility to embarrassment. Whereas some appear practically immune to the emotion, others become easily embarrassed by silly social mishaps. Differences also arise in how individuals respond to feelings of embarrassment. Whereas some are able to laugh off or joke about their own embarrassment, others deal with a crippling fear of awkward social interactions. If embarrassment can have such a significant impact on the social life, it is important to understand how the structure of personality is related to the emotion of embarrassment. The present studies seek to understand such individual differences in the experience of and reaction to embarrassing feelings.

Embarrassment as a Self-Conscious Emotion

Emotional experiences are extremely personal, yet their causes and ramifications are largely social. For no group of feelings is this truer than the so-called “self-conscious emotions,” such as embarrassment, shame, and guilt. Each of these emotions is experienced when people feel they are being judged, either by self or others (Fisher & Tangney, 1995). One of the earliest definitions of embarrassment, written by Goffman (1967), declared that embarrassment occurred because of “unfulfilled expectations” (p. 105). According to Goffman, people know how to behave, given their own social identities, and they feel embarrassed when they have failed to maintain that social
standard. In a recent review of research on embarrassment, Keltner and Buswell (1997) identify embarrassment as being distinct from shame and guilt, based on triggering events and physiological responses. Embarrassment is caused by the violation of social conventions, including physical mishaps such as tripping, or uncomfortable social interactions such as public speaking. In contrast, shame involves failing to live up to the expectations of oneself or of others, perhaps by hurting someone’s feelings, and guilt is incited by actions such as cheating, which involve going against one’s own moral rules.

Sabini, Garvey, and Hall (2001) take a slightly different view of the distinction between shame and embarrassment. In a series of studies, they reported that individuals experience shame when they personally think a flaw in the self has been revealed, but experience embarrassment when they think others believe a flaw in the self has been revealed. For example, spilling wine on a white carpet causes embarrassment because it makes others believe a person is clumsy, but does not necessarily make the spiller believe he or she is clumsy. The debate between Sabini and colleagues’ theory of a distinction between embarrassment and shame based on perceived vs. actual flaws, and the theory that hinges the difference on the violations of social conventions vs. moral rules (Keltner & Buswell, 1997) is ongoing.

The varying physiological and behavioral responses associated with self-conscious feelings also help in teasing apart the emotions. For example, embarrassment displays involve gaze aversion, a downward movement of the head, smiling, and often blushing, whereas expressions of shame involve only a downcast head and gaze (Keltner & Buswell, 1996). On the other hand, a guilty expression is less clearly distinguishable from pained or sympathetic expressions, and when shown photographs of prototypical
embarrassment, shame, and guilt displays, people can reliably distinguish between
embarrassment and shame, but are unable to identify guilty expressions consistently
(Keltner & Buswell, 1996). Recent studies have begun to demonstrate that
embarrassment is a universally recognized emotion. In a study by Haidt and Keltner
(1999), participants in the United States and India were able to distinguish facial
expressions of embarrassment from displays of shame and amusement.

The ways in which people respond to the emotions of shame, guilt, and
embarrassment offer another valuable tool for distinguishing among the constructs.
Studies of personal narratives have revealed that participants believe the social responses
to embarrassment to be shorter in duration, as well as more light-hearted, often involving
humor and smiling (Miller & Tangney, 1994). In contrast, the experience of shame tends
to be much more negative and prolonged, involving anger, disgust, and attempts to take
actions such as apologizing in an effort to dispel the shameful feelings.

However, not all emotion researchers have viewed embarrassment as being a
distinct emotion. Darwin (1872) considered the significance of the blush in his book The
Expression of the Emotions in Man and Animals, but made no mention of embarrassment.
Fessler (1999), an anthropologist, sought to adopt a universal way of defining emotions,
something that has been widely attempted by psychologists, but largely avoided by
members of his field. In his search for universal emotional displays, Fessler focused on
the emotions of shame and pride, neglecting embarrassment other than to note that it is
seen as a distinct emotion only in Western cultures. Fessler identified two forms of
shame, one that results simply from being in the presence of higher-status others, and one
that is felt after a social rule or norm has been violated and the violation is known to
someone else. It is easy to see how Fessler’s second form of shame is related to previous
descriptions of embarrassment (Goffman, 1967). To this point, all of these accounts focus
on the antecedents of embarrassment, but determining the function of embarrassment
offers another useful tool for determining whether or not it is a distinct emotion.

The Function of Embarrassment

Embarrassment appears to be a unique emotion as defined by its prototypical
display; however a distinct emotion is also defined, in part, by its distinct function. In a
review of the literature on the moral emotions, Haidt (2003) argued that the “self-
conscious emotions seem designed to help people navigate the complexities of fitting into
groups without triggering the contempt, anger, and disgust of others” (p.859).
Researchers such as Frijda (1986) emphasized the interpersonal functions of emotions.
Fridja discussed the behavioral responses to feelings such as shame and embarrassment
as comprising a category of interactive expressions. The most important function of these
emotional displays is to influence the behavior of others. For example, the submissive
behaviors that are part of the embarrassment display, including gaze aversion and the
hanging of the head, are meant to directly influence the behaviors of a more dominant
individual by demonstrating that the embarrassed individual is aware an interpersonal
error has been made.

This is one prominent explanation of the function of embarrassment; that is, the
emotion serves as an appeasement display. Researchers have proposed that displays of
embarrassment may serve to pacify others who observe the embarrassment-inducing
behavior (Keltner & Buswell, 1997). The appeasement theory of embarrassment is based
on studies of appeasement behavior in other species. Nonhuman appeasement displays
include actions such as averting the eyes and assuming a closed, submissive posture, and bear close resemblance to human appeasement displays. Among humans, these displays serve to restore social bonds that have been threatened by a transgression. Keltner, Young, and Buswell (1997) reviewed the findings from a series of studies in which participants were presented with photos of individuals demonstrating prototypical emotional displays, including embarrassment and shame, and the participants were asked to imagine that the individuals in the photos had made some kind of social transgression. The participants then rated how much amusement, antipathy, and sympathy they felt in response to the photo. It was found that the participants felt more amusement after viewing the embarrassed photos and more sympathy following the shame pictures. Embarrassment and shame thus appear to be unique emotions that evoke different conciliatory feelings in observers.

Miller and Leary (1992) argued that the effects of the embarrassment display affect both the observer and the individual experiencing the emotion. Because of the uniqueness of the embarrassment display, it is recognizable to the observer, demonstrating that the individual who has committed the social transgression is experiencing negative feelings. For the individual experiencing the embarrassment, the private sensations are so negative and uncomfortable that the individual is motivated to behave prosocially in an effort to relieve the immediate feelings of discomfort. The individual may then even be motivated to act in such a manner as to avoid experiencing the same feelings in the future.

One major indication that an individual is embarrassed can be blushing. Blushing is a common, albeit usually undesirable and uncomfortable physiological response,
involving the reddening of the face and neck. Leary and Meadows (1991) proposed that blushing is an involuntary response indicating humility, which is meant to mitigate potential negative evaluations of the blusher by others and to ensure that the individual remains socially included. Much as in the appeasement theory of embarrassment, the blush is a reaction that relates largely to evaluating and maintaining status within a group. Leary and Meadows found that blushing frequency was correlated with measures such as self-esteem and interaction anxiety, which tap into a person’s levels of comfort and success in interpersonal interactions.

Another correlational study investigated the relationship between embarrassability, blushing, and dominance. Halberstadt and Green (1993) tested the placation theory of blushing as outlined by Leary and Meadows (1991), hypothesizing that if the blush serves to appease others, then those who blush often should be high in submissiveness. Participants completed measures of blushing propensity, embarrassability, and dominance. Dominance was found to be inversely correlated with both blushing propensity, or tendency to blush, and embarrassability, offering support for the placation theory of blushing. This relationship between dominance and embarrassability suggests that an individual’s social status could be critically important in influencing the experiences of and reactions to embarrassing situations.

Status and Embarrassment

Other researchers have attempted to experimentally manipulate status and to gauge the impact of status on individuals’ reactions to an embarrassing situation. As part of a study conducted by Gonzales, Pederson, Manning, & Wetter (1990), high- or low-status participants were led to believe that they had spilled a cup of cola onto the valuable
or inexpensive belongings of a confederate. High-status participants were asked to conduct interviews on behalf of an absent graduate student researcher, whereas low-status participants were told that they would be interviewed by an experimenter. Just prior to the beginning of the interview, a confederate posing as either the interviewer or interviewee distracted the participant, while an experimenter in the next room pulled a string to upset a drink cup that had been left on the table onto the confederate’s possessions. The researchers’ videotaped the participants’ reactions to the spill and coded the behaviors for verbal helping behaviors such as saying, “What can I do?” and behavioral helping such as drying the items. It was found that when the consequences of the spill were severe (i.e. the ruined property was valuable), there was no difference in amount remedial effort extended by the high- and low-status participants. In contrast, when the damaged belongings were inexpensive, low-status participants extended more effort to compensate for the spill. The study also demonstrated that low-status women endeavored to do more to make up for their effort than did low-status men. These findings suggest that following an embarrassing event, low-status individuals need to be more concerned with appeasing a high-status other, than do high-status others with appeasing someone of lower status.

Keltner (1995) investigated the hypothesis, derived from an appeasement account of embarrassment, that because embarrassment displays signal submissiveness, such displays should be more readily recognizable when they come from a low-status other. In this study, those low in status were operationally defined as individuals who came from minority groups that have been historically viewed as having low status. The low-status targets included women and African-Americans. Undergraduate participants were shown
a video of different undergraduate targets making prototypical displays of emotions including amusement, embarrassment, and disgust, and the participants were asked to identify the emotion being demonstrated. In one series of studies, male and female participants viewed emotional displays by male and female targets. In support of the hypothesis, observers attributed more embarrassment to female targets than to male. During a follow-up study, male and female undergraduate participants identified the emotions displayed by African-American and Caucasian adolescent male targets. The embarrassment displays of African-American targets were judged more accurately than were Caucasian targets, and more embarrassment was attributed to the African-American targets than to the Caucasian targets. It appears that the embarrassment displays of low-status individuals, which are meant to appease others, are more readily recognizable than the embarrassment displays of high-status individuals.

Embarrassment is an inherently negative emotional state from which sufferers crave relief. As demonstrated by the previous study, the prototypical embarrassment display is readily recognizable to observers; and yet individuals who experience embarrassment often take additional steps to relieve their discomfort and repair their social image, such as making jokes, or offering apologies (Keltner & Buswell, 1997). Taking such remedial actions helps to demonstrate that embarrassed individuals understand that they have committed a social blunder and seek forgiveness from those who witnessed the norm violation (Goffman, 1967).

One of the more commonly used strategies following an embarrassing predicament is to use humor either by laughing or by making a joke or sarcastic comment. Fink and Walker (1977) studied the use of this strategy during embarrassing
situations involving either equal- or unequal-status pairs. Undergraduate participants in the study had an embarrassing telephone conversation with a researcher who identified herself as being a high school student (low status), an undergraduate (equal status), or a professor (high status). Participants were found to laugh more when interacting with equal-status others than when talking to low- or high-status others. The amount of verbal humor in the form of joking or bantering used by the participants was not related to status. However, it is questionable whether this status manipulation is a relevant one for undergraduate students. Undergraduates certainly do compare themselves to their fellow students in evaluating their social status, but it seems unlikely that undergraduates compare themselves to either high school students or college professors in assessing their place in the status hierarchy. Toward this end, it makes sense that participants would use an appeasement strategy such as laughter when conversing with a peer, but not employ a similar strategy when interacting with a professor or high school student. In the context of casual phone conversation, undergraduates may simply be more concerned about the impressions a fellow student is forming of them.

Another study that investigated the relationship between embarrassment, status, and humor was conducted by Sueda and Wiseman (1992). They investigated the types of remediation that Japanese and North American participants said they would use in various scenarios that described events taking place in an organizational setting and involved a superior, a peer, or a subordinate member of the hypothetical organization. Participants read a series of scenarios about embarrassing events that resulted from accidents, misidentification, tripping, misunderstandings, failing to live up to others' expectations, physiological embarrassment, empathy for others who were embarrassed,
and rudeness, and were asked to rate how likely they were to use remedial strategies including apologizing, justification, making excuses, remediation, humor, aggression, avoidance, stating that something has been done wrong, or doing nothing. Japanese participants stated that they would tend not to use humor in situations involving others of unequal status. As in the Fink and Walker study, it was found that humor was identified as the strategy that would be used most among equals, and was said to be used more by North Americans than by Japanese participants. In situations involving others of unequal status, North American respondents adopted the strategy of simply stating that something had been done wrong. The researchers also noted that the Japanese participants were especially sensitive to status differentials among coworkers, perhaps relating to their culture’s concern with the social self and the increased emphasis placed on public presentation. Perhaps most relevant to understanding embarrassment remediation as a way of negotiating a status hierarchy was the finding of significant differences between the status groups in the use of an aggressive strategy, with individuals more likely to say they would aggress against unequal- than equal-status others. It was also found that individuals stated they were more likely to adopt an avoidant strategy when interacting with unequal-status others. This study, like the Fink and Walker study, raises questions about how individuals assess their social standing. It is possible that in a corporate setting, individuals monitor their social status only in relation to others on the same rung of the corporate ladder. It may be that the relation to superiors and subordinates is not as significant as the comparison to relative equals.
Leary, Landel, and Patton (1996) investigated the appeasement theory of embarrassment, offering experimental evidence that individuals who experience embarrassment are motivated to engage in remedial behaviors to (a) relieve their own discomfort, and (b) improve their social image. Participants in their first study were asked to sing the overly sentimental song, *Feelings* (Albert, 1975) in front of a researcher, which served as a threat to the social image. Some participants were then given the opportunity to record their emotional state on paper, whereas others were not. Of those participants who wrote down their emotions, half then had their answers examined by the researcher. Participants whose responses were made public to the researcher subsequently reported being less embarrassed on a follow-up questionnaire than participants who were given no outlet for expressing their feelings, offering support for the idea that the public expression of embarrassment decreases discomfort. In the second study, participants were recorded while singing *Feelings*. During the experimental manipulation, participants’ level of facial blushing was ostensibly monitored by a thermistor that had actually been set to give a reading indicating that the participants were blushing. For each participant in the *blushing condition*, the researcher replayed a portion of participant’s singing and then commented that the participant’s face appeared to be flushed. The researcher went on to say that hearing the tape must have caused the participant to blush. For each participant in the *nonblushing condition*, the researcher replayed the tape and remarked that the increase in flushing was due to the normal effects of exertion of the facial muscles during the singing task. Participants whose blushing was attributed to arousal rather than to embarrassment subsequently gave themselves more positive self-evaluations than did
those whose embarrassment went unrecognized by the researcher. This suggests that when an embarrassment display such as blushing does not serve to convey a positive image of the self, embarrassed individuals will turn to other means of conveying a positive image of the self, in hopes of repairing the social image. Individuals appear to be motivated to convey their embarrassment to others, such that if one remedial strategy fails, they turn to another to make their feelings known to others.

Displays of embarrassment do appear to serve a remedial function, but it would seem that individuals sometimes have much to lose by publicly acknowledging a shortcoming. For example, when teased about private thoughts, people who appear embarrassed may actually lend credence to others’ unfounded accusations (Leary et al., 1996). This is a situational factor, but there may also be stable personality factors that contribute to the motivation to communicate embarrassment to others. The present study will reexamine the results of Leary and colleagues by measuring the moderating effects of various domains of self-esteem. Much of the previously cited research suggests that dominance, status, or some other related dimension is important in understanding reactions to embarrassing situations, but it remains unclear which domain is most relevant.

Status as a Domain of Self-esteem

Although researchers have investigated the relationship between embarrassment and status, they have failed to adopt a universal definition of social status and to outline how it differs from the construct of dominance. One potentially informative attempt to separate these constructs was made by anthropologists Henrich and Gil-White (2001). They suggested that dominance is a construct distinct from prestige, and that both
dominance and prestige are paths by which an individual can achieve status. Henrich and Gil-White defined dominance as the use of force or the threat of force to gain resources, whereas they defined prestige as deference that is freely given by others. Among those striving for dominance, the primary strategies for maintaining social rank involve aggressing or threatening to aggress, evoking fear on the part of subordinates, and engaging in grandstanding. In stark contrast, those utilizing a prestigious strategy rely on their unique talents and abilities to ensure their social position. “Prestige [in contrast to dominance] rests on merit in the eyes of others (rather than force deployed against them), and promotes admiration of inferiors (not their fear), a desire for proximity (not distance), and periods of sustained observation (not furtive glances)” (p. 170). According to Henrich and Gil-White, status is determined by the rewards that are reaped via either dominant or prestigious strategies. They see the concepts of status, dominance, and prestige as being routinely conflated in the social sciences, as the rewards (status) and the paths by which the rewards are obtained (dominance or prestige) are lumped together by a variety of imprecisely defined terms such as power, leadership, influence, and wealth. This distinction among status, dominance, and prestige raises important questions about the value and generalizability of previous findings concerning the relationship among embarrassment, status, and dominance.

Up to this point, our focus has been on how individual differences in dominance and status are related to the subjective experience of and reaction to embarrassing situations. However, one of the earliest empirical studies of embarrassment (Modigliani, 1968) investigated the predictive value of other personality constructs, such as self-esteem (SE) that might be related to the tendency to feel this emotion. As part of that
study, a large ($N = 183$) sample of male undergraduates completed measures of embarrassability, empathy, SE, test anxiety, and inadequacy. Based on the belief that embarrassment "is generally precipitated by an awareness that one has failed to demonstrate the demeanor considered appropriate to a particular social interaction, and hence that one is being perceived by other present as deficient – as lacking certain collectively valued attributes" (p. 313), the author hypothesized that individuals high in traits such as empathy and test anxiety and low in general SE would be more likely to become embarrassed in the 26 scenarios recounted on the embarrassability scale. Scores on the scales were calculated such that high positive correlations indicated support for the author’s hypothesis. In support of the hypothesis, it was found that feelings of inadequacy were highly correlated with embarrassability ($r = .50, p < .01$), whereas general SE ($r = .25, p < .01$) and test anxiety ($r = .33, p < .01$) were more moderately correlated. These results suggest that it is necessary to assess the predictive value of traits other than dominance and status, such as SE, that may affect the experience of embarrassment. According to Modigliani, embarrassment is caused by the belief that others’ perceptions have been negatively affected by a social transgression. Modigliani’s finding that embarrassability correlates with general SE suggests that a person’s reaction to others’ negative impressions is tied to the individual’s own self-perception.

Self-esteem is a construct that has received much attention in the social psychological literature, but it was not until the emergence of sociometer theory that evolutionary theorists found a way to explain the function of feeling good (or bad) about the self. Sociometer theory posits that one of the most important strategies for survival among early hominids was social inclusion, or being accepted by others (Leary &
Downs, 1995). As part of a social network, humans were afforded both protection from environmental threats and opportunities for reproduction, and as a result, they benefited from the ability to recognize when they were not receiving such social support. The adaptation of SE provides such a monitoring device, as it functions as a sociometer, or fuel-gauge, constantly checking individuals' levels of inclusion and alerting them via negative affect when their social networks fail to provide for their needs. Once the alarm has sounded, individuals are motivated to go out and find a way to return their level of inclusion to an optimal level, thus relieving the negative affect. Sociometer theory represents an important departure from the predominant view of high SE as a goal or motive. Instead, according to Leary and Downs (1995), SE is a functional gauge in which low SE, which is indicative of a problem in the social network, can be as valuable as high SE.

Kirkpatrick and Ellis (2001) proposed that whereas Leary's sociometer theory does provide a plausible adaptive explanation for SE, it fails to consider the breadth of problems facing individuals in the environment of evolutionary adaptedness (EEA). According to their theory, a gauge that simply monitors general trends in positive or negative affect does not allow the individual to specifically pinpoint the source of the problem. Instead, Kirkpatrick and Ellis posit that individuals benefit from the ability to monitor their functioning in a number of different domains involving different types of interpersonal relationships and varied, yet domain-specific adaptive problems. Multiple sociometers evaluate performance in domains such as mating, within-group competition, between-group competition, and kin relationships. Rather than simply identifying problems in the various domains, the multiple sociometers have a variety of functions
such as guiding individuals to maximize the quality of the relationships in which they
invest their resources. Kirkpatrick and Ellis proposed that one important gauge under the
umbrella of within-group competition is a dominance sociometer that lets individuals
know precisely where they fall in the hierarchy so they can appropriately choose to fight
with or flee from a competitor. Kirkpatrick and colleagues found empirical support for
their model when they showed that scores on self-perceived superiority (a measure of
social dominance among college students) were predictive of aggressive tendencies
against a same-sex competitor (Kirkpatrick, Waugh, Valencia, & Webster, 2002).

In a recent study, I reexamined Halberstadt and Green’s (1993) finding that
dominance is inversely related to blushing propensity and embarrassability in terms of
Kirkpatrick and Ellis’s (2001) domain-specific self-esteem model and Henrich and Gil-
White’s distinction between status, prestige, and dominance (Buttermore, 2003).
Participants were presented with a number of scenarios involving either friends or
strangers and were asked to rate how likely they would be to feel embarrassment, shame,
or guilt if they found themselves in that situation. Participants also filled out
questionnaires assessing a variety of domains of SE. Status, regardless of the strategy
used to obtain it (dominance or prestige) was an inverse predictor of the tendency to
experience embarrassment. When the scenarios involved friends and acquaintances, the
cooperative domains of social inclusion and prestige emerged as predictors of
embarrassment, whereas the competitive domain of mate value emerged as a predictor
when the scenarios involved strangers. Dominance also emerged as a significant predictor
of embarrassment among friends, with more dominant behavior associated with more
embarrassment. These findings demonstrate the importance of assessing SE from a
domain-specific perspective, as well as the value of distinguishing among the domains of status, dominance, and prestige.

*Reexamining the Function of Embarrassment and the Relevant Domains of SE*

Researchers have approached the relationships between personality and embarrassment from a variety of different perspectives. Based on the appeasement theory of embarrassment, researchers have investigated status and dominance as predictors of the remediation strategy employed by individuals. Others have focused on SE as a predictor of embarrassability. The present studies sought to reconcile past findings about status, dominance, and SE using Kirkpatrick and Ellis’s (2001) theory, which identified dominance as only one domain of SE. In addition, relying on Henrich and Gil-White’s distinction, status, dominance, and prestige were treated as three distinct domains of SE within the Kirkpatrick and Ellis domain-specific SE model. As part of the present studies, individuals’ levels of self-perceived domain-specific SE were measured, and those values were used to predict reactions to an embarrassing event.

The three studies reported here were designed to answer three research questions. First, are individuals motivated to express their embarrassment to others following a self-presentational predicament? This is the same research question addressed by Leary et al (1996), and the current studies reexamined this question by attempting to replicate the methodology and findings of Leary and colleagues. Recall that in support of the appeasement hypothesis of embarrassment, they found that individuals who had the opportunity to communicate their embarrassment to someone else subsequently reported being less embarrassed than those who did not have an opportunity to share their feelings. I expected to replicate this finding in the present studies.
The second research question relied on Kirkpatrick and Ellis’s (2001) theory of domain-specific SE. Are any or all of the domains of SE predictive of the tendency to experience embarrassment? In a correlational study, Buttermore (2003) found that status, not dominance or prestige, was inversely related to the tendency to experience embarrassment in a variety of scenarios. However, Halberstadt and Green (1993) found that it was dominance that was inversely related to both embarrassability and blushing propensity. The present studies sought to clarify these findings from questionnaire studies in a controlled laboratory setting. Using the distinction between dominance, status, and prestige, as outlined by Henrich and Gil-White (2001), I expected to find further support for the Buttermore (2003) finding that status is the crucial predictor of the tendency to experience embarrassment.

With the third research question I sought to integrate an understanding of the motivation to express embarrassment with an understanding of individual differences from the perspective of domain-specific SE. More specifically, how do the various domains of self-esteem moderate individuals’ motivation to convey their embarrassment to others following an embarrassing event? Gonzales and colleagues (1990) manipulated social status in the laboratory and demonstrated that high- and low-status individuals reacted differently to an embarrassing situation. If individuals are sensitive to the manipulation of status in the lab, it seems likely that those who see themselves as having high status in their daily interactions will react differently to embarrassing events than will those who see themselves as low status. Rather than manipulating status, the current studies were designed to assess self-reported levels of status, dominance, and prestige, and to investigate whether individual differences in these domains were predictive of the
motivation to communicate embarrassment as in the Leary et al. (1996) study. It was expected that status would have a moderating effect on the Leary et al. findings.

Study 1 was a replication of Leary et al. (1996), with the addition of measures of four domains of SE as well as a measure of global SE. The study was designed to test the degree to which the domains of status, dominance, and prestige are related to the tendency to experience less embarrassment after being given the opportunity to share one's feelings with someone else. Due to problems with the reliability of some measures of domain-specific SE in Study 1, in the second study I attempted to improve the measures of status, dominance, and prestige. Finally, in Study 3, I sought to replicate the results from Study 1, using the improved measures of domain-specific SE.
STUDY 1

This study was designed to replicate Leary and colleagues’ (1996) study, while accounting for the predictive power of various domain-specific self-esteem. As in the Leary et al. study, participants completed a singing task in front of a researcher. Some participants were then given the opportunity to convey their embarrassment to the researcher, whereas others were not. In addition, participants completed measures of four distinct domains of SE, as well as a measure global SE. Due to time constraints, participants were not assessed on all the domains of SE as proposed by Kirkpatrick and Ellis (2001). Instead, participants completed measures of the domains believed to be most related to the tendency to express one’s emotions in the laboratory setting. These domains included status, dominance, prestige, and mate value.

There were three sets of predictions made about the study. The first hypothesis relates to the attempt to replicate Leary et al. (1996). I expected to find support for their conclusion that participants whose embarrassment is unknown to the researcher should rate themselves as more embarrassed than participants who have had a prior opportunity to demonstrate their feelings to the researcher. The second set of hypotheses concerns the predictive power of domain-specific SE. Based on previous findings (Buttermore, 2003) it was hypothesized that (a) domain-specific SEs would be predictive of the tendency to
express embarrassment, (b) the domain of status would be the best predictor of
embarrassment, and (c) global SE would not predict emotional expression above and
beyond the predictive power of the specific domains of SE. The final hypothesis concerns
the moderation of Leary and colleagues’ findings by domain-specific SE. It was expected
that high-status individuals would be less embarrassed than lower status individuals after
having the opportunity to share their embarrassment with the researcher. This final
hypothesis is largely based on the findings from the Gonzales et al. (1990) study, that
when the consequences of an embarrassing event were severe, high- and low-status
participants did not differ in amount remedial effort they extended, whereas when the
consequences of an embarrassing predicament were less, low-status participants extended
more effort to compensate for their actions. This finding seems to suggest that when an
embarrassing incident is relatively minor, as is presumably the case in Leary and
colleagues’ (1996) laboratory singing task, low-status individuals feel worse than higher
status offenders. Therefore, when given the opportunity to express their embarrassment in
the present study, high-status participants should express less embarrassment after having
a chance to convey their feelings than should low-status participants. For low-status
participants, simply having their feelings made public should not go very far toward
relieving discomfort. As in the Gonzales et al. study, low-status participants should
require more extensive action to relieve their embarrassment.

Method

Participants

One hundred undergraduate students (50 males and 50 females) from the College
of William and Mary participated in the study in partial fulfillment of an introductory
psychology course requirement. Two students withdrew from the study after being told they would be asked to complete a singing task. Three additional participants were eliminated from the sample because of equipment malfunction or experimenter error during the experimental session, leaving a total sample size of \( N = 95 \) (48 males and 47 females). The experimental sessions were conducted by two male and two female experimenters.

**Procedure and Materials**

There were three portions of the study: personality measures, singing task, and follow-up questionnaire. The order in which participants completed the first two parts was randomized. The singing task and the follow-up questionnaire were taken directly from the procedure as outlined by Leary et al. (1996). See Appendix A for a copy of the Verbatim Script. All participants signed a consent form before beginning the study (See Appendix B).

***Personality measures.*** Participants completed a battery of questionnaires designed to measure various conceptualizations of SE. Responses on all SE assessments were given on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Rosenberg's (1965) 10-item SE scale was included as a standard measure of global SE (See Appendix C). Two additional questionnaires were included in order to measure distinct domains of SE as outlined by Kirkpatrick and Ellis (2001).

The *Self-Perceived Mating Success Scale* (Landolt, Lalumiere, & Quinsey, 1995) measures mate value, or the degree to which members of the opposite sex see the respondent as an attractive potential romantic partner (See Appendix D). Sample items
include, “Members of the opposite sex that I like, tend to like me back” and “I do not receive many compliments from members of the opposite sex” (reverse scored).

The Self-Perceived Social Status Scale (SSSS; Buttermore, James, & Kirkpatrick, 2003) is a 21-item measure adapted from the California Psychological Inventory’s Dominance Subscale (Megargee, 1972) and Leary, Cottrell, and Phillips’ (2001) Social Dominance Scale, with additional items generated by the researchers. The measure yields scores in the three domains of dominance, prestige, and status, as distinguished by Henrich and Gil-White (2001; See Appendix E). The 7-item dominance subscale includes items such as, “I am willing to use aggressive tactics to get my way” and “I demand respect from members of my peer group.” Cronbach’s alpha for the dominance subscale has previously been found to be .78 (Buttermore, 2003); alpha in the present study was .75. Prestige items include, “There are some matters on which I am considered an expert by others” and “Members of my peer group respect and admire me.” Alpha for the prestige scale has previously been reported as .78; in the present study, alpha for the 6-item subscale was found to be .62. The status subscale includes items such as, “I must admit that I try to see what others think before I take a stand” (reverse scored) and “I sometimes do favors for people to get on their good side” (reverse scored). Previous alpha levels for the status subscale have been reported as .55. In the present study, alpha for the 5-item subscale was .62.

Singing task. Participants were told that they were going to listen to and follow the instructions given to them on an instructional audiotape and that their responses would be recorded. In an effort to prevent the participants from making spontaneous expressions of their feelings, the researcher asked the participants to refrain from
speaking unless the researcher spoke to them first. The researcher then started the
instructional audiotape and the recording device. The researcher remained in the room
while each participant completed the task, but was seated out of the participants’ line of
sight and refrained from looking at the participants.

The taped instructions informed the participants that they would be introduced to
the Morris Albert song “Feelings.” Participants first followed along on a lyrics sheet,
while the first four stanzas of the song were played. Next, participants were instructed to
sing along as the recording was played again. This time, participants were told to sing
into a microphone and to imagine that they were “performing the song on stage in front
of an audience.”

Following the singing task, participants were randomly assigned to one of the
three conditions designed by Leary et al. (1996): public-expression, private-expression,
and no-expression. Participants in the public- and private-expression conditions
completed a questionnaire that asked them to rate how they felt during the singing task on
derelated to embarrassment (e.g. silly, embarrassed, foolish), whereas two adjectives
were unrelated to embarrassment (e.g. bored, happy). The researcher left the room while the participant
completed this initial questionnaire (See Appendix F). In the public-expression condition,
the researcher then returned to the room and examined the participants’ responses, to
ensure that the participants realized the researcher knew how they were feeling. Before
leaving the room, the researcher instructed participants in the private-expression
condition to place their response sheets in a large manila folder filled with other response
sheets. This was done to make sure the researcher remained unaware of the participants’
feelings. Participants in the no-expression condition were not asked to complete the initial questionnaire; therefore, as in the private-expression condition, the researcher remained unaware of the participants' emotional state during the singing task. The private-expression condition was included in an attempt to control for the possibility that privately recording embarrassed feelings could serve to reduce embarrassment.

**Follow-up questionnaire.** As in the Leary et al. (1996) study, all participants completed a final questionnaire that asked them to rate on a 12-point scale from *not at all* to *extremely* how they felt at that moment. Five of the adjectives were related to embarrassment (e.g. nervous, self-conscious, foolish, embarrassed, calm), whereas two adjectives served as unrelated filler items (e.g. hostile, depressed). Participants were instructed prior to completing the final questionnaire, both verbally and in writing, that their responses would be examined by the experimenter (See Appendix G).

Finally, in order to establish the effectiveness of the expression manipulation, participants were asked two follow-up questions. The first asked whether they had completed a questionnaire which asked them about their feelings during the singing task. The second question, which was asked only of those who answered in the affirmative to the first question, asked whether the researcher had examined the participant’s responses to the questionnaire about the singing task.

**Results and Discussion**

*Manipulation Checks & Preliminary Analyses*

Four participants gave incorrect answers on the manipulation check items. Of these participants, three were in the public-expression condition. One participant incorrectly answered that he had not completed a questionnaire asking about his feelings
during the singing task. The other two participants failed to indicate that the researcher had looked at their answers to the initial questionnaire. The fourth participant to give an incorrect answer was in the private-expression condition and incorrectly answered that he had not completed the questionnaire about his feelings during the singing task. These errors can probably be attributed to the confusing nature of the manipulation check questions, rather than to problems in the methodology. When given the manipulation check items, participants often looked confused. Several even explained to the researchers that they thought such seemingly straightforward questions were actually meant to trick them. Nonetheless, the responses of these four participants were removed from the sample, leaving a sample size of $N = 91$ (46 men and 45 women).

Each of the three factors of the status scale was treated as a measure of a separate domain of SE. The correlations among the SE scales are shown in Table 1. Of the measures of domain-specific SE, only dominance was not significantly positively correlated with global SE. The correlations were similar among males and females, with two exceptions. Status and dominance were significantly positively correlated for males ($r = .41, p < .01$), and although the correlation was in the same direction among females ($r = .26$), it was not significant. Status and prestige were significantly positively correlated for females ($r = .40, p < .01$), but the correlation was not significant among males ($r = .12$).

*Replication of Leary et al. (1996)*

The first goal of the present study was to retest the conclusions drawn by Leary et al. (1996). To do this, a principal components factor analysis of the seven items of the follow-up questionnaire was conducted to ensure that the five embarrassment items
formed one factor. As in the Leary et al. study, I completed an oblimin rotation. Two factors emerged with eigenvalues of 4.00 and 1.23. All five embarrassment items showed high loadings (> .73) on the first factor. The two non-embarrassment items (e.g. depressed, hostile) showed high loadings on the second factor (> .80). Based on these analyses, the five embarrassment items were summed to yield a measure of self-reported embarrassment. Cronbach’s alpha for the five items on the follow-up questionnaire meant to assess self-reported embarrassment was .92.

A 2 (sex) × 3 (condition) analysis of variance was conducted on the self-reported embarrassment scores. There was no main effect of sex ($F < 1$) and the interaction of sex and condition was not significant ($F < 1$), indicating that males and females did not differ significantly in their reported embarrassment. Table 2 compares the means of self-reported embarrassment by condition, for both the Leary et al. (1996) study and the present study. The main finding from the Leary et al. study was that individuals in the no-expression condition whose feelings were unknown to the researcher reported being significantly more embarrassed than those in the public-expression condition whose embarrassment was known by the researcher. In order to retest this finding, a planned contrast was used, in which participants in the public-expression condition were compared to participants in the no-expression condition (contrast coefficients = -1, 0, +1). Consistent with the findings of Leary and colleagues, participants who did not have the opportunity to convey their embarrassment to the researcher reported being more embarrassed than participants whose feelings were known to the researcher, $F(1, 88) = 11.35, p < .001$. 
Leary and colleagues (1996) also found that self-reported embarrassment in the private-expression condition was not significantly different from either the public or no-expression conditions. In the present study, a planned contrast (contrast coefficients = 0, -1, +1) demonstrated that the private-expression condition was significantly different from the no-expression condition, $F(1, 88) = 15.07, p < .001$. An additional contrast (contrast coefficients = -1, +1, 0) found that the private-expression condition did not differ from the public-expression condition, $F(1, 88) = 0.26, p > .05$. These two contrasts offer partial support for the Leary et al. findings, but Table 2 reveals very different patterns of results in the Leary et al. study and this replication. The mean for the private-expression condition in Leary and colleagues' study fell between the public and no-expression means, whereas the mean for the private-expression condition in the present study was actually slightly less than the mean for the public-expression condition.

The present study does replicate Leary and colleagues' (1996) main finding concerning the differences between the public- and no-expression conditions, according to the statistical tests they chose to run. However, the most direct test of the hypothesis that individuals are motivated to share their embarrassment with others as a way to repair a damaged social image is to use planned contrasts to compare the levels of embarrassment reported by those in the public-expression condition to those in the private and no-expression conditions. According to an interpersonal model of embarrassment, I would expect the scores in the private-expression condition to look much like the scores in the no-expression condition, as those in the private-expression condition recorded their feelings immediately after the singing task, but those feelings remained unknown to the researcher. To test this hypothesis, the self-reported
embarrassment of participants who had the opportunity to share their feelings with the researcher (public-expression) was compared to participants in the other two conditions whose feelings remained unknown to the researcher (contrast coefficients = -2, +1, +1). The results were not significant, $F(1,88) = 2.69, p = .11$. Indeed, as Table 2 shows, self-reported embarrassment for those in the private-expression condition was on average actually slightly lower than embarrassment reported by those in the public-expression condition.

There are two possible explanations for this finding. First, as suggested by Leary et al. (1996), it could be that simply acknowledging embarrassment in private does help to partially relieve discomfort. Based on their finding that the average level of embarrassment reported by participants in the private-expression condition fell midway between the public and no-expression conditions, Leary and colleagues went on to argue that whereas recognizing embarrassment in private went part-way to relieving those feelings, publicly conveying embarrassment helped to further reduce discomfort. The data from the present study suggest that a private acknowledgement of foolishness may be just as effective as a public declaration at decreasing embarrassment.

It is also possible that a problem with the private-expression condition manipulation may account for the disparities between the results of the private-expression manipulation in the present study and in the Leary et al. (1996) study. During the present study, participants were asked to place their responses to the initial embarrassment questionnaire into a large manila folder that contained other folded copies of the questionnaire, whereas in the Leary et al. study participants were asked to stuff their completed questionnaires into a sealed box filled with other questionnaires. Participants
in the present study may have believed that the experimenters would be able to match their responses on the initial questionnaire with their responses on the other scales, as the envelope was not sealed. If participants did believe that their answers to the initial questionnaire would eventually be viewed by the experimenter, the private-expression condition then functions like the public-expression condition, in which participants believed they had the opportunity to convey their embarrassment to the researcher. This potential problem with the private-expression condition will be addressed in Study 3.

*Domain-Specific Self-Esteems as Predictors of Embarrassment*

The second major goal of Study 1 was to test whether specific domains of self-esteem were more predictive of embarrassment than was global SE. In order to accomplish this, the four domain-specific SE scales, global SE, condition, and sex (males = +1 and females = -1) were entered into a regression equation predicting embarrassment on the final questionnaire. Two orthogonal contrasts were entered into each regression equation to account for the condition variable: Condition Contrast 1 (contrast coefficients = +2, -1, -1) and Condition Contrast 2 (contrast coefficients = 0, +1, -1). The regression coefficients for each variable are presented in Table 3. Only *Condition Contrast 2* emerged as a significant predictor of self-reported embarrassment ($\beta = -.40, p < .001$). This analysis failed to offer support for the hypothesis that domain-specific SEs are predictive of embarrassment, but it did offer support for the prediction that global SE would not be a significant predictor above and beyond the predictive value of the various domains of SE. Based on previous findings (Buttermore, 2003), it was hypothesized that of the dominance, status, and prestige subscales of the SSSS, the domain of status would be related to self-reported embarrassment. None of the three domains emerged as a
significant predictor of embarrassment, and it was dominance rather than status that came
the closest to significantly predicting embarrassment ($\beta = -0.16, p = .15$).

**Domain-specific Self-estees as Moderators of the Leary et al. (1996) Findings**

In order to assess the degree to which the various domains of self-esteem were
predictive of the tendency to experience less embarrassment after expressing the
emotions, a series of multiple regression analyses was conducted. Each of the domain-
specific SE scales was mean-centered and entered individually into a regression equation
containing the scale scores from the other domain-specific SE measures, as well as
effects-coded variables representing condition, sex, the interaction of sex and the domain
of SE, and the interaction of condition and the domain of SE. Two orthogonal contrasts
were entered into each regression equation to account for the condition variable:
Condition Contrast 1 (contrast coefficients = +2, -1, -1) and Condition Contrast 2
(contrast coefficients = 0, +1, -1). Of the two contrasts for condition included in each
multiple regression, Condition Contrast 1 is of primary interest because it compares the
public-expression condition to both of the other two conditions in which the participants
did not have the opportunity to share their emotions with the researcher. Moreover, a test
of the interaction between Condition Contrast 1 and each of the mean-centered domains
of SE assesses the degree to which individuals' SE in that domain is related to the amount
of embarrassment they reported after having the opportunity to convey their
embarrassment to others.

For the multiple regression equations examining the moderating effects of status,
prestige, mate value, and global SE, the only significant predictor to emerge was
Condition Contrast 2. As previously revealed by the planned contrasts, the significance of
Condition Contrast 2 as a predictor in the multiple regression equations indicated that the private-expression condition differed significantly from the no-expression condition. These results fail to offer support for the prediction that the interaction of status and condition would be a significant predictor of embarrassment, with high-status individuals reporting more embarrassment in the private- and no-expression conditions and less embarrassment after having a chance to share their emotions in the public-expression condition. Only the regression equation testing the predictive value of dominance showed a significant interaction between Condition Contrast 1 and a domain of SE (Table 4).

Table 5 presents the regression coefficients for all of the variables in this latter multiple regression equation that included the interaction terms for dominance. Three significant predictors emerged in the dominance multiple regression: dominance, Condition Contrast 2, and the dominance × Condition Contrast 1 interaction. Dominance was a significant inverse predictor of embarrassment ($\beta = -.23, p < .05$), demonstrating that more dominant individuals reported less embarrassment than less dominant individuals. However, this main effect was qualified by a significant Dominance × Condition Contrast 1 interaction ($\beta = -.56, p < .01$), such that in the public-expression condition there was a negative relationship between dominance and embarrassment, whereas there was no such relationship in the private- and no-expression conditions. Figure 1 presents these findings for an individual at +1 SD on dominance (high) and an individual at -1 SD on dominance (low).

Of all the types of SE assessed, only dominance emerged as a significant predictor of the tendency to share one’s emotional discomfort with others. Individuals high in dominance were found to mirror the main finding of the Leary et al. (1996) study, that
individuals in the public-expression condition, who had the chance to share their emotions with the researcher, reported being much less embarrassed than those in both the private and no-expression conditions, whose feelings about the singing task remained private. However, the self-reported embarrassment of the less dominant individuals differed little between the public and private/no-expression conditions. In addition, the mean self-reported embarrassment scores of less dominant individuals in both conditions look similar to the embarrassment scores reported by the more dominant individuals in the private/no-expression conditions (See Figure 1).

This study failed to support the hypothesis that high-status individuals would express less embarrassment than would lower-status individuals after having the opportunity to share their feelings with someone else. Instead, this effect emerged among highly dominant individuals. It is only those individuals who use a dominant strategy to achieve their status who were greatly relieved when given the opportunity to communicate their levels of embarrassment. In a theoretical paper about status, Gilbert (1990) reviewed the literature on reconciliation between those high and low in status. Gilbert noted that among many nonhuman species the winners of status competitions engage in behaviors that help to encourage the losers to engage in affiliative behaviors toward the winners. For example, the winner might groom the loser or allow the loser to remain in close proximity. Such actions are meant to inspire loyalty on the part of the lower-status other. Gilbert does not distinguish between dominant and prestigious strategies for achieving status in his paper; however, it might make sense to apply this distinction to his ideas.
According to Henrich and Gil-White (2001), a prestigious person has status freely conferred upon him or herself because he or she has something unique to contribute to the social group. Prestigious people should therefore have little concern in an embarrassing situation about taking remedial actions in order to apologize for a social infraction. Their social inclusion is secure because they have something to offer the group that no one else can. Dominant people, on the other hand, rely on brute force to maintain their positions in the hierarchy. If a dominant individual is caught doing something embarrassing, he or she must be more concerned about offending others and the potential for loss of regard than is a prestigious person. It is possible that during Study 1, more dominant individuals expressed more embarrassment than less dominant individuals in the no-expression condition because of this increased fear about the possibility of interpersonal rejection. However, for the minor social crime of singing an embarrassing song, the dominant individuals felt significant relief when given the opportunity to share their embarrassment with others in the public-expression condition. Perhaps on the part of highly dominant individuals, having their embarrassment observed by someone else, in their minds, served the same function as Gilbert’s reconciliation behaviors, making the observer of the embarrassment realize that the dominant individual had recognized his or her shortcomings and was willing to display conciliatory behaviors. Alternatively, it could be that for those dominant people in the public-expression condition, the opportunity to fill out a second questionnaire about their levels of embarrassment was taken as a chance to downplay the importance of the answers on the first questionnaire. If participants did not expect to have their responses on the first questionnaire examined, dominant individuals, who are more concerned about what others think of them, may
have used the second questionnaire to try to convince the observer that their performance on the singing task was not as negatively impactful as their previous responses might indicate. The low embarrassment reported by the dominant individuals could be an attempt at damage control and impression management. Meanwhile, for those lower in dominance, who were less concerned about being social rejected, the opportunity to convey their embarrassment, had little effect toward relieving their discomfort.

According to Leary and Miller (1992), embarrassment can be such a negative experience for the individual experiencing it that the individual is motivated to behave prosocially in an effort to relieve the discomfort. Perhaps the drop in embarrassment reported by more dominant individuals after having the chance to express their feelings to another person reflects the belief that simply making someone else aware of their discomfort is enough to appease the other. Perhaps the less dominant others believe it takes additional reconciliatory behaviors in order to make sure the other person forgives the faux pas. This corresponds to the finding from the Gonzales (1990) study (which did not distinguish between dominance and prestige), in which low-status others did more to attempt to make up for spilling a drink on someone else’s possessions than did higher status others.
STUDY 2

One major concern with the results of Study 1 is the low reliability of the SSSS subscales ($\alpha = .62$ to $.75$). This is a major concern due to the reduced power for testing hypotheses involving these scales. The goal of Study 2 was to improve the status, dominance, and prestige subscales of the SSSS before attempting to replicate the first study. Toward this end, 19 new items were generated and added to the 21-item version of the SSSS used in the previous study. The revised scale was administered to a large sample of university undergraduates, and the responses were analyzed using exploratory factor analysis.

Method

Three hundred and eighty-five undergraduate students (201 males and 184 females) at the College of William & Mary received course credit for their participation in this study. The participants were pooled from three separate studies including an online study of daily interactions, a study of testosterone and fluctuating asymmetry, and a replication of Study 1 of the present paper. Participants in the daily interactions study completed the materials electronically, whereas participants in the other two studies completed pencil and paper versions. Care was taken such that there was no overlap with students participating in more than one of the three studies.

The SSSS (Buttermore, James, & Kirkpatrick, 2003) was revised in an attempt to increase the reliability and validity of the status, dominance, and prestige subscales. The
authors generated additional items, which were added to the 21-item scale used in Study 1. Please see Table 6 for a list of the 40-items of the revised scale.

Results and Discussion

I performed a principal-axes factor analysis on the 40 items from the SSSS. On the basis of eigenvalues and inspection of the scree plot, I examined both the three and four factor solutions, eventually settling on three primary factors of interest. Eigenvalues of the four factors were 9.17, 3.81, 2.51, and 1.69; the next highest eigenvalue was 1.54. Because status, dominance, and prestige have been shown to be significantly correlated in Study 1 (See Table 1), I examined the structure matrix for the three-factor oblimin rotation, which is shown in Table 6. The structure matrix for the four-factor oblimin rotation is shown in Table 7. Items 2, 22, 33, and 35 were eliminated because they loaded on more than one factor. Item 29 loaded on Factor 2 in the three factor solution, but did not load strongly on any factor in the four factor solution, so it was eliminated. Items 8, 23, and 30 were eliminated because they loaded most strongly on Factor 4, which appears to be assessing reactions to public recognition. Henrich & Gil-White (2001) did not explain how reactions to praise should be differentially related to status, dominance, or prestige. Therefore, Factor 4 was not considered as a theoretically distinct factor.

Fourteen items loaded on the prestige scale, but there appeared to be redundancy in some of the items. Therefore, items 21, 24, 25, and 28 were eliminated in order to avoid repeating statements similar to those that were part of the earlier version of the prestige scale. Items 3, 7, 12, 14, 17, 20, 27, 37, 38, and 40 that loaded on Factor 1 describe a person who has deference freely conferred upon him or her. Being respected and admired, having one’s opinion valued, being imitated, having high status, possessing
expertise that is recognized by others, and offering unique talents and abilities are all characteristics ascribed to a prestigious person (Henrich & Gil-White, 2001). Cronbach’s alpha for the prestige scale was .89.

Items 6, 9, 16, 19, 32, 36, and 39 loaded most strongly on Factor 2. Items 13 and 26 loaded on Factor 2 and Factor 4, and were selected for this subscale after the decision was made not to consider Factor 4 a theoretically distinct factor. Despite a split loading on Factor 1 and Factor 2, Item 31 was selected for this subscale when it was determined that adding it increased the reliability of the subscale. The 10 items that were selected for Factor 2 describe a tendency to rely upon displays of dominance as a strategy for gaining others’ compliance. Statements from this subscale involve using aggressive tactics to get one’s way, giving orders, having control over others, refusing to compromise, and fighting one’s way to the top. Factor 2 describes individuals who are willing to use force to sway others’ opinions. This factor has been labeled “dominance.” Cronbach’s alpha for the dominance scale was .81.

Items 1, 5, 11, 15, 18, and 34 loaded most strongly on Factor 3. Item 10 loaded on Factor 1 and Factor 3, but was selected for Factor 3 because it loaded with that subscale in earlier studies (Buttermore, 2003). Item 4 was selected for Factor 4 despite a split loading when it was determined that adding it increased the reliability of the subscale. At first glance, Factor 3 appears to be the opposite of dominant behavior. The eight items loading on this factor seem to describe the prototypical “wuss,” a person who is submissive, compromising, and willing to let others walk all over him or her. The eight items that loaded on this factor included statements about doing favors to get on someone’s good side, deferring to others when decisions have to be made, trying to see
what others think before taking a stand, letting others win arguments, and being easily intimidated by dominant individuals. However, by rewording the five previously mentioned items, we are reminded that a high status person is one who does not have to do favors to get on someone’s good side, is not expected to defer to others in decision-making, takes a stand without first trying to see what others think, does not let others win arguments, and is not easily intimidated by dominant individuals. Factor 3 has therefore been tentatively labeled “status.” The status scale had a Cronbach’s alpha of .75.

All eight of the items that loaded on the status scale are reverse-scored, suggesting that these items might be better conceptualized as a submissiveness factor than as a status factor. Some research into psychopathology has focused on the importance of treating submissiveness as a construct that is distinct from dominance (Allan & Gilbert, 1997; Gilbert & Allan, 1994). Correlational studies have revealed that high assertiveness (dominance) and submissiveness are not equivalent constructs. Hallmarks of submissive behavior such as fear of strangers and passivity are related to psychological disorders such as social anxiety and depression that are not strongly related to measures of dominance. These findings suggest that submissive and dominant behaviors are perhaps best conceptualized as two distinct dimensions rather than one bipolar dimension. Future research should attempt to clarify this relationship by validating the status subscale of the SSSS against an existing measure of submissive behavior, such as the Submissive Behavior Scale (Allan & Gilbert, 1997).

Study 2 was designed to increase the reliability of the three subscales of the Self-Perceived Social Status Scale. This goal was achieved for two of the three subscales. The alphas of the 10-item prestige and dominance subscales were found to be above .80,
indicating that they are reliable measures. Treating each of the 3 factors from the status scale as a measure of a separate construct, I examined the correlations among the SE scales. As expected, the three subscales were significantly correlated with one another (ps < .001). Henrich and Gil-White believed that dominance and prestige were two distinct pathways to achieving status. Status was significantly correlated with both dominance (r = .21) and prestige (r = .42). Lending credence to the importance of the distinction between these two pathways is the relatively low correlation between dominance and prestige (r = .23). However, the alpha for the 8-item status scale is a little low at .75. The status subscale continues to be problematic. In terms of questionnaire design, it has been difficult to write and validate items that assess status without making a distinction as to the method used to obtain that status.

My failure to design a reliable status scale could also be due in part to the population in which the measures were administered. The College of William & Mary is a highly-selective public university, at which the students value academic success. In such an academic setting, it seems safe to assume that the most common pathway taken for achieving status is by prestigious means. Students seek to establish themselves through their talents and abilities rather than through strength or force. This fact is reinforced by the fact that the questionnaire item, “I have high status in my social groups” loaded on the prestige factor rather than the status factor. Participants in the present study appeared to think of the words status and prestige as synonyms. In fact, the highest correlation among the SSSS subscales was found between status and prestige (r = .42, p < .001). It is perhaps impractical to attempt to measure the construct of status independently. I will continue to work to improve the status scale, but I believe it is
necessary to focus on the most important distinction as assessed by the much-improved prestige and dominance subscales.
STUDY 3

There were two major goals for Study 3. The first aim was to clarify the nature of participants’ emotional expressions in the private-expression condition. Leary et al. (1996) found that the levels of self-reported embarrassment reported in the private-expression condition fell midway between those reported in the public and no-expression conditions, but did not differ significantly from either of those two. Study 1 showed that the amount of embarrassment reported in the private condition was not significantly different from the amount of embarrassment reported in the public-expression condition, suggesting that recording one’s embarrassment on paper is just as effective at relieving discomfort as is sharing embarrassment with someone else. In Study 3, special effort was made to ensure that the participants’ responses in the private-expression condition remained completely anonymous. With these extra measures taken to ensure the privacy of participants’ responses, it was hypothesized that the results would support the conclusions drawn by Leary and colleagues. It was expected that participants in the public-expression condition would report significantly less embarrassment than those in either the private- or no-expression conditions who had no opportunity to share their emotions with someone else.

The second aim of the study was to reexamine the findings of Study 1, using the improved measures of status, dominance, and prestige, as revised in Study 2. As in Study 1, hypotheses were made about the predictive powers of domain-specific SE, as well as
the moderating effects of domain-specific SE on the effects described by Leary and colleagues (1996). Study 1 found that no domain of SE emerged as a significant predictor of embarrassment when entered into a regression equation with all the other domains, global SE, condition, and sex of participant. It was hypothesized that in the present study (a) if there was significant power for any domain to emerge as a significant predictor in this equation, that domain would be dominance, and (b) global SE would not emerge as a predictor of embarrassment when domain-specific SEs were included in the regression equation. In further support of the results from Study 1 concerning the interaction of dominance and condition, it was hypothesized that (a) dominant individuals would express lower levels of embarrassment than less dominant individuals after having the opportunity to share their embarrassment with the researcher, and (b) conveying embarrassment to others would have little impact on the embarrassment reported by less dominant individuals.

Method

Participants

Ninety-nine undergraduate students (49 males and 50 females) from the College of William and Mary participated in the study in partial fulfillment of an introductory psychology course requirement. One student withdrew from the study after being told she would be asked to complete a singing task. Six additional participants were eliminated from the sample because of experimenter error during the experimental session or due to failure on the part of the participant to follow directions. The most common problem with the experimental manipulation was participants who verbally expressed their embarrassment to the researcher despite being given instructions not to speak unless
asked to by the experimenter. After exclusions, the total sample size was $N = 92$ (46 males and 47 females). The experimental sessions were conducted by three male and two female experimenters.

*Procedure and Materials*

Participants completed the same three portions of the study as in Study 1: personality measures, singing task, and follow-up questionnaire. The materials and procedure used in Study 3 were virtually identical to those used in Study 1, with two exceptions. First, the new, more reliable status, prestige, and dominance subscales of the Self-Perceived Social Status Scale were administered to the participants. All 40 items from the SSSS, as revised in Study 2 were included in the study materials (Table 5). The three subscales were created with the items as selected by the factor analyses in Study 2. The 10-item prestige scale had an alpha of .82, the 10-item dominance scale had an alpha of .76, and the 8-item status scale had an alpha of .75.

In order to address possible problems with the private-expression condition in Study 1, I attempted to create a situation in which participants would believe that their answers to the initial questionnaire remained completely anonymous. Rather than placing their completed questionnaires into an envelope, as in Study 1, participants in the private-expression condition were instructed by the researcher before he or she left the room to fold their answers to the initial questionnaire and to place those folded answers into a sealed box so that their “answers remained anonymous.” Participants were then instructed to crack to the door to let the researcher know that he or she could return to the room.
Results and Discussion

Manipulation Checks & Preliminary Analyses

Two participants gave incorrect answers on the manipulation check items. Both of these participants were in the private-expression condition and incorrectly answered that they had not completed a questionnaire asking about their feelings during the singing task. As stated in Study 1, these errors can probably be attributed to the confusing nature of the manipulation check questions, rather than to problems in the methodology. The responses of these two participants were removed from the sample, leaving a sample size of $N = 90$ (45 men and 45 women).

Each of the three factors of the status scale was treated as a measure of a separate domain of SE. The correlations among the SE scales are shown in Table 8. Of the measures of domain-specific SE, only dominance was not significantly positively correlated with global SE. The correlations were similar among males and females, with one exception. Among females, dominance was significantly positively correlated with status ($r = .40, p < .01$), prestige ($r = .39, p < .01$), and mate value ($r = .39, p < .01$), but among males, none of those correlation was significant ($rs < .28$).

Reexamining the Differences among the Public-, Private-, and No-Expression Conditions

As in Study 1, a principal components factor analysis of the seven items of the follow-up questionnaire was conducted to ensure that the five embarrassment items formed one factor. Based on eigenvalues of 3.69 and 1.02, two factors were retained. Using an oblimin rotation, all five embarrassment items showed high loadings ($> .67$) on the first factor. Of the two non-embarrassment items, depressed showed a high loading on the second factor (.93). However, hostile loaded evenly on both factors (.44 on Factor
1 and .46 on Factor 2). Because this item failed to load uniquely on one factor, it was not included in the analysis of the embarrassment items. The five embarrassment items were summed to yield a measure of self-reported embarrassment. Alpha for the five items on the follow-up questionnaire meant to assess self-reported embarrassment was .88.

A 2 (sex) x 3 (condition) analysis of variance was conducted on the self-reported embarrassment scores. There was no main effect of sex, $F(1,89) = 3.53, p > .05$, and the interaction of sex and condition was not significant ($F < 1$), indicating that males and females did not differ significantly in the amount of embarrassment they reported. The mean sums of self-reported embarrassment for the Leary et al. (1996) study, Study 1, and Study 3 are displayed in Table 9. As in the previous studies, a series of planned contrasts was conducted. In order to most accurately test the prediction that individuals who have had the opportunity to publicly express their embarrassment should subsequently report less embarrassment than those whose embarrassment remains private, the embarrassment scores of those in the public-expression condition were compared to the scores of participants in the private- and no-expression conditions whose feelings remained unknown to the researcher (contrast coefficients = -2, +1, +1). The results of this test were not reported by Leary and colleagues, but as in Study 1, the results were not significant, $F(1,87) = 1.33, p > .05$. Next, participants in the public-expression condition whose feelings were known by the researcher were compared to participants in the no-expression condition whose feelings were unknown to the researcher (contrast coefficients = -1, 0, +1). Consistent with the findings of Leary and colleagues and Study 1, participants who did not have the opportunity to convey their embarrassment to the
researcher reported being more embarrassed than participants whose feelings were known to the researcher, $F(1,88) = 4.58, p < .05$.

As suggested by the pattern of results shown in Table 9, an additional planned contrast (contrast coefficients = 0, -1, +1) demonstrated that the embarrassment scores in the private-expression condition were significantly different from the scores in the no-expression condition, $F(1,88) = 5.21, p < .05$. This replicates the findings of Study 1 and differs from the finding of Leary et al. (1996) that the private-expression condition differed from neither the public- nor the no-expression conditions. A final contrast (contrast coefficients = -1, +1, 0) showed that the private-expression condition did not differ from the public-expression condition, $F(1,88) = .02, p > .05$. This last result also mirrors the results found in Study 1 and the Leary et al. (1996) study. In Study 3, as in Study 1, the mean embarrassment scores in the public and private-expression conditions look virtually identical.

**Domain-Specific Self-Esteem and the Expression of Embarrassment**

As in Study 1, the second major goal of Study 3 was to test whether specific domains of self-esteem were more predictive of embarrassment than was global SE. In order to accomplish this, the four domain-specific SE scales, global SE, condition, and sex (males = -1 and females = +1) were entered into a regression equation predicting embarrassment on the final questionnaire. Two orthogonal contrasts were entered into each regression equation to account for the condition variable: Condition Contrast 1 (contrast coefficients = +2, -1, -1) and Condition Contrast 2 (contrast coefficients = 0, +1, -1). The regression coefficients for each variable are presented in Table 10. As in Study 1, *Condition Contrast 2* emerged as a significant predictor ($\beta = -.21, p < .05$). However,
the improved measure of status did emerge as a significant predictor of embarrassment ($\beta = -0.37, p < 0.01$), as did global SE ($\beta = -0.29, p < 0.05$). This analysis offered no support for the hypothesis that domain-specific SEs would be better predictors of embarrassment than global SE. Recall that in the present study it was hypothesized, based on the findings from Study 1, that if any domain emerged as a predictor of embarrassment, that domain would be dominance. Instead, as was hypothesized in Study 1, status emerged as a significant inverse predictor. This finding makes sense in light of previous correlational studies that found a similar inverse relationship between status and embarrassment (Buttermore, 2003).

From the standpoint of Kirkpatrick and Ellis’s (2001) theory of domain-specific SE, it is somewhat troubling that global SE remained a significant predictor of embarrassment in this multiple regression. It is possible that the strength of global SE as a predictor despite the inclusion of several domain-specific SEs in the regression equation is due to another domain of SE that has not been explicitly measured in our model. Perhaps if domains such as social inclusion, between- or within-group competition, or morality had been explicitly measured as part of the current study, this effect of global SE would disappear. In order to further explore the predictive power of global SE and status, I studied the moderating effect of each type of SE in an individual regression equation.

*Domain-specific Self-esteem as Moderators of the Leary et al. (1996) Findings*

As in Study 1, each of the domain-specific SE scales was mean-centered and entered individually into a regression equation containing the scale scores from the other domain-specific SE measures, as well as contrast-coded variables representing condition, sex, the interaction of sex and the domain of SE, and the interaction of condition and the
domain of SE. Two orthogonal contrasts were entered into each regression equation to account for the condition variable: Condition Contrast 1 (contrast coefficients = +2, -1, -1) and Condition Contrast 2 (contrast coefficients = 0, +1, -1). As explained in Study 1, the interaction of Condition Contrast 1 and each of the mean-centered domains of SE assesses the degree to which individuals' SE in that domain is related to the relief they felt after having the opportunity to convey their embarrassment to others.

For each of the multiple regression equations, the only significant predictors to emerge were Condition Contrast 2, status, and global SE. Table 11 presents the results from the multiple regression including the dominance interaction terms, which was the regression equation of primary interest in Study 1. The pattern of results found in Study 1 differs greatly from the pattern found in this study. As previously revealed by the planned contrasts, the significance of Condition 2 as a predictor in the multiple regression equations indicated that the private-expression condition differed significantly from the no-expression condition. However, these results fail to replicate the results from Study 1 that the interaction of dominance and condition was a significant predictor of embarrassment, with highly dominant individuals reporting more embarrassment in the private- and no-expression conditions and less embarrassment after having a chance to share their emotions in the public-expression condition. The Dominance × Condition Contrast 1 interaction failed to even approach significance ($\beta = .10, p = .33$) in Study 3, whereas the effect in Study 1 was quite strong ($\beta = -.56, p < .01$). As shown in Figure 2, though not significant, the pattern of results for the Dominance × Condition Contrast 1 interaction in Study 3 is in the opposite direction as the pattern found in Study 1.
There are several possible reasons for the failure of Study 3 to replicate Study 1. First, it is important to note that the status, dominance, and prestige scales were altered from Study 1 to Study 3. It is certainly possible that the changes in the patterns of results are due to the changes in the predictor variables. However, the revised scales used in Study 3 contained all of the items comprising the three subscales in Study 1, making it possible to do a reanalysis of the data from Study 3 using the less reliable versions of the scales as was done in Study 1. This approach revealed findings virtually identical to the findings using the revised version. In other words, the pattern of results in Study 3 looks the same regardless of whether the old or new versions of the status, dominance, and prestige subscales were used.

Another potential problem with the experiment comes from anecdotal evidence as reported by the five experimenters involved in data collection. Upon entering the lab, several participants asked questions such as, "Is this the study where I have to sing?" Study 3 was conducted during the spring semester immediately following the semester during which Study 1 was conducted. It appears that some of the students who were involved in Study 1 shared information about the experimental manipulation with students who later participated in Study 3. Although attempts were made by the experimenters to make note of those students who knew about the study prior to their participation and subsequently remove the tainted data, there is no way of knowing whether all students who were aware of the experimental task were excluded from the study. Consequently, there is no way to test whether those with prior knowledge differed significantly from naïve participants in their reactions to the embarrassing task.
The finding that it was the status scale, rather than the dominance scale, that moderated the condition effects as reported by Leary and colleagues (1996) is perhaps not as close to a complete failure to replicate Study 1 as it may at first seem. As discussed at the end of Study 2, it is possible that the revised status scale is actually a measure of submissiveness, rather than a measure of status. It has been argued that submissiveness and dominance do not represent opposite ends of the same continuum, but the two constructs are certainly more closely related to each other than is either to prestige. If the status subscale does represent a measure of submissiveness, it is important to note that in both Study 1 and Study 3, it was dominance and submissiveness, rather than prestige, that were related to embarrassment.
GENERAL DISCUSSION

With these three studies, I attempted to address three research questions. I found some support for the conclusions drawn from the Leary et al. (1996) study, that participants who had a prior opportunity to express their embarrassment to the researcher reported less embarrassment than those whose embarrassment remained private. However, some question remains as to whether Leary and colleagues tested the hypothesis most appropriate for their intended research question. Second, I found mixed support for the idea that domain-specific self-esteem is better predictors of the reaction to an embarrassing situation than is global SE. Finally, I found some support for the hypothesis that domain-specific SE moderates the effect reported by Leary and colleagues, but it remains unclear whether dominance is the most important predictor.

Replication of the Leary et al. (1996) Study

I failed in both Study 1 and Study 3 to replicate the finding from the Leary et al. (1996) study that those participants in the private-expression condition reported levels of embarrassment between the high levels reported by those in the no-expression condition and the low levels reported in the public-expression condition, but did not differ significantly from either condition. In both Study 1 and Study 3, I found that participants reported levels of embarrassment that were virtually equivalent to the levels reported in the public-expression condition. These two studies showed that participants who had the chance to either share their embarrassment with the researcher or had the opportunity to
record their feelings on paper reported significantly less embarrassment than those who did not have any opportunity to express their feelings.

*I attempted to address the failure to replicate Leary and colleagues’ (1996) findings in Study 1 by improving the private-expression condition in the Study 3. As part of the latter study, every effort was made to ensure that participants in the private-expression condition were aware that the researchers had no way of matching their responses on the initial questionnaire to the participants’ responses on the final questionnaires. However, further examination of the mean embarrassment scores reported in each condition in the three studies suggests that the differences between the Leary et al. study and the present two studies could lie in the public-expression condition (Table 9). Leary et al. reported a mean embarrassment score on the public-expression condition of $M = 18.9$, whereas the means in the same condition in Studies 1 and 3 were higher at $M = 24.7$ and $M = 27.5$ respectively. The range of these mean scores (8.6) is larger than the ranges between the three studies in both the private- (3.6) and no- (4.3) expression conditions. In other words, participants in the Leary et al. study reported being less embarrassed after having the opportunity to share their feelings with the researcher than did participants in the present two studies. In fact, participants in Study 1 and Study 3 here were no less embarrassed after the researcher examined their answers to the initial questionnaire than were participants whose responses were not examined by the researcher.

These results therefore offer only limited support for the theory that individuals are motivated to convey their embarrassment to others as a way to decrease their discomfort. Rather, they seem to suggest that publicly expressing embarrassment offers
no more relief than simply recording embarrassment in writing. Pennebaker (1990) has conducted many studies which investigate the effect of narrative writing on physical well-being. His work has consistently demonstrated that individuals who document their aversive experiences suffer fewer long-term psychological hardships as a result of those events. While offering support for the idea that writing about negative feelings helps to relieve discomfort, this research is only tangentially related to the present studies.

Pennebaker’s work examines diary-like writing that requires in-depth processing of the emotions, whereas participants in the present study merely rated their emotions inasmuch as they were summed up by five adjectives. Nonetheless, the present studies suggest that even quickly considering the nature of the current emotional state can serve to alleviate emotional discomfort.

It is also possible that the nature of the public-expression condition might have caused participants in that condition to feel violated, rather than relieved, when the experimenter examined their responses. If the participants assumed that their responses to the initial questionnaire would remain anonymous, they would undoubtedly have been shocked when the researcher examined their responses. Perhaps this contributed to the participants’ negative emotional states, and prevented any relief that could have come as a result of the public disclosure. As a post hoc test of this explanation, a one-way ANOVA was conducted for each of the two studies, with condition predicting calmness (Item 7 on the final questionnaire). In Study 1, there was an effect of condition, $F(2, 88) = 4.01, p < .05$, such that participants in the public ($M = 7.43$) and private ($M = 7.27$) expression conditions reported feeling calmer than participants in the no-expression condition ($M = 5.68$). The same was true for Study 3, $F(2, 87) = 3.57, p < .05$. 
Participants in the public \((M = 7.27)\) and private \((M = 7.00)\) expression conditions felt calmer than participants in the no-expression condition \((M = 5.57)\). Thus, it appears that having one’s responses examined by an experimenter did not increase negative arousal. In support of Pennebaker (1990), simply recording information about a negative emotional experience appeared to have a calming effect.

*The Predictive Power of Domain-Specific SE*

The results of Study 1 supported the prediction that domain-specific self-esteem would predict the tendency to express the emotions to others. It was found that more dominant individuals reported significantly less embarrassment after being given a prior opportunity to convey their feelings publicly than did less dominant individuals. In fact, more dominant individuals mirrored the pattern found by Leary et al. (1996), in which publicly conveying embarrassment led to significantly less embarrassment than either writing about that embarrassment or having no opportunity to express one’s feelings.

Among less dominant individuals, being given a chance to publicly express the emotions did far less to relieve embarrassment. There was little difference between the means in the public and private/no-expression conditions, suggesting that less dominant individuals continued to be embarrassed even after being given a chance to share their emotions with the experimenter.

However, the results of Study 3 are very different from the results of Study 1, despite the fact that Study 3 was designed as a replication. In Study 3, dominance was not a significant predictor of embarrassment, and the Dominance × Condition interaction was not significant. The only self-esteem variables that emerged as significant predictors of embarrassment were status and global self-esteem. Judging by the number of participants
who had prior knowledge of the experimental manipulation coming into Study 3, it seems probable that the results of the second study should be called into question, and an additional attempt should be made to replicate the dominance effects found in Study 1.

Dominant individuals, who use force to attain status, need to be more concerned than prestigious individuals about the ramifications of embarrassment-inducing actions. Whereas prestigious individuals can remain secure in the knowledge that their social inclusion, which comes as a result of their unique skills and talents, is not threatened by a minor social offense such as singing badly, dominant individuals must be concerned about any and all threats to their social standing. Furthermore, the significant drop seen in the levels of embarrassment reported by dominant individuals once their feelings, as reported in the initial questionnaire, were observed by the researcher, could be an attempt at damage control. If the individual reported high levels of embarrassment in the initial questionnaire, but never expected those levels to be viewed by the researcher, the lower embarrassment ratings in the public-expression condition could be seen as the dominant individual’s attempt to say, “I wasn’t really as negatively affected by this singing task as you might think based on my previous answers.” Perhaps in the eyes of a highly dominant individual, the best strategy for ensuring that a weakness is not exploited, is to deny that the weakness ever existed.

Limitations and Future Directions

These three studies have several notable weaknesses that must be addressed in any attempt to understand their implications. Studies 1 and 3 relied on several new measures of domain-specific SE and their predictive value. Study 2 demonstrated that both the dominance and prestige subscales of the SSSS are reliable measures, but the
status scale was not as reliable. All three of these subscales need to be validated against other related scales. It is especially important to test whether the status subscale is actually assessing status, or whether makes better theoretical sense to think of the scale as measuring submissiveness.

As originally designed by Leary and colleagues (1996), this methodology was meant to investigate whether individuals who have done something embarrassing are motivated to share their emotions with others. However, the word motivation seems a bit misleading when applied to the procedure used in these studies. Participants had no choice as to the strategy they used following an embarrassing predicament. In the public-expression condition, the researcher examined the participants’ responses to the initial questionnaire, whereas in the private-expression condition, the participants were instructed to write down their feelings, but not to communicate them to the researcher. This is more a controlled study of individuals’ reactions to having their feelings examined by an observer, rather than of a participant’s motivation to share those feelings.

Future studies should investigate whether or not participants choose to convey their emotions to the researcher in this setting, and if so, how they choose to do so. Many of the participants who were eliminated from the study were excluded because they made jokes about their singing, or took some other measure to communicate their discomfort. Choosing to use such a strategy to share embarrassment would probably also be closely tied to the domains of status, dominance, and prestige.

These studies looked at only one type of verbal remedial strategy, expressing embarrassment to someone else. Future research could investigate how other remedial strategies influence the subjective experience of embarrassment. For example, Study 2 of
the Leary et al. (1996) article investigated how individuals reacted to having their levels of facial flushing noticed by the researcher. If, as proposed by Leary and Meadows (1991), blushing is an involuntary response indicating humility, which is meant to mitigate potential negative evaluations of the blusher by others and to ensure that the individual remains socially included, then it seems likely that differences in dominance and prestige would be related to blushing. As shown in the studies by Sueda and Wiseman (1992) and Fink and Walker (1977) individuals use different remedial strategies such as humor and apologizing, depending on their social status in an interaction. It would be interesting to test whether high- and low-status, dominance, or prestige, individuals differ in their preferred remedial strategy.

The present studies investigated how public displays of embarrassment influence the feelings and behaviors of the person who had completed an embarrassing task. In future studies it would be interesting to study how the same behaviors influence the observer of the social transgression. For example, observers of embarrassing actions might react more or less favorably to individuals who demonstrate verbal or nonverbal displays of their feelings, based on the transgressors social status. Perhaps the so-called motivation to convey embarrassment to others is a misguided strategy. It could be that it takes more than a confession to convince an onlooker that an embarrassing event need not reflect negatively on the offending party.

It appears that privately recording feelings of embarrassment does help to decrease discomfort, but it remains unclear whether sharing these feelings with others is an equally effective or (as suggested by Leary and colleagues) more effective strategy for lessening that discomfort. However, the results of Study 1 suggest that those high and
low in dominance differ in their reactions to having their feelings publicly communicated. Whereas those high in dominance expressed less embarrassment after their feelings were revealed to the researcher than they did if their feelings remained private, those low in dominance reported similar levels of embarrassment whether their feelings remained public or private. This finding suggests that an understanding of domain-specific SE is important for predicting the expression of emotion following an embarrassing event.
TABLE 1
CORRELATIONS AMONG SELF-ESTEEM SCALES (STUDY 1)

<table>
<thead>
<tr>
<th>SE scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global SE</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Status</td>
<td>.49**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Dominance</td>
<td>.13</td>
<td>.35**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4. Prestige</td>
<td>.50**</td>
<td>.26*</td>
<td>.13</td>
<td>-</td>
</tr>
<tr>
<td>5. Mate Value</td>
<td>.43**</td>
<td>.18</td>
<td>.17</td>
<td>.48**</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01
TABLE 2

COMPARISON OF SELF-REPORTED EMBARRASSMENT SCORES

FROM LEARY ET AL. (1996) AND STUDY 1

<table>
<thead>
<tr>
<th>Expression of Embarrassment</th>
<th>Public</th>
<th>Private</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leary et al. (1996)</td>
<td>18.9</td>
<td>23.5</td>
<td>29.8</td>
</tr>
<tr>
<td>Buttermore – Study 1</td>
<td>24.7</td>
<td>23.0</td>
<td>35.6</td>
</tr>
</tbody>
</table>

*Note.* Numbers reflect the sum of ratings on five items: embarrassed, nervous, foolish, calm (reverse scored), and self-conscious.
TABLE 3
MULTIPLE REGRESSION PREDICTING EMBARRASSMENT
FROM DOMAIN-SPECIFIC SE (STUDY 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>-2.30</td>
<td>1.58</td>
<td>-.16</td>
</tr>
<tr>
<td>Prestige</td>
<td>-2.35</td>
<td>2.69</td>
<td>-.10</td>
</tr>
<tr>
<td>Status</td>
<td>-1.38</td>
<td>1.76</td>
<td>-.09</td>
</tr>
<tr>
<td>Mate Value</td>
<td>-1.73</td>
<td>1.47</td>
<td>-.14</td>
</tr>
<tr>
<td>Global SE</td>
<td>1.82</td>
<td>2.35</td>
<td>.10</td>
</tr>
<tr>
<td>Sex</td>
<td>-0.21</td>
<td>1.35</td>
<td>-.02</td>
</tr>
<tr>
<td>Condition 1 (+2, -1, -1)</td>
<td>-1.77</td>
<td>0.98</td>
<td>-.18</td>
</tr>
<tr>
<td>Condition 2 (0, +1, -1)</td>
<td>-6.65</td>
<td>1.66</td>
<td>-.40***</td>
</tr>
</tbody>
</table>

Note. N = 91.

*** p < .001.
TABLE 4
RESULTS FOR INTERACTION TERMS FROM SEPARATE MULTIPLE REGRESSIONS (STUDY 1)

<table>
<thead>
<tr>
<th>Interaction Term</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global SE × Condition</td>
<td>0.67</td>
<td>1.40</td>
<td>.05</td>
</tr>
<tr>
<td>Status × Condition</td>
<td>-1.31</td>
<td>1.16</td>
<td>-.12</td>
</tr>
<tr>
<td>Dominance × Condition</td>
<td>-3.47</td>
<td>1.24</td>
<td>-.30*</td>
</tr>
<tr>
<td>Prestige × Condition</td>
<td>2.59</td>
<td>1.79</td>
<td>.15</td>
</tr>
<tr>
<td>Mate value × Condition</td>
<td>1.54</td>
<td>0.94</td>
<td>.18</td>
</tr>
</tbody>
</table>

*Note. N = 91. Each row represents a separate multiple regression in which the interaction of one domain of SE and effects-coded condition (+2, -1, -1) was tested with the effects of sex, condition, and each additional domain of SE controlled.

**p < .01.
TABLE 5
RESULTS OF MULTIPLE REGRESSION PREDICTING
EMBARRASSMENT (STUDY 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>-3.43</td>
<td>1.60</td>
<td>-.23*</td>
</tr>
<tr>
<td>Condition 1 (+2, -1, -1)</td>
<td>-1.83</td>
<td>0.96</td>
<td>-.19</td>
</tr>
<tr>
<td>Condition 2 (0, +1, -1)</td>
<td>-6.34</td>
<td>1.63</td>
<td>-.38***</td>
</tr>
<tr>
<td>Dominance × Condition 1</td>
<td>-3.47</td>
<td>1.24</td>
<td>-.30**</td>
</tr>
<tr>
<td>Dominance × Condition 2</td>
<td>0.32</td>
<td>1.67</td>
<td>.02</td>
</tr>
<tr>
<td>Status</td>
<td>-1.87</td>
<td>1.74</td>
<td>-.12</td>
</tr>
<tr>
<td>Prestige</td>
<td>-1.88</td>
<td>2.68</td>
<td>-.08</td>
</tr>
<tr>
<td>Mate Value</td>
<td>-2.51</td>
<td>1.49</td>
<td>-.20</td>
</tr>
<tr>
<td>Global SE</td>
<td>1.67</td>
<td>2.37</td>
<td>.10</td>
</tr>
<tr>
<td>Sex</td>
<td>0.41</td>
<td>1.35</td>
<td>.03</td>
</tr>
<tr>
<td>Sex × Condition 1</td>
<td>1.26</td>
<td>1.01</td>
<td>.13</td>
</tr>
<tr>
<td>Sex × Condition 2</td>
<td>0.11</td>
<td>1.63</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. N = 91.

* p < .05. ** p < .01. *** p < .001.
<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I sometimes do favors for people to get on their good side. (R)*</td>
<td>.05</td>
<td>.16</td>
<td>.49</td>
</tr>
<tr>
<td>2. I tend to dominate social situations.*</td>
<td>.49</td>
<td>.57</td>
<td>-.18</td>
</tr>
<tr>
<td>3. Members of my peer group respect and admire me.*</td>
<td>.73</td>
<td>.06</td>
<td>-.21</td>
</tr>
<tr>
<td>4. Others believe they can push me around. (R)</td>
<td>-.41</td>
<td>-.28</td>
<td>.61</td>
</tr>
<tr>
<td>5. I defer to others when decisions have to be made. (R)*</td>
<td>-.26</td>
<td>-.36</td>
<td>.48</td>
</tr>
<tr>
<td>6. I am willing to use aggressive tactics to get my way.*</td>
<td>.08</td>
<td>.63</td>
<td>-.08</td>
</tr>
<tr>
<td>7. Others do not value my opinion. (R)*</td>
<td>-.60</td>
<td>-.02</td>
<td>.35</td>
</tr>
<tr>
<td>8. People often 'let it slide' when I fail to meet my obligations.</td>
<td>-.07</td>
<td>.10</td>
<td>.37</td>
</tr>
<tr>
<td>9. I enjoy having control over others.*</td>
<td>.14</td>
<td>.66</td>
<td>.20</td>
</tr>
<tr>
<td>10. I feel inferior to members of my peer group. (R)*</td>
<td>-.61</td>
<td>-.07</td>
<td>.56</td>
</tr>
<tr>
<td>11. I must admit that I try to see what others think before I take a stand. (R)*</td>
<td>-.10</td>
<td>-.13</td>
<td>.62</td>
</tr>
<tr>
<td>12. Others recognize me for my contributions to my social groups.</td>
<td>.65</td>
<td>.18</td>
<td>-.09</td>
</tr>
<tr>
<td>13. I do not like to give orders. (R)*</td>
<td>-.28</td>
<td>-.59</td>
<td>.23</td>
</tr>
<tr>
<td>14. Members of my peer group do not want to be like me. (R)*</td>
<td>-.57</td>
<td>-.07</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Correlation</td>
<td>Correlation</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>15.</td>
<td>It is pretty easy for people to win arguments with me. (R)*</td>
<td>-.35</td>
<td>-.29</td>
</tr>
<tr>
<td>16.</td>
<td>I don't mind compromising with other people. (R)*</td>
<td>-.01</td>
<td>-.43</td>
</tr>
<tr>
<td>17.</td>
<td>I have high status in my social groups.*</td>
<td>.77</td>
<td>.26</td>
</tr>
<tr>
<td>18.</td>
<td>I am easily intimidated by dominant individuals. (R)*</td>
<td>-.39</td>
<td>-.32</td>
</tr>
<tr>
<td>19.</td>
<td>Others know it is better to let me have my way.</td>
<td>.22</td>
<td>.62</td>
</tr>
<tr>
<td>20.</td>
<td>There are some matters on which I am considered an expert by others.*</td>
<td>.47</td>
<td>.22</td>
</tr>
<tr>
<td>21.</td>
<td>I have high rank in my social groups.</td>
<td>.78</td>
<td>.29</td>
</tr>
<tr>
<td>22.</td>
<td>I demand respect from members of my peer group.*</td>
<td>.55</td>
<td>.39</td>
</tr>
<tr>
<td>23.</td>
<td>It makes me uncomfortable when others publicly praise me.</td>
<td>-.11</td>
<td>-.09</td>
</tr>
<tr>
<td>24.</td>
<td>Others find my advice helpful.</td>
<td>.57</td>
<td>.02</td>
</tr>
<tr>
<td>25.</td>
<td>I have access to resources that others do not.</td>
<td>.40</td>
<td>.16</td>
</tr>
<tr>
<td>26.</td>
<td>I do not enjoy having authority over other people. (R)</td>
<td>-.19</td>
<td>-.53</td>
</tr>
<tr>
<td>27.</td>
<td>My unique talents and abilities are recognized by others.</td>
<td>.72</td>
<td>-.01</td>
</tr>
<tr>
<td>28.</td>
<td>Others do not second guess my choices.</td>
<td>.44</td>
<td>.04</td>
</tr>
<tr>
<td>29.</td>
<td>I do not mind taking orders or being told what to do. (R)</td>
<td>-.06</td>
<td>-.36</td>
</tr>
<tr>
<td>30.</td>
<td>When I am being introduced, I don't like the person to make lengthy comments about what I have done.</td>
<td>-.10</td>
<td>-.16</td>
</tr>
<tr>
<td>31.</td>
<td>My opinions hold greater weight relative to others' in my social group.</td>
<td>.51</td>
<td>.40</td>
</tr>
<tr>
<td>32.</td>
<td>I try to control others rather than permit them to control me.</td>
<td>.28</td>
<td>.75</td>
</tr>
<tr>
<td>33.</td>
<td>I don't have a forceful or dominant personality. (R)</td>
<td>-.29</td>
<td>-.61</td>
</tr>
<tr>
<td>Item</td>
<td>Statement</td>
<td>Factor Loadings</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td>If I have done something well, I make sure I call it to other people's attention. (R)</td>
<td>.08 .25 .47</td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>People seem naturally to turn to me when decisions have to be made.</td>
<td>.58 .35 -.32</td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>I often try to get my own way regardless of what others may want.</td>
<td>.08 .64 .20</td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>I have gained distinction and social prestige among my peers.</td>
<td>.79 .25 -.11</td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>I am held in high esteem by those I know.</td>
<td>.82 .10 -.19</td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>I believe I have to fight my way to the top.*</td>
<td>-.04 .45 .18</td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Others consider what I will think before making choices.</td>
<td>.58 .22 -.06</td>
<td></td>
</tr>
</tbody>
</table>

*Indicates items from the earlier versions of the SSSS subscales.

Note. The 28 items that were selected as being the best items for the three subscales are presented in bold. The bolded factor loading indicates the subscale to which those respective items belong.
<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I sometimes do favors for people to get on their good side. (R)</td>
<td>.05</td>
<td>.21</td>
<td>.47</td>
<td>.09</td>
</tr>
<tr>
<td>2. I tend to dominate social situations.*</td>
<td>.49</td>
<td>.55</td>
<td>-.20</td>
<td>-.13</td>
</tr>
<tr>
<td>3. Members of my peer group respect and admire me.*</td>
<td>.73</td>
<td>.02</td>
<td>-.17</td>
<td>-.15</td>
</tr>
<tr>
<td>4. Others believe they can push me around. (R)</td>
<td>-.41</td>
<td>-.21</td>
<td>.59</td>
<td>.23</td>
</tr>
<tr>
<td>5. I defer to others when decisions have to be made. (R)*</td>
<td>-.27</td>
<td>-.32</td>
<td>.50</td>
<td>.12</td>
</tr>
<tr>
<td>6. I am willing to use aggressive tactics to get my way.*</td>
<td>.08</td>
<td>.61</td>
<td>-.11</td>
<td>-.14</td>
</tr>
<tr>
<td>7. Others do not value my opinion. (R)*</td>
<td>-.60</td>
<td>.03</td>
<td>.31</td>
<td>.19</td>
</tr>
<tr>
<td>8. People often 'let it slide' when I fail to meet my obligations.</td>
<td>-.07</td>
<td>.18</td>
<td>.29</td>
<td>.39</td>
</tr>
<tr>
<td>9. I enjoy having control over others.*</td>
<td>.13</td>
<td>.64</td>
<td>.20</td>
<td>-.27</td>
</tr>
<tr>
<td>10. I feel inferior to members of my peer group. (R)*</td>
<td>-.61</td>
<td>.00</td>
<td>.52</td>
<td>.20</td>
</tr>
<tr>
<td>11. I must admit that I try to see what others think before I take a stand. (R)*</td>
<td>-.11</td>
<td>-.10</td>
<td>.65</td>
<td>-.05</td>
</tr>
<tr>
<td>12. Others recognize me for my contributions to my social groups.</td>
<td>.65</td>
<td>.14</td>
<td>-.04</td>
<td>-.25</td>
</tr>
<tr>
<td>13. I do not like to give orders. (R)*</td>
<td>-.27</td>
<td>-.53</td>
<td>.20</td>
<td>.45</td>
</tr>
<tr>
<td>14. Members of my peer group do not want to be like me. (R)*</td>
<td>-.57</td>
<td>-.04</td>
<td>.17</td>
<td>.12</td>
</tr>
</tbody>
</table>
15. It is pretty easy for people to win arguments with me. (R)*

16. I don't mind compromising with other people. (R)*

17. I have high status in my social groups.*

18. I am easily intimidated by dominant individuals. (R)*

19. Others know it is better to let me have my way.

20. There are some matters on which I am considered an expert by others.*

21. I have high rank in my social groups.

22. I demand respect from members of my peer group.*

23. It makes me uncomfortable when others publicly praise me.

24. Other find my advice helpful.

25. I have access to resources that others do not.

26. I do not enjoy having authority over other people. (R)

27. My unique talents and abilities are recognized by others.

28. Others do not second guess my choices.

29. I do not mind taking orders or being told what to do. (R)

When I am being introduced, I don't like the person to make lengthy comments about what I have done.

30. My opinions hold greater weight relative to others' in my social group.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td>I try to control others rather than permit them to control me.</td>
<td>.28  .75  -.04  -.06</td>
</tr>
<tr>
<td>33.</td>
<td>I don't have a forceful or dominant personality. (R)</td>
<td>-.29  -.56  .38  .20</td>
</tr>
<tr>
<td>34.</td>
<td>If I have done something well, I make sure I call it to other people's attention. (R)</td>
<td>.07  .27  .48  -.11</td>
</tr>
<tr>
<td>35.</td>
<td>People seem naturally to turn to me when decisions have to be made.</td>
<td>.59  .32  -.33  -.08</td>
</tr>
<tr>
<td>36.</td>
<td>I often try to get my own way regardless of what others may want.</td>
<td>.08  .67  .14  .05</td>
</tr>
<tr>
<td>37.</td>
<td>I have gained distinction and social prestige among my peers.</td>
<td>.79  .23  -.11  -.04</td>
</tr>
<tr>
<td>38.</td>
<td>I am held in high esteem by those I know.</td>
<td>.82  .07  -.17  -.05</td>
</tr>
<tr>
<td>39.</td>
<td>I believe I have to fight my way to the top.*</td>
<td>-.04  .47  .14  .01</td>
</tr>
<tr>
<td>40.</td>
<td>Others consider what I will think before making choices.</td>
<td>.59  .21  -.05  -.07</td>
</tr>
</tbody>
</table>

Note. The 28 items that were selected as being the best items for the three subscales are presented in bold. The bolded factor loading indicates the subscale to which those respective items belong.

* Indicates items from the earlier versions of the SSSS subscales.
TABLE 8
CORRELATIONS AMONG SELF-ESTEEM SCALES (STUDY 3)

<table>
<thead>
<tr>
<th>SE scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global SE</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Status</td>
<td>.37**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Dominance</td>
<td>.08</td>
<td>.34**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4. Prestige</td>
<td>.47**</td>
<td>.36**</td>
<td>.32**</td>
<td>-</td>
</tr>
<tr>
<td>5. Mate Value</td>
<td>.49**</td>
<td>.49**</td>
<td>.23*</td>
<td>.51**</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01
TABLE 9

COMPARISON OF SELF-REPORTED EMBARRASSMENT SCORES
FROM LEARY ET AL. (1996) AND STUDIES 1 & 3

<table>
<thead>
<tr>
<th>Expression of Embarrassment</th>
<th>Public</th>
<th>Private</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leary et al. (1996)</td>
<td>18.9</td>
<td>23.5</td>
<td>29.8</td>
</tr>
<tr>
<td>Buttermore – Study 1</td>
<td>24.7</td>
<td>23.0</td>
<td>35.6</td>
</tr>
<tr>
<td>Buttermore – Study 3</td>
<td>27.5</td>
<td>27.1</td>
<td>34.1</td>
</tr>
</tbody>
</table>

*Note.* Numbers reflect the sum of ratings on five items: embarrassed, nervous, foolish, calm (reverse scored), and self-conscious.
### TABLE 10
MULTIPLE REGRESSION PREDICTING EMBARRASSMENT FROM DOMAIN-SPECIFIC SE (STUDY 3)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>1.51</td>
<td>1.75</td>
<td>.09</td>
</tr>
<tr>
<td>Prestige</td>
<td>0.97</td>
<td>2.46</td>
<td>.05</td>
</tr>
<tr>
<td>Status</td>
<td>-5.74</td>
<td>1.79</td>
<td>-.37*</td>
</tr>
<tr>
<td>Mate Value</td>
<td>1.38</td>
<td>1.33</td>
<td>.13</td>
</tr>
<tr>
<td>Global SE</td>
<td>-4.62</td>
<td>1.83</td>
<td>-.29*</td>
</tr>
<tr>
<td>Sex</td>
<td>-1.99</td>
<td>1.12</td>
<td>-.16</td>
</tr>
<tr>
<td>Condition 1 (+2, -1, -1)</td>
<td>-0.44</td>
<td>0.86</td>
<td>-.05</td>
</tr>
<tr>
<td>Condition 2 (0, +1, -1)</td>
<td>-3.13</td>
<td>1.41</td>
<td>-.21*</td>
</tr>
</tbody>
</table>

*Note. N = 91.*

* p < .05. ** p < .01.
### TABLE 11

RESULTS OF MULTIPLE REGRESSION PREDICTING EMBARRASSMENT (STUDY 3)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE_B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>1.83</td>
<td>1.81</td>
<td>.11</td>
</tr>
<tr>
<td>Condition 1 (+2, -1, -1)</td>
<td>-0.27</td>
<td>0.89</td>
<td>-.03</td>
</tr>
<tr>
<td>Condition 2 (0, +1, -1)</td>
<td>-3.20</td>
<td>1.45</td>
<td>-.22*</td>
</tr>
<tr>
<td>Dominance $\times$ Condition 1</td>
<td>1.22</td>
<td>1.26</td>
<td>.10</td>
</tr>
<tr>
<td>Dominance $\times$ Condition 2</td>
<td>1.28</td>
<td>1.80</td>
<td>.07</td>
</tr>
<tr>
<td>Status</td>
<td>-5.89</td>
<td>1.86</td>
<td>-.38**</td>
</tr>
<tr>
<td>Prestige</td>
<td>1.11</td>
<td>2.53</td>
<td>.05</td>
</tr>
<tr>
<td>Mate Value</td>
<td>1.61</td>
<td>1.37</td>
<td>.15</td>
</tr>
<tr>
<td>Global SE</td>
<td>-4.88</td>
<td>1.91</td>
<td>-.31*</td>
</tr>
<tr>
<td>Sex</td>
<td>-1.96</td>
<td>1.15</td>
<td>-.16</td>
</tr>
<tr>
<td>Sex $\times$ Condition 1</td>
<td>.02</td>
<td>.82</td>
<td>.00</td>
</tr>
<tr>
<td>Sex $\times$ Condition 2</td>
<td>.39</td>
<td>1.45</td>
<td>.03</td>
</tr>
</tbody>
</table>

*Note. N = 91.

* $p < .05$. ** $p < .01$. 
FIGURE 1
EMBARRASSMENT SCORES AS A FUNCTION OF CONDITION AND DOMINANCE (STUDY 1)
FIGURE 2

EMBARRASSMENT SCORES AS A FUNCTION OF CONDITION AND DOMINANCE (STUDY 3)
APPENDIX A
VERBATIM SCRIPT

Hi. My name is [Nicole Buttermore/ other researcher] and I am collecting data for a masters thesis project. I need your help to complete a study of the effect of music on emotion that will take approximately 30 minutes.

You will complete several questionnaires, then follow an instructional audiotape. Your responses to the audiotape will be recorded, but your name will not be associated with the recording. Next, you will fill out a few more questionnaires in which you will be asked about your reactions to the audiotape. I will explain the study more fully afterward and you can obtain the final results if you wish. I would like to take this time to assure you that your answers will be completely anonymous and that you may terminate your participation at any time. Also, please do not write your name or any other identifying information on any of the questionnaires.

OK, if you are willing to participate, please read the following consent form (Appendix B). This form indicates that I have explained this all to you and that you are willing to participate. Please sign the blank line and print your name below your signature so I can be sure you get credit for being here. I’ll be back in just a moment.

[Experimenter leaves to give participant a minute to review consent form. Experimenter returns.]

Thanks. [Collect consent form.] Here are several questionnaires. [Pass out Appendix C, D, & E.] Please go through them fairly quickly, then flip your answers over on the desk and crack the door to let me know you are finished. Then sit quietly until I come back. Don’t stop to think about any one question too long – your first impressions and immediate reactions are what we want. Do you have any questions? [Answer questions, if any.] Just crack the door when you are done, OK?

[Participant completes questionnaire and cracks door.]

Okay. Please leave your questionnaires on the desk and follow me into the next room. Please have a seat. I will now start the instructional audiotape and recording device. When instructed to do so, please pick up the microphone and project your voice into it. I’m going to remain in the room to make sure everything works smoothly, but please do not say anything to me unless I ask you to. Do you have any questions?

[Experimenter remains in room while participant follows the taped instructions.]

Public expression condition:

Please open folder # 2 and complete that questionnaire. When you are done, please crack the door to let me know you are finished. [Participant completes Appendix F]. [Experimenter picks up and examines responses.] I’m going to take a quick look to see how you felt during the task.
Private expression condition:
Please open folder #2 and complete that questionnaire. When you are finished please fold your answers and place them into this [envelope/sealed box], so that your answers remain anonymous. Then crack the door to let me know you are finished. [Participant completes Appendix F.]

No expression condition:
[Participant does not fill out Appendix F.]

Now, please complete this final questionnaire. [Give Appendix G.] Please note that I will be examining your responses once you have finished. Again, please crack the door when you are finished.

[Participant completes questionnaire.]

Public and Private expression conditions:
Now I just have two quick follow-up questions for you.
1. Following the singing task, were you asked to fill out a questionnaire that asked you about how that musical exercise made you feel?
2. Did I look at your answers to that questionnaire?

Thanks so much! Those last questions weren’t meant to confuse you. They were just a manipulation check. In case you are curious, here is what the study is about. I am interested in the way people react to embarrassing situations. This is a replication of a study done several years ago, in which people completed a singing task just like the one you did. Some people were then given the opportunity to express their embarrassment to the researcher, whereas others were not. The study found that people who were given the opportunity to express their embarrassment subsequently expressed less embarrassment than did those people who thought the researcher was unaware of their feelings. This finding suggests that people convey their embarrassment to others as a way of repairing their social image and decreasing their own levels of embarrassment. However, I believe that this effect may be different among individuals of high versus low status. Status is just one of several types of domain-specific self-esteem that may influence how people react to embarrassing situations. The questionnaire you completed at the beginning of the study included several different measures of different kinds of self-esteem, and I am going to look at the data to see which kinds are related to your subsequent feelings of embarrassment.

You should know that I did record your singing, but the tape will be erased. No one will ever hear the recording. That was only a way to induce immediate feelings of embarrassment.

If you are interested in the results of the study, feel free to send an email to [me / Nicole Buttermore]. [My email / her email address] is available on the experimetrix website as the contact person for this experiment, or it’s very easy to remember: nbrutt@wm.edu.

Finally, I’d like to ask you not to say anything about this study to anyone else who might be a participant in the future, as we will be collecting data for the next few weeks. Again, thanks very much for helping me out.
In this study of the effects of music on emotion, conducted by Nicole Buttermore and Dr. Lee Kirkpatrick, I understand that I will be asked to fill out a number of questionnaires about my personality and self-perceptions. I also know that I will be asked to follow instructions on an audiotape about making and appreciating music and that my responses to the task will be recorded. I further understand that I will be asked personal questions about myself, but I know that complete anonymity will be preserved and that my name will not be associated with my responses or any result of this study. I know that I may refuse to answer any question asked and that I may discontinue participation at any given time. I further understand that upon completion of my participation I will be given a full and complete explanation of this study and have the right to withdraw the use of my data at that time. I am aware that I may report dissatisfactions with any aspect of this experiment to the Psychology Department Chair (Dr. Larry Ventis, ext. 1-3897). I am aware that I must be at least 18 years of age to participate. My signature below signifies my voluntary participation in this study.

____________________________  ________________________
Signature Date
APPENDIX C

ROSENBERG SELF-ESTEEM SCALE

Indicate the degree to which you disagree or agree with each statement below by writing a number between 1 and 7 in the space provided.

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

____ I feel that I am a person of worth, at least on an equal basis with others.

____ I feel that I have a number of good qualities.

____ All in all, I am inclined to feel that I am a failure.

____ I am able to do things as well as most other people.

____ I feel I do not have much to be proud of.

____ I take a positive attitude toward myself.

____ On the whole, I am satisfied with myself.

____ I wish I could have more respect for myself.

____ I certainly feel useless at times.

____ At times I think I am no good at all.
APPENDIX D

SELF-PERCEIVED MATING SUCCESS SCALE

Indicate the degree to which you disagree or agree with each statement below by writing a number between 1 and 7 in the space provided.

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

____ Members of the opposite sex that I like, tend to like me back.
____ Members of the opposite sex notice me.
____ I receive many compliments from members of the opposite sex.
____ Members of the opposite sex are not very attracted to me.
____ I receive sexual invitations from members of the opposite sex.
____ Members of the opposite sex are attracted to me.
____ I can have as many sexual partners as I choose.
____ I do not receive many compliments from members of the opposite sex.
APPENDIX E

SELF-PERCEIVED SOCIAL STATUS SCALE (STUDY 1)

Indicate the degree to which you disagree or agree with each statement below by writing a number between 1 and 7 in the space provided.

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

____ I sometimes do favors for people to get on their good side.

____ Members of my peer group respect and admire me.

____ I defer to others when decisions have to be made.

____ Others do not value my opinion.

____ I feel inferior to members of my peer group.

____ Members of my peer group do not want to be like me.

____ I have high status in my social groups.

____ There are some matters on which I am considered an expert by others.

____ I own many things that others wish they had.

____ People often “let it slide” when I fail to meet my obligations.

____ I must admit that I try to see what others think before I take a stand.

____ It is pretty easy for people to win arguments with me.

____ Taking charge comes easily to me.

____ I tend to dominate social situations.

____ I am willing to use aggressive tactics to get my way.

____ I enjoy having control over others.

____ I like to give orders.
I do not like to compromise.
I believe I have to fight my way to the top.
I demand respect from members of my peer group.
I am easily intimidated by dominant individuals.
APPENDIX F

INITIAL EMBARRASSMENT QUESTIONNAIRE IN PUBLIC AND PRIVATE CONDITIONS

Please rate how you felt during the music exercise using the scale below:

1 = Not at all
2 = Slightly
3 = Somewhat
4 = Moderately
5 = Quite a bit
6 = Very
7 = Extremely

______ Silly
______ Bored
_______ Embarrassed
_______ Happy
_______ Foolish
APPENDIX G

FOLLOW-UP EMBARRASSMENT QUESTIONNAIRE

Please rate how you feel at this time by marking an X anywhere along each line. The researcher will look over your answers once you have completed this questionnaire.

1. Nervous

| not at all | slightly | moderately | very | extremely |

2. Self-conscious

| not at all | slightly | moderately | very | extremely |

3. Hostile

| not at all | slightly | moderately | very | extremely |

4. Foolish

| not at all | slightly | moderately | very | extremely |

5. Depressed

| not at all | slightly | moderately | very | extremely |

6. Embarrassed

| not at all | slightly | moderately | very | extremely |

7. Calm

| not at all | slightly | moderately | very | extremely |
REFERENCES


VITA

Nicole Reed Buttermore

Nicole Reed Buttermore was born in Olympia, Washington on November 5, 1980. She graduated from Science Hill High School in Johnson City, Tennessee in June 1998. Nicole Buttermore graduated magna cum laude from Wake Forest University in Winston-Salem, North Carolina in 2002 with a B.A. in Psychology and English.

In August 2002, the author entered the College of William and Mary as a graduate student in the Department of Psychology. Nicole Buttermore defended her thesis in June of 2004. She plans to attend the University of Michigan to pursue a doctoral degree in Social Psychology.