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An Empirical Investigation of the Adaptive Nature of Shame

Elizabeth Jacqueline Dansie
Utah State University

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AN EMPIRICAL INVESTIGATION OF THE

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Approved:

Tamara J. Ferguson, Ph.D.	George Julnes, Ph.D.
Major Professor	Committee Member
Lori A. Roggman, Ph.D.	Byron R. Burnham, Ed.D.
Committee Member	Dean of Graduate Studies

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ABSTRACT

An Empirical Investigation of the

Adaptive Nature of Shame

by

Elizabeth J. Dansie, Master of Science

Utah State University, 2008

Major Professor: Dr. Tamara Ferguson
Department: Psychology

Throughout the empirical psychological literature on emotion, the general

consensus is that shame is maladaptive, while guilt is the adaptive moral emotion.

Conversely, evolutionary psychology concludes that all emotions serve adaptive

functions. Specifically, shame serves an appeasement function in social relationships. In

order to investigate the true nature of shame, the current study used an experimental

design. Specifically, a 2 (high shame, no shame) X 2 (high guilt, no guilt) design with a

no-mistakes control group was implemented, and shame and guilt were operationalized

through an evolutionary lens (i.e., shame as a nonverbal display, guilt as verbalizations of

apology). Participants ($n = 110$) and were told they would be assisting psychology

faculty members with interviewing candidates for a research position. During the

interview, the candidate made three mistakes, and showed shame and/or guilt according

to the 2 X 2 design. Participants then rated how well the candidate performed. Results

were analyzed using a 2-way ANOVA and independent samples t tests, and it was found

that participants rated the candidate more favorably in both shame conditions. Importantly, there were no significant differences between those participants who viewed the candidate who made no mistakes (control condition) and those that viewed the candidate showing shame after multiple mistakes. Thus, apparently saying "sorry" is not quite enough.

(166 pages)

ACKNOWLEDGMENTS

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CHAPTER I

PROBLEM STATEMENT

In the past few decades, there has been a surge of new research dedicated to the

topic of human emotion. Experts in the area of human motivation consider emotions to

be primary motivational systems throughout the lifespan (Izard, 1977; Tomkins, 1962,

1963). Emotions serve various functions (Barrett, 1995) and their experience helps

individuals react appropriately to recurring challenges in environment (Ekman, 1992;

Keltner & Gross, 1999).

In addition to an increased interest in emotions generally, recent research in

psychology and other social sciences (e.g., Fessler, 2003; Scheff, 1988) has focused

intensely on the emotions shame and guilt. Interest in these two states stems from their

association with both negative and positive facets of human functioning (Tangney &

Dearing, 2002). Knowledge regarding these two emotions has been hampered,

unfortunately, by disagreements in the literature concerning their definitions and

functions. When examining definitions of shame and guilt in the Oxford English

Dictionary (Simpson & Weiner, 1989), it is clear that the various definitions of shame

have in common a core theme of possible devaluation by others or by the self because of

disgrace caused by attributes of the self or one's conduct. Similarly, common elements

in the various definitions of guilt concern disgrace because of knowing that one has

committed an offense or being responsible for a negative event.

While scientists generally concur that both shame and guilt are self-conscious and

social emotions (Barrett, 1995; Lewis, 1991), they disagree regarding whether the two

states differ in their public versus private focus (Gehm & Scherer, 1988) or in their focus on the "flawed self" versus an "untoward act" (Lewis, 1971). Controversy still abounds regarding each emotion's status as a moral versus nonmoral state (Ausubel, 1955; Ferguson, Brugman, White, & Eyre, 2007), the distinct functions that each fulfills (Barrett; Campos, Frankel, & Camras, 2004), and the precise appraisals or attributions needed to arouse each state (Tracy & Robins, 2004; Weiner, 1985).

In the midst of these controversies, two conclusions currently dominate the empirical literature regarding individuals' tendencies to respond to their mishaps with guilt or shame. Shame proneness has been linked to diverse negative affective states (e.g., anger, phobias, and anxiety) and symptoms of problems (e.g., drug or alcohol abuse), while the opposite has been found regarding tendencies to respond with guilt (Tangney & Dearing, 2002). Tangney and Dearing have adamantly proclaimed guilt to be an adaptive self-conscious emotion, with shame being a dark, ugly, and decidedly maladaptive emotion. Virtually all of these studies are correlational in design and almost all of them have used the Test of Self-Conscious Affect (TOSCA; Tangney, Wagner, & Gramzow, 1989), or its variants (see Ferguson et al., 2007) to assess guilt and shame proneness. The TOSCA paradigm presumes the validity of H. B. Lewis' distinction between shame as a focus on the self and guilt as a focus on one's actions.

Many researchers have criticized conclusions regarding shame's maladaptive status and guilt's adaptive qualities on both methodological and conceptual grounds. The measure most often used to assess shame and guilt, the TOSCA, essentially operationalizes shame as maladaptive but guilt as an adaptive response to one's misdeeds (Elison, 2002, 2003a; Ferguson, et al., 2007; Ferguson & Stegge, 1998; Luyten, Fontaine,

& Corveleyn, 2002). Importantly, too, the TOSCA presumes that shame and guilt are

distinct, discrete emotions that are meaningfully contrasted (Elison, 2001, 2002;

Ferguson & Crowley, 1997; Ferguson & Stegge; Sabini & Silver, 1997). Moreover,

Tangney and Dearing (2002) routinely rely on semipartial correlational analyses to create

"shame-free guilt" and "guilt-free shame," and it is these constructs that are used to

examine each emotion's adaptive value. Many researchers have also criticized the

validity of this approach on various methodological and conceptual grounds (Elison,

2003a, 2003b; Ferguson & Crowley, 1993, 1994, 1997; Ferguson & Stegge).

Conversely, many authors have analyzed shame or guilt from an evolutionary

perspective. More specifically, these researchers view that these emotions are evolved,

behavioral adaptations that assist individuals with successfully navigating their social and

physical environments (e.g., Izard, 1977; Tomkins, 1963). An important difference

between this view and the view of others, such as Tangney (Tangney & Dearing, 2002)

and Baumeister (Baumeister, Stillwell, & Heatherton, 1994), is the scope of the social

environment. Whereas Tangney and Baumeister focus on interpersonal relationships in

terms of local, dyadic relationships (e.g., romantic or parent-child interactions), an

evolutionary view is much broader in scope, encompassing everything from romantic

relationships to interactions with strangers. Functioning within this broader social

domain, some recent researchers view shame as a "damage limitation strategy" (Gilbert

& McGuire, 1998), others through the paradigm of the "social self-preservation theory"

(Gruenwald, Dickerson, & Kemeny, 2007), and finally, some propose that shame

functions as an appeasement mechanism to reestablish social harmony after a violation or

transgression (Keltner & Harker, 1998; Lazowski, 1988; Masters, 1988; Savitsky & Sim, 1974; Semin & Manstead, 1982; Tsoudis & Smith-Lovin, 1998). Common in all these explanations of shame and guilt is the assertion that shame, indeed, serves adaptive functions, which directly contradicts proponents of Tangney and colleague's model, and renders conclusions drawn regarding shame based on research using the TOSCA questionable.

But how does shame serve these functions? From this evolutionary perspective, certain researchers assert that the appeasement function shame serves is through its unique facial (i.e., lowering of the eyelids, a lowered tonus of facial muscles; Tomkins, 1963) and nonverbal display (i.e., lowering of the head, gaze aversion, and postural shrinkage; Darwin, 1872; Gilbert & McGuire, 1998; Izard, 1977; Keltner, 1995; Tomkins, 1963, 1987). These submissive displays then function as an "appeasement" mechanism, which was "designed to [help individuals] de-escalate and/or escape from conflicts" (Gilbert & McGuire, p. 102) and even elicit sympathy in others (Keltner & Harker, 1998; Tsoudis & Smith-Lovin, 1998). Moreover, expressions of shame in humans often are found in nonhuman primates and are known to serve the same functions (de Waal, 1988; Gruenwald et al., 2007; Keltner & Harker). Moderate support has also been found for a unique vocalic pattern for shame (Pfaff, 1954; Van Bezooijen, Otto, & Heenan, 1983), but no evidence exists for or against a distinctive autonomic nervous system response for shame (Scherer & Wallbott, 1994).

In contrast to the reliably identifiable bodily expression of shame, researchers have yet to establish any unique facial or other nonverbal displays (Ekman, 1992; Keltner & Buswell, 1996; Tomkins, 1987), vocalic pattern (Pfaff, 1954; Van Bezooijen, et al.,

1983), or autonomic nervous system (ANS) pattern for guilt (Scherer & Wallbott, 1994). Instead, guilt is considered an evolutionary overlay that evolved after shame and is expressed solely through language (e.g., apologies) or symbolic behaviors (e.g., offers of repair), appearing only in humans. Thus, from this point of view, shame is a *necessary* accompaniment of untoward behavior for humans wishing to avoid rejection, expulsion, or retaliation following a transgression. Guilt might add to lessened negative reactions, because it clarifies appraisals of the wrongdoing's specific nature, but it is neither necessary nor sufficient to minimize outsiders' negative reactions. In fact, Ferguson and colleagues (2007) demonstrated that guilt-related behaviors actually are less likely to be seen as genuine remorse or contrition *unless* they are accompanied by shame. Although evidence is lacking for a unique guilt expression, other researchers do argue for an evolutionary basis for guilt, stating that guilt functions as a sign to conspecifics acknowledging a wrongdoing and the intention to not repeat the transgression, while also minimizing attack from others in the social group (Barrett, 1995).

 Various studies have been conducted demonstrating that shame does, indeed, serve as an appeasement mechanism after a transgression (Edelmann, 1982; Keltner, Young, & Buswell, 1997; Keltner, Young, Heerey, Oemig, & Monarch, 1998; Lazowski, 1988; Savitsky & Sim, 1974; Semin & Manstead; 1982; Semin & Papadopoulou, 1990; Tsoudis & Smith-Lovin, 1998; Young, Keltner, & Lingswieler, 1996), but various methodological issues and limitations are noted when examining these investigations. The most notable limitation is that previous studies conducted on shame's appeasement function lack ecological validity. Specifically, previous investigations capture neither

shame's dynamic display nor live, meaningful interpersonal interactions or exchanges.
The position taken in this paper is that shame and guilt are social emotions that function in an interpersonal context, which evolved to warn individuals that we may not be creating positive impressions in "the minds of the other" (Barrett, 1995; Cooley, 1964; Gilbert, 2007; Scheff, 1988). Shame functions to restore personal relationships, thus it is essential to measure the appeasement functions shame serves using a realistic, behaviorally-based study that explores shame functioning to reduce damage in an actual interpersonal context. Importantly, however, no studies have examined the extent to which *behavioral* or "life-like" guilt and shame reactions produce distinctive impressions of transgressors. It seems imperative, therefore, to conduct a behaviorally based study comparing the adaptive value of shame and guilt using an operationalization of shame that better aligns with the known nonverbal (facial and nonfacial) signals of shame-as-appeasement (as opposed to defining shame a priori as maladaptive).

There are many disagreements in the literature regarding guilt and shame. Of primary interest in this thesis is contrasting the conclusion that shame is maladaptive (i.e., when measured by the TOSCA) to the conclusion that shame is adaptive (i.e., when shame is operationalized through an evolutionary perspective as the nonverbal display of shame). Specifically, it is hypothesized that a transgressor's nonverbal display of shame will mitigate negative evaluations made by the transgressed (e.g., providing evidence for appeasement). A secondary hypothesis is that a transgressor's expressions of shame, when compared to just a communication of guilt, will have a greater *positive* effect on other people's reactions to the transgressor. If evolutionary based treatments of shame are valid, expressions of shame, more so than admissions of guilt, should enhance

positive perceptions of the transgressor. The mechanism responsible for the positive impact of shame, according to evolutionary analysts of the two states, is that shame but not guilt communicates that the transgressor feels bad, values the relationship, and is less likely to repeat the transgression, thus minimizing rejection or counterattack. Two additional hypotheses follow the two main purposes: (a) expressions of guilt accompanying an ashamed reaction should not enhance others' positive reactions, and (b) guilt will only mitigate negative impressions beyond a response consisting of neither shame nor guilt. Should these hypotheses receive support, it would cast doubt on several aspects of the research using the TOSCA to measure shame and guilt.

Moreover, as will be discussed, shame and guilt are not only elicited after a moral violation or transgression, but instead are also frequently elicited in achievement/competition situations. Thus, in the current study, shame and guilt will be investigated in the context of a job interview. Specifically, an interpersonal achievement paradigm adapted from Pedersen, Bushman, Vasquez, and Miller (2006) will be used. Their paradigm was chosen because Pedersen and colleagues found that the job candidate's inept behavior increased participants' feelings of frustration and anger, as well as tendencies to denigrate the job applicant. The paradigm, therefore, engages the very types of reactions (i.e., rejection and devaluation) in response to which the shame expression should signal submission and lead to appeasement (i.e., mitigate negative evaluations of the candidate). In this study, a live experimental design will be used where participants will be involved in an actual interpersonal interaction with a job candidate who will express shame and/or guilt in reaction to her mistakes. Specifically, a

2 shame condition (High Shame, No Shame) by 2 guilt condition (High Guilt, No Guilt) full factorial design, with an additional no-mistakes control condition will be used to address the aforementioned hypotheses. Thus, evaluations of the candidate will be the dependent measure.

CHAPTER II

LITERATURE REVIEW

> Though terror speaks to life and death and distress makes of the world a
> veil of tears, yet shame strikes deepest into the heart of man. While terror
> and distress hurt, they are wounds inflicted from the outside which
> penetrate the smooth surface of the ego; but shame is felt as an inner
> torment, a sickness of the soul. It does not matter whether the humiliated
> one has been shamed by derisive laughter, or whether he mocks himself.
> In either event he feels himself naked, defeated, alienated, lacking in
> dignity and worth. (Tomkins, 1963, p. 118)

In this chapter, the emotions shame and guilt will be explored. The history of the English terms shame and guilt, and their origins will be discussed, along with different theoretical conceptualizations of these emotions. Next, how these emotions have been operationalized and measured in psychological research and their common correlates will be investigated. Criticisms of the assessment instrument predominately used to measure shame and guilt will be examined. An evolutionary based argument for the origins of shame and guilt will then be discussed, highlighting the adaptive functions each emotion serves. How these two emotions are communicated will be explored, along with previous methods used to investigate the functions that shame and guilt serve. Finally, a crosscultural view of shame and guilt will be discussed. This review will set the stage for the current study, which hypothesizes that the prevailing view of shame as maladaptive and guilt as adaptive is due to biases in the measurement and types of statistical analyses used to investigate these two emotional states. Thus, the present study proposes that an experimental approach to measuring shame and guilt, based on an evolutionary understanding of their functions, may more accurately elucidate their characteristics.

Definitional History of Shame and Guilt

Emotions play a critical role in human functioning and have been considered by some as the primary motivational system in humans, involved in organizing cognition, perception, and action (Izard, 1977; Tomkins, 1962, 1963). Similarly, emotions are considered to serve specific functions, including behavioral regulatory, social regulatory, and internal regulatory functions (Barrett, 1995). Specifically, the emotions shame and guilt have been the subject of much research because of their association with various outcome and process indices, including certain forms of psychopathology, empathy, the welfare of relationships, and self-esteem (see Tangney & Dearing, 2002 for a review). The scientific study of these two emotions has become increasingly popular but has been hampered by disagreements regarding their definitions and functions. Many distinctions have been proposed between shame and guilt. In the following section, the proposed commonalities and distinctions between shame and guilt will be discussed.

The terms *shame* and *guilt* have a long history in the English language, with the root words for shame dating back to 725 A.D., while guilt appeared sometime later, around 971 A.D. (Oxford English Dictionary; Simpson & Weiner, 1989). While both of these terms have Teutonic roots, only shame has been assumed to have pre-Teutonic roots, with *aidos* being the term representing shame in the Greek language (Williams, 1993). In the English language, Teutonic roots of shame include *skam*, *scant,* or *skanda*, indicating disgrace or ashamed. Many definitions are given for shame in the Oxford English Dictionary (OED), with the first entry being,

> The painful emotion arising from the consciousness of something
> dishonouring, ridiculous, or indecorous in one's own conduct or

circumstances (or in those of others whose honour or disgrace one regards as one's own), or of being in a situation which offends one's sense of modesty or decency. (Simpson & Weiner, pp. 162-164)

Other definitions are similar, including, "the right perception of what is improper or disgraceful," "ignominy, loss of esteem or reputation," and "fear of offence against propriety or decency, operating as a restraint on behaviour." What all of these definitions have in common is possible devaluation by others because of one's own conduct or apsects of one's self that are considered to cause disgrace.

When considering *guilt* in the English language, the Teutonic roots include *geld, gald, guld,* or *gylt* (OED; Simpson & Weiner, 1989, pp. 935-936)*.* These terms infer a sense of debt, where the individual is assumed to feel a sense of "guilt" from this debt. Seven defintions for guilt are provided in the OED, beginning with, "a failure of duty, delinquency; offence, crime, sin" (Simpson & Weiner). Many of these defintions include the theme of "responsibility for an action or event" or knowing that one has committed an offense. Interestingly, only in the last definition are "guilty feelings" addressed, with the defintion being "a mental obsession with the idea of having done wrong." Importantly, these definitions of guilt are linked to those of shame. One use of the term shame is a "sense of shame," and is defined as a "guilty feeling." Upon further analysis, it is clear that many of the definitions of shame indicate that one source of shame is an act committed or a sense of guilt that triggers the *emotion* shame. For example, in the first definition of shame, one's own conduct results in the painful emotion of shame. Moreover, while Pre-Teutonic roots of the word shame have been found, with the term *aidos* being used in ancient Greek culture, there was no distinct Greek term for guilt (Williams, 1993). Instead of differentiating shame and guilt, *aidos* was used to include

both terms. Terms used to distinguish shame and guilt arose much later, and Williams notes it was only with the rise of Christianity that guilt was used to identify a specific subset of situations that were once encompassed by the term shame.

Conceptualizations of Shame and Guilt

Along with various definitions of *shame* and *guilt*, many theoretical conceptualizations of the terms have been proposed. In studying shame and guilt, Lewis (1991) classifies both emotions similarly as self-conscious emotions. In his framework, to experience shame and guilt, individuals must acquire four cognitive capabilities. These acquisitions include the following: the development of self-consciousness; a knowledge of the rules, standards, and goals guiding behavior; an ability to evaluate oneself based upon those rules, standards, and goals; and self-focus. For Lewis, self-consciousness is defined as a type of metacognition where an individual has knowledge of one's knowledge of the self, while self-focus is where an individual is focused on the entire self rather than on one aspect of the self. Other researchers have categorized shame and guilt both as social emotions, because they are elicited primarily in social interactions and serve primarily social functions (Barrett, 1995). Barrett contends that humans live in social groups with standards to facilitate human interaction, and negative social emotions help individuals realize these goals by serving as a warning signal when a standard has been violated. To elaborate, an individual would feel shame or guilt after violating a certain social norm, and the experience of shame and guilt functions to alert the individual of their wrongdoing and motivate them to avoid the same wrongdoing in the future.

Although shame and guilt are similar in that they are both considered self-conscious or social emotions, many theorists and researchers have further attempted to distinguish between the two emotions. Early researchers writing on shame and guilt attempted to make a distinction based on the kinds of situations that elicit shame or guilt (Benedict, 1946). One popular but possibly misguided idea was the "*public/private*" distinction, where shame was defined as dependent on public exposure of one's weakness or failure, whereas guilt's experience could be expected when the wrongdoing was a secret known only to the transgressor (Gehm & Scherer, 1988). A second distinction is the "*nonmoral/moral*" distinction. In this view, shame occurs after violating non-moral standards (e.g., test failure), whereas guilt arises after a moral standard violation (Ausubel, 1955; Erikson, 1959/1994). Importantly, these two distinctions have received little empirical support. Both shame and guilt have been found to be elicited more frequently in a public (e.g., with a group of individuals), rather than in a private context (e.g., when an individual is alone), and both emotions can be elicited after a nonmoral or moral transgression (Tangney & Dearing, 2002). A third, and more cognitively based, distinction between shame and guilt is based on a class of theories known as *appraisal theory*. In Lazarus's (1991) model, he distinguished between shame and guilt using a flow-chart of cognitions that lead to each emotion. Guilt is elicited when a moral transgression has occurred, whereas shame is elicited when the individual fails to live up to an ego-ideal. Clearly, this distinction between shame and guilt overlaps with the nonmoral/moral distinction. A fourth, related, cognitive approach referred to as *attribution theory* claims that shame arises when an undesired outcome is perceived to reflect internal, stable, and uncontrollable causes (e.g., test failure due to low ability),

whereas guilt is experienced when the same outcome can be explained in terms of internal, unstable, controllable characteristics, such as low effort leading to test failure (Tracy & Robins, 2004; Weiner, 1985).

Different from the more cognitively oriented approaches, a fifth approach differentiates the two emotions from a functionalist perspective (Barrett, 1995), in which the functions that shame and guilt serve are used to distinguish between the two emotions. From this perspective, shame motivates a withdrawal or avoidance response to essentially hide the self, communicates submission, and highlights important standards from which the individual has deviated. On the other hand, guilt motivates approach tendencies, in which the guilty person is inclined to apologize, communicates an awareness of proper behavior, and highlights important standards (Barrett, 1995; Frijda, 1986). A sixth perspective considers shame as an innate, basic emotion, whereas guilt is not considered an emotion at all. Instead, guilt is considered a sociolegal condition of being responsible for a transgression (Ortony, 1987), with the recognition that this condition may be associated with a variety of emotions (e.g., sadness, shame).

Finally, Lewis's (1971) conceptualization of shame and guilt represents a seventh distinction between the two states. In her view,

> The experience of shame is directly about the *self*, which is the focus of evaluation. In guilt, the self is not the central object of negative evaluation, but rather the *thing* done or undone is the focus. In guilt, the self is negatively evaluated in connection with something but is not itself the focus of the experience. (p. 30; emphasis in original)

Shame is considered a focus on the entire self by the self, or a real or imagined other, (Lewis's phrases, "How could *I* do that?"), while guilt focuses on the behavior or act of the person ("How could I do *that*?"). Because of this distinction, the phenomenological

experience of the two emotions is quite different. Lewis described the experience of

shame as very painful, involving a sense of worthlessness, and an urge to escape or

disappear. In contrast, guilt is a less painful experience, because the focus is instead

placed upon the act, and people feel anxiety, tension, or an urge to repair the wrong done.

This distinction is the most well known of many distinctions Lewis attested to when

discussing shame and guilt, but importantly, Lewis saw the two states as resulting at least

from different *aspects* or appraisals of the "same" event (and its after-effects). She did

not view shame to be a greater emotional source of psychological problems than guilt.

Instead, she viewed both emotions as a source of personal growth, with

adaptive/maladaptive outcomes depending on a variety of other factors (e.g., repressive

versus sensitizing styles of defense). Finally, Lewis stated that the two states occur in a

cyclical fashion with each individual experiencing both emotions in rapid succession.

Clearly, although these many definitions and conceptualizations exist in the

theoretical literature regarding shame and guilt, shame and guilt are similar emotional

states. Taken together, the definitions in the OED (Simpson & Weiner, 1989) provide

support that both guilt and shame arise when an individual experiences disgrace because

of one's conduct or negative characteristics, and that separate distinctions for the term

guilt did not come about until relatively recently in time. Furthermore, as Barrett (1995)

contends, as a highly social species, humans rely on others, and shame and guilt help us

navigate the social environment on which we are dependent. Likewise, as Lewis (1971)

states, the two often co-occur, and are elicited from the same types of events. Finally,

because these emotions operate in a social context, both shame and guilt are highly

linked to creating positive impressions in "the minds of the other" (Barrett, 1995; Cooley,

1964; Gilbert, 2007; Scheff, 1988). These emotions "evolved not to respond to people's

private evaluations of themselves but rather to regulate their interactions and

relationships with other people" (Leary, 2007, p. 46).

Measuring Shame and Guilt: Introduction

Though many scholars proclaim that shame and guilt can operate in concert to

promote avoidance of future misdeeds, much of the extant empirical literature, including

the measurement literature, does not echo this viewpoint. This literature makes use of

various instruments meant to be valid assessments of guilt and/or shame (Tangney,

1996). All of these instruments have been roundly criticized by Tangney and since the

date of her influential publication they have rarely been employed in published studies of

the two states. Instead, the Self-Conscious Affect and Attribution Inventory (SCAAI;

Tangney, 1990), and versions of its successor, the Test of Self-Conscious Affect

(TOSCA; Tangney et al., 1989), dominate empirical investigations of guilt and shame.

Both the SCAAI and versions of the TOSCA are similar in format, with each using

scenarios to depict various misdeeds or mishaps in response to which individuals judge

their emotional reactions. Tangney and colleagues, however, soon replaced the SCAAI

with the TOSCA, primarily because the SCAAI scenarios were *not* drawn from actual or

real-life incidents, whereas those in the TOSCAs were, and thereby supposedly

represented events with which people could more readily identify. Many versions of the

TOSCA paradigm have been developed for different groups of individuals, including the

TOSCA for Children (Tangney, Wagner, Burggraf, Gramzow, & Fletcher, 1990), the

TOSCA-2 (Tangney, Ferguson, Wagner, Crowley, & Gramzow, 1996), TOSCA for

Adolescents (Tangney, Wagner, Gavlas, & Gramzow, 1991), and the TOSCA for

Socially Deviant individuals (Hanson & Tangney, 1995). The TOSCA-based paradigm

has become so popular that Ferguson and her associates dubbed it the "gold standard" for

measuring guilt and shame (Ferguson & Eyre, 1998; Nelsen & Crowell-Peterson, 2004).

Measuring Guilt and Shame: The TOSCA Paradigm

The TOSCA (Tangney et al., 1989) is a scenario-based measure where 15

common situations or experiences are given to respondents, followed by descriptions of

shame, guilt, and other emotional (e.g., alpha and beta pride) or defensive (e.g.,

externalization and detachment) responses to the situations, without explicitly using the

emotion labels *shame, pride,* and *guilt*. Respondents are asked to indicate how likely

they would endorse the shame and guilt descriptors as reactions to each scenario on a 5-

point likelihood scale. The descriptors of shame and guilt presented in the TOSCA

paradigm were based on Lewis's (1971) analysis of the two states. Using Lewis'

conceptualization as a guide, shame is described in the TOSCA as self-directed anger,

withdrawal, or avoidance responses, while guilt in this measure is represented as

intentions to apologize, repair the mistake made, feelings of regret, and statements

regarding a need to be punished. An example of a TOSCA scenario is, "While out with a

group of friends, you make fun of a friend who's not there." After reading the scenario,

the respondent is asked to endorse how likely they would be to react with shame and guilt

in that situation. The responses to this situation are, for shame, "You would feel

small…like a rat," and for guilt, "You would apologize and talk about that person's good

points." Each participant's ratings of the shame and guilt descriptors are then summed

across the 15 situations to form scores for each individuals' proneness to shame and guilt, thus measuring both emotions as a trait (Tangney, Dearing, Wagner, & Gramzow, 2000).

Asking participants to rate *descriptors* of emotional responses, rather than to endorse brief labels depicting the emotions (e.g., shame, guilt), is one of the TOSCA's strongest virtues, because adults supposedly confuse the labels guilt with shame (Tangney, 1996; Tangney & Dearing, 2002). As will be discussed below, however, these descriptors have generated considerable controversy regarding their validity. In point of fact, authors of the TOSCA introduced this paradigm to the field without presenting much solid evidence regarding the instrument's psychometric properties. Although speculative, it seems that the TOSCA authors assumed it would be psychometrically sound, because it was modeled after the SCAAI. Earlier, Tangney (1990) had shown the SCAAI to possess respectable homogeneity estimates (Cronbach's alpha ranging from .46 to .82 for the various subscales) and adequate test-retest reliability coefficients (ranging from .71 to .79). Evidence attesting to various facets of the TOSCA paradigm's validity and its reliability is interwoven within the following series of sections, each of which highlights results deriving from the TOSCA.

Correlational Investigations of Shame and Guilt

Since its development, the TOSCA (Tangney et al., 1989) has become the most widely used instrument for the measurement of shame and guilt proneness (Robins, Noftle, & Tracy, 2007) and for assessing each emotion's role in well-being and symptom formation in individuals. To examine each emotion score's predictive value, researchers typically first residualize from each emotion its shared variance with the other emotion

score, thereby creating shame-free guilt and guilt-free shame indices. It usually is these residual emotion scores that are differentially correlated with diverse outcome variables (Tangney & Dearing, 2002). For example, guilt-free shame has been found to be positively correlated with many maladaptive traits (e.g., hostility-anger, personal distress, depression, somatization, obsessive-compulsive disorder, narcissism, psychoticism, paranoid ideation, interpersonal sensitivity, and anxiety), but is negatively correlated with empathy, self-esteem, and perspective taking (Tangney & Dearing, 2002; see Appendix A). The opposite has been found for shame-free guilt (see Tangney & Dearing, for a review). Although zero-order correlation coefficients of each emotion score to each outcome score are sometimes also reported, the interpretation of results is generally based on the semipartial (also known as "part") correlation coefficients.

These diverse findings strongly cast shame in a negative light: at least as measured using residual scores from the TOSCA, shame appears to be very maladaptive. In contrast to TOSCA-based shame, its guilt counterpart has been found to be positively correlated with many adaptive traits, but primarily when the shame-free guilt scores are examined. Although advocates of the TOSCA methodology recognize that unresidualized guilt scores correlate with outcome variable scores in ways similar to shame or guilt-free shame, Tangney and Dearing (2002) conclude that "shame is an extremely painful and ugly feeling that has a negative impact on interpersonal behavior" (p. 3). In contrast, they conclude that guilt actually enhances interpersonal behavior by guiding individuals to behave in a more constructive, responsible manner (see also Baumeister et al., 1994). In fact, when researchers have demonstrated that guilt may be positively correlated with maladaptive outcomes, Tangney and Dearing argue that "guilt

is especially likely to 'take a turn for the worse' when it becomes fused with shame" (p. 45), and "it is the shame component of this sequence, not the guilt component, that poses a torturous dilemma" (p. 122). This is not only Tangney and associates', but most other researchers' rationale for residualizing shame from guilt.

Although Tangney and other researchers using the TOSCA condemn shame as maladaptive and praise guilt as being the adaptive moral emotion (Tangney & Dearing, 2002), the position taken in the current study is that *both* emotions assist individuals with effectively functioning in their social environments. In the following section, multiple criticisms of the TOSCA will be presented to lend support for the position that the conclusions regarding guilt and shame are resultant from methodological flaws in the TOSCA.

<div align="center">The Measurement of Shame and Guilt

Using the TOSCA</div>

Although the TOSCA (Tangney et al., 1989) is the most frequently used instrument for assessing shame and guilt, many researchers have objected to the use of this instrument based on both theoretical and methodological grounds. First, one immediately apparent problem is that the TOSCA does not capture the cyclical or temporally proximate aspects that seem inherent to experiences of shame and guilt, at least according to Lewis (1971). The TOSCA further operationalizes shame and guilt as very distinct, discrete emotions with very different phenomenological experiences and action tendencies. The TOSCA descriptors render shame and guilt as opposing emotional experiences; shame is operationalized as a tendency to "avoid," whereas guilt

is a tendency to "approach" (Elison, 2001, 2002; Ferguson & Crowley, 1997; Ferguson & Stegge, 1998; Sabini & Silver, 1997). Second, the TOSCA has been further criticized because its items actually represent shame as maladaptive feelings, while guilt is seen as adaptive behaviors (Elison, 2002, 2003a; Ferguson et al., 2007; Ferguson & Stegge; Luyten et al., 2002). Third, along with these definitional and operational issues, Tangney and other researchers using the TOSCA have been criticized for frequently interpreting its results after using a statistical partialing procedure (see Tangney & Dearing, 2002, for example) to examine the two emotions as nonoverlapping constructs (Elison, 2003a, 2003b; Ferguson & Stegge). Each of these criticisms will be elaborated below to provide evidence that the conclusions regarding shame being maladaptive and guilt being adaptive are misguided and may solely stem from the method used to measure these emotions.

TOSCA: Definitional Criticisms

Several researchers have criticized the TOSCA because it was developed based upon definitions of shame and guilt that characterize the two emotions as distinctly different constructs, and thus may actually over-discriminate between the two emotions (Elison, 2001, 2002; Ferguson & Crowley, 1997; Ferguson & Stegge, 1998; Sabini & Silver, 1997). As previously described, the TOSCA was created according to Lewis's (1971) self/act distinction, but the TOSCA fails to capture the cyclical nature of these two emotions. Instead the TOSCA, as well as the common interpretation of TOSCA scores, treats these two emotions as nonoverlapping and "either-or" experiences. This overdiscrimination has been criticized because the complementary occurrence of shame

and guilt is theoretically important; shame helps individuals to avoid committing violations, while guilt assists individuals with repairing violations that have been committed (Ferguson et al., 2007). Likewise, in an empirical investigation into the discrimination of shame from guilt using a factor analytic approach of 18 shame and guilt measures, Kugler and Jones (1992) concluded that there is little evidence supporting a distinction between the two constructs, and thus for distinguishing between shame and guilt. In a multimethod multitrait confirmatory factor analysis of the TOSCA in comparison to competing measures of these constructs, Ferguson and Crowley (1994, 1997) demonstrated that the latent variables shame and guilt are highly correlated constructs ($r = .91$). They also found very small correlations between the TOSCA guilt scale and other measures of guilt. Most importantly, they found that the TOSCA *guilt* scale consisted almost entirely of error variance. Similarly, Elison (2001) conducted a factor analysis on multiple shame and guilt scales and failed to find two distinct factors for shame and guilt. Using multidimensional scaling (MDS) to assess shame, guilt, humiliation, and embarrassment, Elison and Harter (2007) also found that the terms shame and guilt were chosen for identical sets of vignettes. These studies call attention to the limited evidence supporting the discriminant validity of the two TOSCA scales. The guilt scale's construct validity actually appears nil. They further reveal the limited evidence for the convergent validity of the TOSCA with other measures of guilt.

Similar to the conclusions offered in empirical investigations of the TOSCA, Sabini and Silver (1997) and others have harshly criticized Tangney's conceptualization of these two emotions (see also Ferguson, 1999). Sabini and Silver eloquently stated that instead of attempting to distinguish between the two emotions, it is important not to

segregate them because "without the bite of shame, guilt lacks force." (p. 12). Further,

they stated that "Tangney's analysis too thoroughly dissociates shame from guilt,

character from action. Acts for which we are guilty […] do involve the self. And

because they involve the self, they involve shame" (p. 8). Through this

conceptualization, it is not only unnecessary, but theoretically unsound to overly

discriminate between shame and guilt.

TOSCA: Operationalization Criticisms

Not only has the TOSCA been criticized because the definitions behind the

TOSCA overdiscriminate between the two emotions, but many researchers have begun to

question the validity of the items used to operationalize shame and guilt, thus questioning

the content validity of the TOSCA (Elison, 2002, 2003a; Ferguson et al., 2007; Luyten et

al., 2002). More specifically, Elison (2002) evaluated the TOSCA's shame and guilt

items and found that the shame responses represented by the TOSCA are defined as a

subjective feeling state, whereas the guilt responses are operationalized as reparative

behaviors and cognitions. To elaborate, Elison (2002) found that

> most (8.5) of the shame items are highly emotional with some involving
> avoidance (3) and self-critical thoughts (4.5). On the other hand, most of
> the 15 guilt items are behavioral or cognitive involving apologies (2),
> attempts to make reparation (5.5), or thoughts that one *should* or could
> have acted otherwise (6); the only feelings mentioned are regret (once),
> unhappy (once), and feeling deserving of reprimand (once). (p. 67,
> emphasis in original)

From this analysis, it appears that shame and guilt are operationalized quite differently,

and that guilt as represented by the TOSCA hardly seems like an emotion at all (Ortony,

1987).

In addition to the above-noted operational problems regarding the TOSCA's guilt and shame responses, many researchers have questioned the TOSCA because it fails to measure adaptive aspects of shame or maladaptive aspects of guilt (Elison, 2002, 2003a; Ferguson et al., 2007; Ferguson & Stegge, 1998; Luyten et al., 2002; Sabini & Silver, 1997). In an item-by-item analysis of the TOSCA, Luyten and colleagues (2002) stated that just because the TOSCA shame scale is positively correlated with many maladaptive traits does not indicate that shame is necessarily maladaptive, because a close examination of the TOSCA revealed that "this scale only measures maladaptive thoughts or behaviors associated with shame" (p. 1380). Sabini and Silver agreed with this notion, and argued that the TOSCA shame scale largely neglects the more adaptive aspects of shame, and instead only measures the maladaptive qualities associated with this emotion. Similar issues arise after inspection of the items comprising the TOSCA guilt scale. When assessing the TOSCA guilt items, Luyten and colleagues indicated that "concerning guilt, which is measured in the TOSCA as an adaptive and constructive emotion, associated with reparative behavior, it is not surprising that this scale is unrelated to indices of intrapersonal maladjustment" (p. 1383).

Similar to the sentiments of Luyten and colleagues (2002), Ferguson and Eyre (1998) noted that the TOSCA scenarios are transgressions of a mild, incidental, or even accidental nature; situations for which the most appropriate response would be guilt, not shame. Because guilt is the most appropriate response in these contexts, it is unsurprising that strong guilt endorsements to these scenarios would be correlated with adaptive, rather than maladaptive outcomes. Instead, the TOSCA scenarios should elicit both emotions to the same intensity. In a separate investigation of the TOSCA, Ferguson

and Crowley (1994) have also criticized the content validity of the TOSCA items. These researchers noted that the TOSCA shame items have a "ruminative" quality that the TOSCA guilt items do not, thus operationalizing shame as more maladaptive. To investigate this claim, they modified the TOSCA guilt descriptors by adding to each descriptor the ruminative quality characteristic of the TOSCA's shame descriptors. In this study, they showed that the ruminative guilt items correlated with both the original TOSCA guilt and shame items, and importantly, the ruminative guilt items "behaved" no differently than TOSCA shame items in their relation to maladaptive outcomes.

Apparently noting the absence of maladaptive responses to guilt, Tangney herself (Tangney & Dearing, 2002) developed a maladaptive guilt scale for the TOSCA. It failed to demonstrate any degree of discriminant validity with regard to the TOSCA shame scale; not only was the correlation between the two high ($r = .79$), the correlation was as high as typical values of coefficient alpha for the TOSCA shame scale. Its failure supports the criticisms here regarding the maladaptive operationalization of TOSCA shame and the adaptive operationalization of TOSCA guilt: when the TOSCA guilt scale is operationalized with a focus on the maladaptive, ruminative, and painful qualities associated with guilt instead of solely assessing adaptive qualities, the TOSCA guilt scale behaves similarly to the TOSCA shame scale (i.e., with its focus on the maladaptive aspects of shame). It is clear from these observations that the validity of the conclusions from the TOSCA can and should be questioned, because the complexity of shame and guilt as constructs are insufficiently represented.

TOSCA: Statistical Criticisms

Lastly, beyond the definitional and operational criticisms, the prominent statistical method of partialing employed by many shame and guilt researchers using the TOSCA has come into question (Elison, 2003a, 2003b; Elison, Ferguson, Dansie, & Haycock, 2007; Ferguson & Stegge, 1998). Although the TOSCA operationalizes shame and guilt as very distinct constructs, Tangney has found that shame and guilt share a great amount of variance, with correlations ranging from .43 to .48 (Tangney, Wagner, & Gramzow, 1992). Because of this shared variance, Tangney and colleagues reason that it is more important for researchers to evaluate shame-free guilt's and guilt-free shame's contributions to various outcomes. Thus, the partialing procedure is used to remove from each emotion score the variance associated with the other emotion score, leaving residualized shame and guilt scores that are "better" predictors than when partialing has not been used (Tangney & Dearing, 2002). This very technique has been criticized (Elison, 2003b; Ferguson & Stegge), because what is being partialed out may be the most valid and important variance, that is, negative, self-directed affect.

The definitional history of the usages of *shame* and *guilt*, theoretical conceptualizations, and quantitative studies provide evidence that partialing shame from guilt and vice versa is a misguided technique. As discussed previously, terms for shame encompassed guilt for a long period of time (246 years in the English language; OED, Simpson & Weiner, 1989) and hundreds of years in other cultures such as Greek (Williams, 1993). Because the definitional distinction between these two terms is fuzzy, after statistically removing what is similar between these two states, it is difficult to interpret what remains. In no instance, moreover, has Tangney or anyone actually

demonstrated that what results from the partialing procedure resembles their original conceptualization of guilt or shame. Furthermore, theoretical conceptualizations of the two emotions show a high degree of overlap; both shame and guilt are considered self-conscious (Lewis, 1991) and social emotions (Barrett, 1995) that are linked to creating positive impressions in the minds of others (Barrett; Cooley, 1964; Gilbert, 2007; Scheff, 1988). Moreover, the theoretical underpinnings the TOSCA was based upon, Lewis's (1971) model, supposed that shame and guilt *co-occur.* Given these considerations, partialing one emotion from another cannot be supported theoretically (T. J. Ferguson, personal communication, April 15, 2007). Although other distinctions have been hypothesized (public/private and nonmoral/moral), these distinctions have not been supported empirically (Tangney & Dearing, 2002). Finally, the quantitative studies presented above (Elison, 2001; Elison & Harter, 2007; Ferguson & Crowley, 1994, 1997; Kugler & Jones, 1992;) provide support for the supposition that there is little evidence for distinguishing between the two emotions, with some correlations between the two emotions ranging as high as .91 (Ferguson & Crowley, 1997). For example, it makes little sense to partial heart rate from blood pressure because they are so intimately linked. With such a high degree of covariance, partialing may remove the vast majority of valid variance.

In addition to conceptual objections to partialing when substantial covariance exists, the validity of partial correlations in these cases is questionable. Not only is it difficult to interpret the meaning of resulting partial correlations, but with so much valid variance removed, the potential to magnify systematic error is high. Rather than purifying the association with criterion variables (as Tangney suggests), partialing may

reduce validity by creating residualized scores that contain a greater proportion of systematic error than the original scores. As examples of systematic error, the TOSCA guilt scale has been found to be contaminated by socially desirable responding, while the TOSCA shame scale overrepresents maladaptive responses. The TOSCA guilt scale is especially susceptible to a specific type of socially desirable responding called impression management, which can be defined as a response bias used to make oneself look better to others (Paulhus, 1991). When partialing is used, the presumed valid variance shared by shame and guilt is removed, leaving systematic error in the residualized scores. Specifically, when partialing shame from guilt, a much higher portion of the variance accounted for by impression management is left to covary with other variables, thus making guilt appear more strongly related to other positive characteristics. Conversely, when partialing guilt from shame, a much higher portion of the variance accounted for by maladaptive responding is left to covary with other variables, thus making shame look more negative (Elison, 2003b; Elison et al., 2007; Elison, Dansie, Ferguson, & Webb, 2008).

A final statistical criticism, grounded in conceptualizations of emotions and their regulation, is addressed by Ferguson and Stegge (1998). These authors note that a curvilinear association between shame and guilt proneness and outcome variables may be more plausible than the linear correlation presumed and tested by the users of the TOSCA (Ferguson & Stegge, 1998). They assert that "many negligible correlations between guilt and maladaptive symptoms, or shame and adaptive ones, could be masking a true non-linear association for both emotion traits" (p. 53). In Ferguson and Stegge's view, the curvilinear association should take the form of an inverted-U, with shame and

guilt being adaptive when experienced in moderate intensities. On the other hand, problems may arise when experiences of shame and guilt become extreme (too low or too high), thereby affecting (or reflecting) whether the individual will engage in appropriate coping skills. For example, psychopaths are believed to experience little guilt, thus causing multiple problems in relationships with others and hindering improvements in their limited perspective-taking ability (Blair, Mitchell, & Blair, 2005). On the other end of the spectrum, researchers have found that those individuals experiencing shame in excessive amounts is positively correlated with maladaptive outcomes such as elevated levels of depression or anger (Tangney & Dearing, 2002).

Importantly, Ferguson and Stegge's (1998) perspective aligns with that of many experts in the field of emotion, specifically emotion regulation, who emphasize that emotions simply "are" and do not in themselves lead to positive or negative adjustment (e.g., Cole, Michel, & Teti, 1994; Watson & Clark, 1992). Ferguson and Stegge discussed many likely contributors to how adaptive a particular emotional experience proves to be. Among these, they stressed characteristics of the emotional experience itself, including its intensity or frequency, its appropriateness to the eliciting event, and whether it resulted from reality-based appraisals of the event and their role in its occurrence. Therefore, it is not guilt or shame (in the form of a state or trait *per se*) that is necessarily adaptive or maladaptive, but instead the experience of these emotions at appropriate levels, at appropriate times, and characteristics of the emotional experience that leads to their adaptive qualities.

Importantly, although the TOSCA was created to assess shame- and guilt-proneness as traits, results from this measure have been routinely generalized to

conclusions drawn not only about shame and guilt as traits, but also as states. A striking

example of this overgeneralization is Tangney and Dearing's position that shame may no

longer be adaptive, that we may even be evolving away from shame, and that "guilt may

be the moral emotion of the new millennium" (Tangney & Dearing, 2002, p. 127). States

and traits differ in that, although all individuals have the capacity to experience fleeting

moments of both shame and guilt during their lifetime (e.g., state), certain individuals

have a propensity or *proneness* to experience shame or guilt across a variety of situations

(e.g., trait). More specifically, state refers to how a person is feeling "in the moment,"

and measures assessing state emotions thus asking about how a person is feeling at the

moment they are completing the measure. In contrast, trait or proneness instead refers to

how the individual tends to feel over a certain time period, such as in the past three

months. Importantly, the same items can be used to assess traits or states, with only the

instructions changing. For example, the TOSCA asks respondents to imagine themselves

in hypothetical situations, as opposed to how they are really feeling in the moment. They

are then asked to indicate the "likelihood" that they would respond with shame and/or

guilt. In her review of the diverse array of methods that have been used to assess shame

and guilt, Tangney (1996) discussed how scenario-based measures such as the TOSCA

and SCAAI were developed explicitly to assess shame and guilt as a trait, and

specifically distinguished between assessments developed for state and trait shame/guilt.

Some readers might doubt the present study's relevance to the TOSCA's validity,

because this study concentrates on guilt and shame as states, instead of traits. Essential

to note, however, is that it is *not* Tangney's overgeneralization from state to trait that

necessarily poses the problem. As mentioned above, it is not the experience of emotions

as state or traits that necessarily leads to adaptive/maladaptive outcomes. An individual

can possess a predisposition or tendency to experience shame or guilt, but if experienced

at appropriate times, intensities, and in the right context, either emotional response could

be considered quite adaptive. Rather, the problem with this overgeneralization arises

because results from the TOSCA misrepresent shame and guilt both as states *and* traits.

In fact, results of this present study, when combined with previous efforts, could suggest

that criticisms of the TOSCA are valid and that those using the TOSCA are drawing

inappropriate conclusions regarding shame or guilt as either states or traits.

In summary, the measurement of shame and guilt when using the TOSCA is far

from perfect, which may lead researchers to draw inappropriate conclusions about the

true nature of either experience or their associations to other measures. To further

exacerbate the problem, widespread use of partialing in this context may intensify the

problem of researchers concluding that shame is maladaptive and guilt adaptive. Thus,

an alternative method for operationalizing and measuring these emotions is sorely

needed.

Functional Analyses of Shame and Guilt

As has been previously emphasized, the seemingly maladaptive nature of shame

may be due to the many flaws in the gold standard instrument most commonly used to

assess shame and guilt. One specific flaw emphasized was the TOSCA's inadequate

conceptualization and operationalization of shame and guilt (Tangney et al., 1989),

resulting in shame appearing maladaptive and potentially harmful (Tangney & Dearing,

2002). In this section, I review the two major theories of emotion that were driven

specifically by an evolutionary perspective *and* that consider guilt and/or shame to be central emotions. From this viewpoint, emotions are seen as psychological adaptations (Plutchik, 1962). Following a review of this literature, the author proposes an evolutionarily based operationalization of shame, which may more accurately capture the adaptive qualities of this emotion.

At least since the time of recorded history, philosophers and scientists, including Aristotle, Plato, Descartes, or Hume, have speculated about the importance of emotions. Some early psychological theorizing treated emotions as useless (Skinner, 1948), and actually advocated that emotions are disorganizing and disruptive to human behavior (Dewey, 1895). Other theorists, such as Darwin (1872), viewed emotions as evolving because of the adaptive behaviors they promoted. He believed the social communication and behavior-regulation functions they serve today were by-products, secondary to their original functions (e.g., survival and reproduction). So, for example, experiencing fear readies an individual for action in order to escape a dangerous situation, but now also functions to communicate to conspecifics that danger is approaching. Like Darwin, Tooby and Cosmides (1992) proposed that emotions evolved to assist our hunter-gatherer ancestors with survival and reproduction. Similar to these aforementioned viewpoints is the common view in evolutionary psychology, which is that emotions continue to serve an adaptive purpose by helping individuals with successfully navigating and solving physical as well as social problems in their environment (Ekman, 1992; Keltner & Gross, 1999). The concept of adaptiveness in this context can be defined as genetically influenced attributes (e.g., emotions, cognitions, behaviors) that promote the replication of genes, and over many generations, this reproduction of genes allows the attributes

themselves to become more common in species' genetic design (Tooby & Cosmides, 2005). Importantly, increased group cohesion, strengthened social bonds, trust between group members, and reduced conflict or aggression, all are promoted through group members' abilities to express and interpret emotions appropriately. This in turn is one contributor to individuals' likelihood of successfully sexually reproducing and thriving in their social and physical environment.

Early Biological Views of Shame
and Guilt: Tomkins and Izard

In addition to the adaptive nature of emotions in general, certain theorists have explored the adaptive nature of shame and guilt in particular, and their functions in a social context. Earlier theorists such as Tomkins and Izard addressed this topic. Tomkins actually was one of the first to provide a thorough analysis of shame and other affective states grounded in biology and evolutionary theory. In Tomkins' analysis, "affects" *are* the

> correlated sets of responses involving the facial muscles, the viscera, the respiratory system, the skeleton, autonomic blood flow changes, and vocalizations that act together to produce an analogue of the particular gradient or intensity of stimulation impinging on an organism. (Demos, 1995, p. 19)

When considering this description of *affect*, the question arises as to what then is the definition of *emotion*. Many definitions of emotions exist in the literature, without consensus regarding which is correct. For the purposes of the current review, a functionalist definition of emotion will be considered, which is multifaceted and actually subsumes Tomkins definition of affect. Thus, emotion is considered as a complex of components (e.g., antecedents, action tendencies, subjective experiences, physiological

indicators, facial expressions, adaptive functions, and vocalic patterns) that impact behavior. Further, the processes of emotion are: (a) bidirectional, in which emotions involve the impact of the organism on the environment and vice versa; (b) relational, in which how the event affects the organism impacts the quality of the event; and (c) significant, where the bidirectional relationship between the organism and environment has implications for how effectively the organism functions in that environment (Barrett & Campos, 1987). When considering this definition, it is clear that Tomkins' definition of affect corresponds to some of the components of emotion as defined, such as facial expressions, vocalic patterns, and physiological indicators.

Tomkins (1963) proposed the existence of nine basic or innate affects, which are interest, enjoyment, surprise, fear, anger, distress, shame, contempt, and disgust (or "dissmell" referring to disgust's olfactory variant). As the above quote reveals, Tomkins viewed each affect as a set of unique or distinct *biological* features (see Demos, 1995). Tomkins was very precise about the mechanisms activating each of these nine distinct affects. Recall that each affect can be described in terms of particular facial, muscular, skeletal, visceral, circulatory, respiratory, and vocal characteristics. Combined, each profile is associated with a certain density or frequency of neural firing. Tomkins argued that the specific affect activated will depend on several facets of neural density per a given unit of time, namely, how dense the neural activation is, how suddenly (versus slowly) a given degree of neural density occurs, for how long (or short) a period of time that degree of density is sustained, and for how long (or short) a period of time the highest density takes to decline or degrade.

What, then, are shame or guilt when viewed from Tomkins' analysis of the nine innate and biologically describable affects? In his view (1963), the *affect* of shame involves a particular "central assembly" of biological reactions, corresponding to precisely specifiable patterns of neural firing. Even without measurement of the neural activation pattern, Tomkins asserted that the affect of shame has occurred when people display a lowering of the eyelids, a lowered tonus of all facial muscles, a lowering of the head, and a unilateral tilting of the head in one direction. People will experience this affective assembly in a wide variety of situations that differ markedly from each other in terms of the *cognized* causes or consequences of the experience and the needed resulting behaviors. Stated differently, at the level of *affect*, the shame experience will be *identical* across these otherwise discrepantly perceived situations.

Consider examples of four situations. In one situation, the person's affective experience of shame might be labeled as shame in the sense of feeling inferior (e.g., falling short of an achievement standard). In another situation, the same affective experience of shame might be identified as "feeling guilty," because the person attributes the *activated pattern of shame affect* to the self for having *violated a moral norm*. Even in the latter situation, again involving the same underlying affective experience of shame, another person might consciously feel "ashamed of myself," in this case because one part of the self, as an observer, feels ashamed of another part of the self, as an actor who behaved immorally. Finally, in a fourth situation, the perceiver might experience the affect of shame, but identify the feeling as shyness, because the perceiver has encountered a person who initially looked familiar, but who suddenly appeared strange to the perceiver.

Important to remember is that the affect experienced in all four situations involves the same central assembly of shame, but each is coupled with differing cognitions about the *experience's* causes, consequences, and resultant behaviors. When the basic affect of shame is combined with differing cognitions about an event's causes, consequences, or later action tendencies, this renders a different "total" or "entire" experience in Tomkins' terms. One might label this total experience an *emotional* one, in line with the functionalists' preference, described earlier, to define emotions in terms of their multiple affective or experiential, cognitive, and action tendency components.

Based on this description of Tomkins' analysis, it is apparent that he did not view guilt as a unique affect. He, instead, conceptualized guilt as *one* of several "cognitive scripts" that people learn to associate with the core affect of shame, experienced in the context of moral transgressions (1963, 1987). In his view, shame motivates individuals to behave according to the norms of the social group, because the individual is acting to avoid feeling shame. Tomkins also contended that shame is more effective than any other affect in calling attention to the weaknesses and functioning of the self and thereby promoting the acquisition of skills and competencies. From Tomkins (1962, 1963), he proposed that shame's innate activator is the "incomplete reduction" of interest or joy; or, as he tried to communicate differently, shame will be evoked by perceived barriers to interest or excitement (e.g., encountering a stranger). Shame thus functions as an innate "*affect auxiliary*." That is, one affect (shame) serves to inhibit the pursuit of stimuli leading to the continued experience of other affects, namely, interest or joy.

Highly influenced by the ideas of Tomkins (1963), Izard (1977) also contended that emotions evolved to assist individuals with effectively functioning in their

environment. By also taking a biological perspective, Izard asserted that shame has two evolutionary functions. He argued that (a) "shame sensitizes the individual to the opinions and feelings of others and thus acts as a force for social cohesion" and conformity (p. 400), and (b) shame evolved to promote the acquisition of skills and competencies that are necessary for survival. Thus, to avoid shame, individuals are motivated to acquire skills that that will assist them with surviving in their environment. Importantly, he and Tomkins (1963) agreed that even infants can experience shame, and as early as 4 or 5 months of age. As long as there can be a sudden reduction of the experience of interest or joy, infants can experience shame. So, for example, if an infant is experiencing joy when looking at the face of its mother and suddenly encounters the face of a stranger, which thus inhibits the pursuit of the source of joy (e.g., the mother's face), the infant is vulnerable to the experience of shame (Izard, 1977; Tomkins, 1963). Thus, the experience of shame is unlearned.

Izard (1977) similarly argued that guilt, as well as shame, emerged through evolutionary processes and is unlearned. Similar to Tomkins (1963), Izard stated that guilt is the emotion that is most highly associated with patterns of moral behavior. He further stated that through evolutionary processes, the experience of guilt hinders aggressive or sexual exploitation. Also, the anticipation of experiencing guilt fosters a sense of personal responsibility and strongly motivates reparative behavior. Unlike shame, which can be experienced in young infants, Izard contends that children can only experience guilt when they are cognitively able to understand that their actions can harm other individuals. This does not mean children have to *learn* to experience guilt, but

understand that their behavior can impact others. This ability has been seen in children as young as 1 1/2 years (Izard, 1977).

General Social Psychological Tradition

Since the time that Tomkins or Izard introduced the view that shame and guilt serve numerous adaptive functions, many scholars have echoed agreement with this stance. The purpose of this section is to describe these more recent ideas about each state's adaptive functions.

Desires to minimize embarrassment or shame explain a diversity of behaviors, ranging from the expected (e.g., self-handicapping, externalizing) to the unexpected (e.g., obedience to authority, conformity to obviously wrong answers, intervening to help in an emergency situation, offers to accept electric shock on behalf of a distressed co-participant, cf. Sabini, Siepmann, & Stein, 2001; Scheff, 1988). Scheff, in fact, labeled shame as *the* "master emotion" that functions within a deference-emotion system as an informal sanction in the form of actual or perceived rejection for failures to adhere to group norms. Certain behaviors supposedly motivated by shame certainly can be evaluated negatively (e.g., obeying an authority in the Milgram, 1965, studies, or not standing up for one's own perceptions in the Asch, 1955, conformity paradigm). Yet, other behaviors that shame purportedly facilitated were admirable (e.g., accepting pain to spare another; helping others). This contrast is reminiscent of the earlier summarized view of emotion researchers that emotions themselves are neither adaptive nor maladaptive.

In discussing a functional model of self-conscious emotions, Parker (1998) proposed that shame functions to reduce exposure by distancing the shamed person from others in their social environment and that shame communicates submission, which in turn limits damage or harm. Guilt, in contrast, functions to repair damage and communicates that the guilty person is aware of their guilt, and intends to behave differently. Fessler (2003) contended that emotions are essential to survival because they promote cooperative relationships, and shame functions to alert the individual that they have violated a norm or are not conforming to social standards. Greenberg and Paivio (1997) also agreed that guilt is about rectifying unacceptable behavior, and described shame nicely when they stated:

> Shame in its most fundamental adaptive form is possibly a process of protecting our social connectedness. Shame has to do with our acceptability, worth, and connection to others. […] Shame is a signal that my worth or state of social connection is threatened or needs attention. (p. 208)

Not only are shame and guilt considered functional from a general psychological perspective, but researchers viewing emotions from an evolutionary perspective have also proposed functional accounts of shame and guilt. In the following section, three major evolutionary models, termed "damage limitation," "social self-preservation theory," and "appeasement" will be discussed.

Evolutionary Social Psychological Perspectives

Along with specifying the adaptive functions of shame and guilt, some researchers have given much attention to the selection pressures that lead to the current form and functions of shame and guilt (Barrett & Campos, 1987). Noteworthy is that

these researchers have focused on shame to a greater degree than guilt, consistent with the view that shame and guilt are highly related constructs. Thus, in the following sections, more emphasis will be placed on the exploration of shame, rather than guilt, because many of these researchers do not directly address guilt as a separate construct. The functions that shame and guilt serve have been explored through three paradigms, namely "damage limitation," "social self-preservation theory," and "appeasement." These three paradigms emphasize similar selection pressures and agree about the functions that shame and guilt serve. The unique facets of the damage limitation, social-self-preservation, and the appeasement paradigms are discussed in turn, below.

Gilbert and McGuire (1998) contended that shame evolved by social selection, is typically triggered by a social threat, and activates an involuntary submissive response in those individuals feeling shame, which functions to de-escalate conflict. Thus, shame is a "damage limitation strategy." To elaborate, Gilbert (1997) contended that successfully navigating our environment depends on our ability to gain access to resources, reproductive opportunities, and protection, and these goals are more easily accessible when one maintains status and acceptance in a social group. One crucial method used to achieve status, acceptance, and to maintain social bonds is through our ability to appear attractive, in the broadest sense of any attribute judged positively by others. He termed this ability to achieve and maintain attractiveness, and thus acceptance by others as *social attraction holding power* (SAHP). Without the ability to elicit positive feelings in others, we may experience a decrease in status that results in losing the many benefits available to those at higher levels in status-based hierarchies. Gilbert stated:

> The central function of shame is to alert the self to actual or possible
> losses of SAHP and prime submissive strategies which include desires to
> escape, hide and conceal, and to signal to others that one is submitting, not
> fighting back and recognizes that a loss of SAHP has taken place. (p. 122,
> 1997)

Experiencing shame thus warns individuals that some characteristic of theirs is receiving

diminished value and/or that this diminished characteristic might possibly reduce their

SAHP.   This activates an involuntary response that signals to others in the social group

that they are aware of the threat and that no further devaluations are necessary, thus

limiting additional damage. Guilt, on the other hand, evolved out of a desire to "keep the

other functioning well […] but having failed to do so" (p. 139). Therefore, guilt

motivates the individual to repair the wrong done.

In direct agreement with Gilbert's contentions regarding the functions of shame is

Gruenwald and colleague's (2007) social-self-preservation theory, which also includes

the damage-limitation strategies of appeasement and submission. What sets this program

of research apart from Gilbert's (1997) hypothesis of SAHP is the great amount of

empirical, physiological evidence supporting Gruenwald and colleagues' assertions about

shame and the social self. These researchers asserted that

> shame appears to be a common emotional response to threat to the social
> self, the activation of specific physiological systems often accompanies
> shame responses to social-self threat, and these psychobiological
> responses are associated with specific behavioral reactions (e.g.,
> appeasement, submission) to such threats. (p. 69)

Shame thus evolved to assist individuals with maintaining a positive social self, which is

essential to survival, opportunities for reproduction, and maintaining supportive

relationships (Gruenwald et al.). Importantly, these researchers did not address guilt

specifically, as they contended that guilt is a variant of shame (Gruenwald et al.).

The following studies support the idea that (a) social threats elicit physiological responses; (b) physiological responses are, indeed, associated with shame; and (c) physiological responses are associated with submissive behaviors, which align with shame's hypothesized function. Consistent evidence has been found in investigations of physiological activity such as specific patterns of neuroendocrine and immune response. Gruenwald and colleagues (2007) hypothesized that activation of the hypothalamic-pituitary-adrenal (HPA) and proinflammatory immune systems, which are activated in times of stress (e.g., social devaluation), would result when threat to the social self occurs. Importantly, they asserted that these physiological markers are associated with the shame experience. A meta-analysis conducted by Dickerson and Kemeny (2004), which reviewed 208 laboratory investigations examining the effects of acute stressors on cortisol levels (produced by the HPA system), provided support for this premise. The effect size for cortisol increases reported in this review was much higher in studies that utilized a social evaluative threat paradigm ($d = .67$) than in studies not including a social-evaluative threat component ($d = .21$); importantly, a shame display was correlated with increases in cortisol levels.

Dickerson, Kemeny, Aziz, Kim, and Fahey (2004) also conducted a study demonstrating the relation between proinflammatory cytokines (also released in times of stress) and shame. In this study, students were instructed to write about either a neutral topic or one in which they blamed themselves. Students in the blame condition who showed greater increases in shame also showed greater increases in their proinflammatory immune responses, indicating an association between shame and physiological stress. Gruenwald and colleagues (2007) also reviewed evidence for the

relation between submissive behaviors, including that of a shame display, and the activity of HPA hormones in nonhuman animals. Importantly, similar conclusions were drawn for rats, mice, monkeys, baboons, tree shrews, and fish. Taken together, these studies paint a clear picture that when shame is induced, submissive behaviors are elicited, and these are correlated with specific physiological profiles.

Other researchers have similarly suggested that shame functions as an appeasement mechanism to reestablish social harmony after a violation or transgression (Keltner & Harker, 1998). Moreover, at the heart of the appeasement display in humans as well as nonhuman animals is submissiveness (de Waal, 1988). Although Keltner and colleagues typically receive credit for these ideas (e.g., Keltner & Harker), sociologists such as Scheff (1988) have long recognized the appeasement functions that shame serves. Scheff instead refers to this function as the "deference-emotion system," but both recognized that experiencing shame warns the individual of potential devaluation, thus promoting conformity and limiting damage to the social self. Keltner and associates contend that appeasement can function in situations of perceived or actual conflict that are social in nature and "leads to social reconciliation by signaling the individual's commitment to the social norms and by evoking emotions that increase cooperation (e.g., sympathy, forgiveness) and reduce aggression" (p. 363). Keltner and colleagues also contend that appeasement can take two forms. Reactive forms of appeasement function when actual conflict has occurred, while anticipatory forms of appeasement function to prevent conflict that has not yet occurred. Again, these researchers do not specify unique functions for guilt separate from shame.

Clearly, similarities exist between shame as a "damage limitation strategy," as "social self-preservation," and shame as appeasement. These three conceptualizations combine to portray a coherent picture of the evolutionarily adaptive functions of shame. The basic premise in each is that the experience of shame evolved to help individuals successfully navigate their social environments and assisted individuals in maintaining important social relationships.

These analyses also stress the roles of our appearance and behavior in the eyes of *others* as sources of potential shame. Central within the damage limitation strategy is the idea that we all have a need to appear attractive to others to maintain our SAHP; SAHP, in turn, affects access to various resources essential to survival; and shame is a warning signal that we may not appear attractive to those in our social group (Gilbert, 1997; Gilbert & McGuire, 1998). Similar ideas have been expressed by proponents of social self-preservation theory (Gruenwald et al., 2007). The idea that shame serves as an appeasement mechanism is also extremely similar, but more emphasis is placed on shame functioning to elicit submissive behaviors that will reduce aggression in others, rather than warning us that certain behaviors or characteristics may lead others to devalue us (Keltner & Harker, 1998).

To summarize, from both a general social psychological perspective and evolutionary perspective, shame serves many adaptive functions that are essential to the survival of human and nonhuman species. This conclusion is in direct contradiction to the findings regarding shame in studies that use the TOSCA. As was previously discussed, the TOSCA has been criticized on both theoretical and methodological grounds. One of the criticisms directed at the TOSCA is a biased operationalization of

shame and guilt. In order to improve on previous shame and guilt research, and attempt to resolve this contradiction, research using a more evolutionarily based operationalization of shame is needed. If shame is elicited in social contexts and serves the adaptive function of social self-preservation (i.e., damage-limitation) through appeasement and submission, then perhaps it should be operationalized as the latter. In the following section, an operationalization of shame rooted in evolutionary theory will be proposed.

<div align="center">Communication of Shame and Guilt</div>

Nonverbal Displays of Shame and Guilt

Many researchers (Darwin, 1872; Ekman, 1992; Izard, 1977; Tomkins, 1964) agree that emotion displays, specifically those expressed through the face provide efficient and reliable indicators that are adaptive for individuals in their social environment. As indicated, they provide information not only about the emotion the individual may be feeling, but also information about antecedent events and future behavior. Facial expressions additionally function to evoke emotions in others (Darwin). Tomkins (1987) went so far as to propose that affects are nothing without facial expression. In fact, Tomkins has contended that affect is principally facial behavior, while inner bodily sensations are of secondary importance to the expression of emotion through the face. If emotion displays serve these functions, it comes as no surprise that the facial/bodily expression of shame would also serve adaptive functions by allowing the emotion shame to be communicated and understood by others.

In studying shame, researchers have proposed a unique pattern of nonverbal

behavior for shame that is defined by several submissive behaviors. This display is characterized by the lowering of the head, gaze aversion, and postural shrinkage (Darwin, 1872; Gilbert & McGuire, 1998; Izard, 1977; Keltner, 1995; Tomkins, 1963, 1987). As stated previously, at the core of appeasement behavior is submission, thus shame communicates appeasement to others through a unique submissive display. This submissive display of shame has even been seen in other species (Keltner & Buswell, 1997). Specifically, one can observe expressions of shame (e.g., gaze aversion, postural shrinkage) in nonhuman primates (e.g., bonobos, chimpanzees, orangutans, and gorillas) known to be closely genetically related to human primates (de Waal, 1988). Similarly, Keltner and Buswell reviewed 40 studies, and reported that the appeasement behaviors considered functionally equivalent to the shame expression were evident in primates, rodents, and birds. Along with cross-species similarity in shame's expression, current research has provided evidence for a universal display for shame (Izard, 1971; Keltner & Buswell, 1996; Tomkins, 1964).

In some of the earliest research conducted to study the unique display of emotions, Tomkins (1964) used photographs to determine how well participants could accurately identify and label eight primary affects. In this study, 24 participants were shown between seven and nine photographs of each primary affect, and they were asked to identify which affect was being displayed by the models posing in the photographs. Tomkins found that the average correlation between the affects posed in the photographs and the judgments of the participants was .86, with the correlation for shame being .92. Similarly, Izard (1971) presented still photographs of nine different emotions to individuals in five countries. In each country, participants identified the shame display

significantly more accurately than what would be expected by chance. Across these nine different countries, the mean level of accuracy in identifying the shame expression was 65%, with chance level being 11%.

More recently, Keltner and colleagues conducted four studies to determine how accurately the shame display could be accurately identified (Keltner, 1995; Keltner & Buswell, 1996). In the first two studies, photographs of shame and 13 other emotions were presented to participants, and they were asked to identify the emotion term that represented the emotional expression in the photograph from a list of 13 emotion terms (Haidt & Keltner, 1999; Keltner & Buswell, 1997). As in the study by Izard (1971), participants identified shame with above chance accuracy in both studies: specifically, 51% of participants accurately identified the shame expression. In the third study, rather than using still photographs, dynamic displays of shame were investigated in the form of short video segments of individuals displaying shame. Participants in this study also accurately identified shame at above chance levels. Finally, in the fourth study, participants were asked to identify which out of nine emotions individuals in a short video segment were expressing. Interestingly, participants' endorsement of "shame" for the individual's expression in the video was correlated with displays of head movement down, head movement to the side, and gaze lowering (Keltner), which also neatly confirms Tomkins' characterization of shame expressions (1964).

In contrast to the reliably identifiable facial expression of shame, researchers have yet to determine a unique facial/bodily display for guilt (Ekman, 1992; Keltner & Buswell, 1996; Tomkins, 1987). In his research on emotion, Darwin (1872) did not view guilt as a unique affect as he did shame, but instead viewed guilt as a subset of shame

that was associated with moral transgressions. Thus, he did not predict that guilt would

have a unique nonverbal display. Similarly, and as elaborated earlier, Tomkins

emphasized that there is no unique display for guilt, because shame and guilt are identical

affects at the level of affect. Thus, guilt was not included as one of the primary affects

that Tomkins (1964) studied. Because a unique display for guilt has not yet been

identified, Keltner and Buswell further pursued the matter, asking whether three

"candidate" expressions would be reliably identified as guilt. Participants were shown

photographs of emotions known to have well-established facial displays (e.g., anger, fear,

happiness), as well as likely displays of embarrassment, shame, and the candidate

expressions for guilt (i.e., expressions of self-contempt, sympathy, and pain). These

researchers found support for the supposition that there is no unique display of guilt, as

the three candidate guilt expressions were each identified as other emotions (e.g.,

sympathy, pain) more often than guilt. Importantly, many researchers consider shame to

be evolutionary "prior" to guilt, because of shame's ability to be communicated readily

via facial and nonverbal displays, unlike guilt. From these evolutionary perspectives,

guilt is a more recent addition to *human primates'* communicative language, (e.g.,

Ekman). Specifically, guilt is primarily expressed through verbal means (e.g., apologies,

confessions) or via overt behaviors that could, but do not necessarily, convey remorse or

contrition (e.g., the offer to make repair; doing favors for the harmed other; Ferguson et

al., 2007).

Vocalic Communication of Shame and Guilt

Clearly, evidence exists to support shame being accurately communicated through

unique patterns of nonverbal displays, while no unique nonverbal display has been found for guilt. Specific vocalic patterns for shame have also been examined. Hundreds of studies have been conducted to identify specific vocalic patterns for many emotions (e.g., joy, sadness, fear, anger, etc.), and the overall conclusion is that crossculturally, individuals can identify general emotion categories (e.g., anger, sadness, happiness, fear) with above chance accuracy (see Juslin & Laukka, 2003 for a review). Unfortunately, very few studies focused on the vocalic expression of emotions have included shame or guilt. Furthermore, in the studies including shame or guilt, the authors actually treated them as one in the same.

In a very early study conducted on the communication of emotion, Pfaff (1954) found that participants could accurately identify 12 different emotional states from vocalic patterns, without the addition of contextual cues. Although joy, fear, and hate were more frequently correctly identified, shame and love were found to be the most difficult, but participants still identified them with above chance accuracy. The next study to be conducted on the recognition of vocal expressions of emotion to include shame was completed in 1983 (Van Bezooijen et al.). In this study, Dutch, Taiwanese, and Japanese participants were asked to identify emotions from distinct vocalic patterns. Again, all emotions studied were accurately identified at above chance levels, with shame, disgust, and contempt being the more difficult to identify (Van Bezooijen et al.). Similar conclusions were also reached in a review conducted by Scherer (1986). Scherer expected that participants would be unlikely to associate a particular vocalic pattern specifically with shame. He did, however, expect that shame and guilt, presented as one emotional state would be characterized by a "narrow," thin, and tense voice (Scherer). In

1996, Banse and Scherer also conducted a study on the recognition rates of emotions via the vocalic mode. They found that, although some emotions were accurately identified, shame and disgust had the lowest recognition rates. The authors suggested that shame may have few unique vocalic features, because shame is characterized by avoidant behaviors, which would lessen people's tendencies to speak while mired in the shame experience (Banse & Scherer). Finally, Barrett and Campos (1987; also cited in Barrett, 1995) adapted the predictions by Scherer, and contended that shame and guilt do, indeed, have separate, distinct vocalic patterns. Although not citing any supportive data, they state that shame is accompanied by a "narrow," moderately lax, and thin voice, whereas guilt is accompanied by a "narrow," tense, moderately full voice.

In summary, in studies that have treated guilt and shame as distinct states, individuals generally do associate the feeling of shame with a distinct vocalic pattern at a level exceeding chance. Nonetheless, people more accurately identify shame based on unique nonverbal displays. Conversely, there is *no* evidence of individuals perceiving guilt to be associated with particular nonverbal or vocalic patterns. Considered together, the findings suggest that while shame is reliably recognized as a distinct emotion based on accepted indices involving facial, postural, or vocalic display modes, guilt is not reliably distinguished or recognized based on these characteristics.

Physiological Indicators of Shame and Guilt

Because of the importance of communicating the experience of emotion, researchers have not only investigated the unique nonverbal and vocalic patterns of emotions, but have also attempted to determine unique physiological markers for

different emotions. From an evolutionary perspective, if emotions evolved to assist an

organism with efficiently and effectively responding to the demands of the environment,

then one might expect that the autonomic nervous system (ANS) would be activated to

assist the organism in responding to these demands (Levenson, 1994). Moreover,

because unique, basic emotions (e.g., fear, sadness, anger, joy) evolved to assist

organisms with responding to *different* demands of the environment, it might be

hypothesized that each basic emotion evolved a unique pattern of physiological

responding. Evidence has been found supporting the long-debated assumption that there

are distinctive patterns of ANS activity for anger, fear, disgust, and sadness (Ekman,

1992; Ekman, Levenson, & Friesen, 1983; Levenson, Ekman, & Friesen, 1990). For

example, in one of the earliest studies investigating specific ANS activity for surprise,

disgust, anger, fear, sadness, and happiness, Ekman and colleagues found different

patterns of ANS activity distinguishing between positive (surprise, happiness) and

negative (disgust, anger, fear, sadness) emotions. Different ANS patterns additionally

were found among the four negative emotions examined. Using heart rate and finger

temperature to measure ANS activity, Levenson and colleagues found specific

physiological differences among the negative emotions of fear, anger, disgust, and

sadness. Similar results have been found across various cultures (e.g., Minangkabau,

United States), and ages (younger participants compared to those age 71-90; Levenson,

1992).

Unfortunately, shame and guilt have never been included in studies of patterns of

ANS activity characterizing different emotions. Barrett and Campos (1987; also cited in

Barrett, 1995), adapted the results of the study conducted by Ekman and colleagues

(1983) to assert that both shame and guilt have distinctive physiological patterns. In their view, individuals will manifest a low heart rate but high rates of blushing while experiencing shame. In contrast, the experience of guilt presumably reflects a profile involving high heart rate and skin conductance, but irregular respiration. Interestingly, however, neither shame nor guilt were actually investigated in the Ekman and colleagues' study. Scherer and Wallbott (1994) did investigate physiological indicators of eight emotions, including shame and guilt, but they employed a self-report questionnaire to measure these. They found that people associate higher basal temperatures with the experience of shame (perhaps reflecting their knowledge that people blush while feeling ashamed). On the other hand, none of the physiologically oriented ratings uniquely identified the feeling of guilt.

In summary, no studies have explicitly examined actual ANS activity patterns that would be unique either to shame or to guilt. Based on the evidence reviewed thus far, shame is communicated reliably through a distinctive nonverbal facial display, consisting of lowering of the head, gaze aversion, and postural shrinkage (Darwin, 1872; Gilbert & McGuire, 1998; Izard, 1977; Keltner, 1995; Tomkins, 1963, 1987). Moderate support has been found for shame involving a distinctive vocalic pattern. In regard to guilt, no distinctive nonverbal display, vocalic pattern, or ANS pattern has been found. All evidence considered, it supports use in this study of the unique nonverbal display of shame to communicate this experience after a transgression. Thus, in the following sections, reference made to shame functioning or operationalized through an "evolutionary perspective" will refer to shame defined by the unique, nonverbal display of shame. Guilt, on the other hand, has been commonly characterized as being

experienced in the context of a moral violation, functions to elicit reparative behaviors on behalf of the guilty individual in the form of reparations and apologies, and maintains prosocial behavior (Barrett & Campos, 1987; Tomkins, 1963). Because no unique facial, vocalic or physiological evidence has been found for guilt, in the current study, agreement as to guilt motivating reparative behavior in the form of apologies will be used to support the treatment of guilt as such.

<center>Evidence for Shame Displays Serving an</center>

<center>Appeasement Function</center>

Just as ample evidence has been provided to support the assertion that shame is reliably communicated via a unique display, in the following section, research will be reviewed that supports the assertion that shame serves an appeasement function in social relationships. Following this review of the appeasement literature, current methods used to study appeasement will be reviewed and critiqued, supporting the contention that a different method that more accurately captures the appeasement functions of shame is needed.

Has the nonverbal display associated uniquely with shame been shown to serve appeasement functions? Indeed it has. For example, Keltner and colleagues (1997) found that when participants viewed photographs of shame and other emotions, but were told to imagine the person in the photograph had failed during a class presentation, photographs of a shame expression elicited more sympathy from the participants than did photographs of embarrassment or any other emotional expressions In a related study focusing on the remedial effects of appeasement displays, Keltner and associates (1998)

had fraternity members and romantic partners tease each other. They found that the relationships between those individuals were restored when individuals showed appeasement-related submissive displays. Similarly, Semin and Manstead (1982) showed participants a videotape of someone knocking over a store display, with the transgressor reacting with either embarrassment or acting calmly, and the transgressor either fixed the store display or just walked away. The results showed that individuals who showed embarrassment (considered here a variant of shame) were more likely to be forgiven and were considered more likeable by participants than someone who did not exhibit embarrassment, regardless of whether they actually offered repair by fixing the display.

This appeasement effect has even been studied with children and parents, where parents reading vignettes about a child breaking a bottle of juice were more forgiving toward the child the more embarrassed (or shameful) the parent believed the child to feel (Semin & Papadopoulou, 1990). Edelmann (1982) also showed that an appeasement display can have positive effects when a person must provide negative feedback to someone else. Participants were told to give negative feedback to another individual, who was actually an accomplice to the study, about their performance on a task. The participants reported feeling more at ease and a greater liking of the accomplice who did than who did not display embarrassment.

Not only has shame as appeasement been studied in contexts where the severity of the transgression was minimal, but the functions of shame have also been studied in the context of more severe mock criminal cases and jury trials. In fact, many of these studies, conducted within the fields of sociology or criminal justice, *predate* the more

famous studies cited earlier of psychologists, such as Keltner or Semin. Curiously, moreover, these older studies are rarely acknowledged in the psychological literature. Savitsky and Sim (1974), using videotapes, demonstrated that sentences and conviction rates decreased when individuals displayed signs of remorse (e.g., shame). Similarly, Lazowski (1988) showed that defendants on trial for crimes or misdemeanors were judged more leniently when they exhibited behaviors that could be labeled "shame." Also using mock trials, Young and colleagues (1996) found similar results when the defendant showed a shame display; the defendant was given a shorter sentence and was eligible for parole earlier than those defendants that did not show shame. Tsoudis and Smith-Lovin (1998) also used the jury paradigm, asking participants to read transcripts of suspects' statements and embedding within them descriptions of nonverbal behaviors displayed by the suspects, while providing the statement. Participants reading transcripts containing descriptions of nonverbal appeasement gestures recommended a less harsh punishment and found the crime less severe than those who read transcripts depicting the suspects' reactions as "neutral." Finally, the appeasement displays even of politicians have been studied. For example, Masters (1988) demonstrated that the submissive or appeasement displays of politicians were correlated with higher status and winning elections more frequently.

From the literature reviewed thus far, it is clear that results support shame's role in limiting damage within social relationships via appeasement (Keltner & Harker, 1998; Scheff, 1988). Consistent with Gilbert and McGuire's (1998) assertion that shame acts as a motivator for individuals to refrain from committing a transgression in the first place, Ferguson and colleagues actually showed shame to play a major *anticipatory* role

in helping American adults *avoid* making two types of behavioral mistakes, which they labeled commission errors (actually engaging in undesirable or even immoral behaviors) and omission errors (*failing* to pull through with socially valued behaviors) in a series of four studies (Ferguson, Edmondson, & Gerity, 2000). Results from the same series of studies also showed *anticipatory guilt* to minimize commission and omission errors. Importantly, however, the anticipation of guilt proved more valuable for events that respondents characterized as likely to hurt, anger, displease, or upset others. Anticipatory shame, in contrast, was judged as more valuable for events that respondents characterized as impugning their identities or integrity. Ferguson and colleagues suggested that shame more than guilt was functioning as an *internalized* inhibitor of potentially serious wrongdoings. As such, Ferguson and colleagues hypothesized that people value *shame* more than guilt as an indicator of conscientiousness or moral virtue.

Results based on additional studies originating from Ferguson's lab supported this hypothesis (Ferguson et al., 2007). For example, observers of actors who portrayed themselves as experiencing guilt but *not* shame following various misdeeds attributed more negative personality characteristics (e.g., immoral, untrustworthy, unreliable) to these actors than to those who reported experiencing both emotions. Similarly, but "in reverse," observers of actors who were portrayed as possessing various negative personality characteristics *predicted* that these actors would later express high degrees of guilt (but not shame) in response to different misdeeds. In contrast, observers expected *both* high degrees of shame and guilt following the same wrongdoings when actors had earlier been portrayed in positive terms (virtuous, conscientious). As a whole, results of these studies underscored the greater power of shame than guilt expressions. Shame's,

more than guilt's, expression produced stronger likeability judgments and more positive

character judgments; in fact, guilt's presence resulted in positive judgments *only* when it

was combined with shame's presence. Also important is that the findings seem to

provide evidence for Tomkins' (1963) analysis of shame as the more fundamentally

important motivator of proper behavior, with guilt being more of an "add-on" component

addressing specific types of transgressions (i.e., in moral situations).

In a special issue of *Child Maltreatment*, Ferguson (2005) offered several

additional observations regarding shame's *adaptive* value, thus taking a stance opposite

to that consistently expressed in this issue's conceptual or empirical articles. She

observed that shame can function to appease or mitigate hostile reactions not only after

minor infractions within healthy intimate relationships or larger organizational ones, but

also within the physically abusive, emotionally abusive, and neglectful relationships

targeted in the special issue. This stance is opposite that of Bennett, Sullivan, and Lewis

(2005) in the same issue, who conducted an observational laboratory study examining

how very young recipients of physical abuse (and/or neglect) reacted to their failures

(induced by the experimenter) on relatively easy achievement tasks administered during

the session. They reported that the physically abused children, in particular, more often

expressed shame, which *then* fueled intense reactions of anger. This pattern aligns neatly

with what Lewis (1979) labeled the shame-rage cycle. Bennett and colleagues suggested

that these young children's chronic exposure to physical abuse, and the behavioral

patterns they have learned, led to the extremely premature appearance of shame-rage

reactions. At the same time, however, Ferguson noted that Bennett and colleagues did

not record the chronological order in which children expressed shame or anger. The

opposite order of children first expressing anger *followed by* shame was, therefore, also a logically feasible result.

Ferguson (2005) argued that the anger-to-shame or the shame-to-anger sequence each were plausible for subgroups of these children, based on the two types of attachment relationships known to characterize children subjected to physical abuse. Most importantly, Ferguson argued that it made *adaptive* sense for most children in this study to engage in the *anger-to-shame* sequence, given the probable quality of their attachment relationship and interaction experiences in the home. She suggested that the children might have first expressed angry frustration in response to failing relatively easy tasks. But, because the children were aware of their parents' past abusive reactions to their expressions of anger in the home, the children were most likely to discontinue outward expressions of anger, and instead experience shame after their failure. In essence, then, Bennett and colleagues may have been the first to demonstrate in children the occurrence of shame as an appeasement effort that would be adaptive in the most extreme evolutionary terms (i.e., *life saving*), because expressing shame rather than anger in an abusive home may function to stop further abuse on behalf of the parents.

Previous Methods for Assessing Appeasement
Qualities of Shame

Because shame and guilt are considered social emotions (Barrett, 1995), and thus are inherently linked to the impressions that people form of the actor and to the actor's subsequent reputation and status within valued relationships or larger groups (Barrett; Cooley, 1964; Gilbert, 2007; Scheff, 1988), it is especially pertinent to study the appeasement functions shame serves in the context of *actual* social interactions.

Unfortunately, few studies have examined shame and guilt during an ongoing interaction. There also are next-to-no "in vivo" studies of whether both shame and guilt equally serve the function of appeasement. In fact, studies of appeasement generally focus on shame alone and conduct these in more artificial settings than ongoing interactions. Starting with the latter issue, first, the author briefly summarizes and critiques methodologies used to assess the appeasement functions of shame.

Many different methods have been used to study shame's appeasement function, including correlational designs (Masters, 1988), still-faced photographs of individuals showing shame and other emotional expressions (Keltner et al., 1997), or using a long series of vignettes describing someone committing violations that could elicit shame and/or guilt (e.g., Ferguson and colleagues' 2007 above-reviewed studies of outsiders' impressions of actors based on their guilt and shame expressions and experiences; Semin & Papadopoulou, 1990). Other more dynamic methods include using video tapes of individuals showing shame or embarrassment (Savitsky & Sim, 1974; Semin & Manstead, 1982) and mock jury contexts (Keltner et al., 1997; Lazowski, 1988; Tsoudis & Smith-Lovin, 1998). Unfortunately, no studies have been conducted to directly assess the appeasement functions that shame serves through its reliably identifiable expression during an actual interpersonal interaction. For example, Keltner and colleagues' (1998) teasing study was behavioral in nature, but the fraternity members and romantic couples were told to tease one another, and knew their reactions were being viewed. Moreover, it was not clear that the "submissive displays" the individuals portrayed after teasing represented distinct shame reactions. Edelmann's (1982) previously described study also could be considered behavioral in nature, but the accomplice's emotional display meant

to express embarrassment, because the accomplice exhibited laughter. Finally, variations of the mock jury paradigm using videotapes (Savitsky & Sim) could also be considered behavioral, but participants were aware they were participating in a study and thus knew their decisions would not actually affect the defendant.

Other behavioral studies have also been conducted to study the nature of shame and guilt, although they did not focus on the appeasement function these emotions serve. In these studies, which generally involved children, shame was associated with maladaptive outcomes, while the opposite was found regarding guilt (Barrett, Zahn-Waxler, & Cole, 1993; Kochanska, Gross, Lin, & Nichols, 2002; Lewis, 2000). For example, Barrett and colleagues used a broken doll paradigm to examine children's shame-prone or guilt-prone behavior. The operationalizations of shame and guilt in these behavioral studies are similar to those employed in the TOSCA. Specifically, avoidant behaviors (e.g., hiding the broken doll or avoiding eye contact with experimenter whose doll the child broke) represented operationalizations of shame, whereas approach behaviors (e.g., trying to fix the doll or asking the experimenter for help) were classified as guilt responses. As Ortony, Clore, and Collins (1988), Tomkins (1963), and Lewis (1979) emphasized, one cannot equate particular *voluntary* behaviors with more automatically evoked states, like emotional experiences. Just as *hitting another* does not necessarily or only represent *anger*, it is difficult to know with certainty whether the avoidant behaviors *uniquely* or *only* involved feelings of shame; they also could include fear, anxiety, or just sudden arousal. The same criticism exists regarding behaviors classified as guilt; for example, those approaching the experimenter may be feeling anxious and afraid, but they also may be more tolerant of arousal.

Why is it so important to conduct a realistic, behaviorally based study? Tomkins

(1964) stated that using the still photograph as a stimulus to convey affect is suboptimal.

He contends that not only is it difficult to accurately pose each affect in a photograph, but

that using still photographs "congeals" the motion of an affective response into an

expression that does not exactly capture the intended affect. As he stated,

> The facial affective response is a *set* (emphasis in original) of responses
> over time. The smile is a set of widening mouths. The eye blink in
> surprise or startle is a set of narrowing of the eyelids. […] The look of
> shame is a set of eyelid and head lowerings. (Tomkins, p. 225)

Emotional expression is inherently dynamic; a still photograph is inadequate in capturing

and displaying the dynamics of a facial display.

Another argument for conducting a behaviorally based study of the effects of the

shame expression in an interpersonal encounter is that shame *functions* in an

interpersonal context (Barrett, 1995; Cooley, 1964; Gilbert, 2007; Scheff, 1988). Just as

the conclusions biologists can draw from studying birds or apes in a laboratory are

limited, so, too, are conclusions that social scientists can draw regarding the functions of

shame by using paper-and-pencil or simulation methods. Because shame assists

individuals with repairing social relationships, we must conduct behaviorally based

studies of shame when *actual* interpersonal encounters between individuals are

unfolding. It is not a far stretch to conclude that current methods used to assess

appeasement (i.e., videotapes, mock juries) lack ecological validity and are not accurately

capturing the functions of shame. For example, Semin and Manstead (1982) asked

participants to view a videotape of a transgressor showing shame. This method may be

accurately assessing how participants rate the transgressor's expression of appeasement,

but does not capture the dynamics between the transgressor and the individual actually impacted by the transgression. The same logic applies to using a mock trial; the participants are not personally involved with the defendant and are neither positively nor negatively impacted by the results. Thus, the mock jury paradigm used to assess shame is not a complete representation of how shame functions in real, interpersonal encounters. Shame functions to reduce aggression in others that have been or could be negatively impacted by another individual's actions, or it limits damage in terms of others' evaluations of oneself during interpersonal encounters.

Notably, there *are* counter-arguments against the use of behaviorally based methods; this counter-evidence stems not only from research involving adults, but also from research including very young children. In particular, Harris (1991) reviewed an extensive body of literature demonstrating that hypothetically presented information, in the form of vignettes constructed for a particular study or segments selected from fictional novels, equally greatly involve participants, produce similar profiles of physiological arousal, result in specific patterns of brain activation in areas specializing in emotions (e.g., the amygdala), and reveal results similar to those found in studies using *in vivo* presentations. Importantly, several of the studies supporting Harris's argument actually were studying emotions, such as guilt or pity. Harris argues that our considerable capacity for imagination, and to learn from "as if" events, is an adaptive trait that evolved in humans, because it spared them the drastic or dire consequences of being able to learn *only* from our actual mistakes.

Although Harris's (1991) arguments are well conceived, and deserve serious consideration, evidence since the time of his suggestions has rapidly accumulated

supporting this author's concerns regarding exclusive reliance on hypothetical vignettes (Clore & Huntsinger, 2007). Information *is* processed differently, and results in different outcomes, as a function of whether activation is limited only to the frontal cortices (a greater possibility when hypothetical vignettes are used), or also involves emotional "centers" of the brain (which seems likelier when perceivers' welfare actually depends on the agents' behaviors and emotional reactions). Moreover, ample research within experimental social psychology has shown discrepant findings depending upon whether participants are actively involved or are mere observers of depicted situations. Perceivers estimate a markedly different pattern of results regarding, for example, Milgram's (1965) classic studies of obedience to authority, or Asch's (1955) equally classic investigations of conformity, as a function of whether they passively receive information about these set-ups or are actively involved as participants (Sabini et al., 2001).

From the above discussion, it is clear that several methods have been used to study the appeasement functions of shame and to compare the antecedents or consequences of guilt with shame. More importantly, because using still photographs, videotapes, and mock trials are limited in the information they can provide, and in their ability to portray the appropriate interpersonal context, a behavioral study that examines the interpersonal and social nature of shame should more accurately capture the adaptive functions of shame and address weaknesses of previous studies.

<div align="center">Crosscultural Differences for Shame and Guilt</div>

Although various methods have been used to investigate shame's appeasement mechanisms, the question still exists of whether these results generalize to other cultures

across the world. Most psychological research specifically contrasting guilt with shame has focused on Americans (Mascolo & Fischer, 2006). This, of course, raises important considerations regarding the extent to which culture, broadly defined, influences the functionality of any emotion. Crosscultural studies of the evaluation of shame and guilt have, moreover, focused largely on individualism-collectivism, which is only one of several dimensions distinguishing different cultures (Wallbott & Scherer, 1995). The primary goals of Americans are taking care of the self and one's immediate family, which is a central facet of individualism in the U.S. and countries such as Australia, France, Italy, and the Netherlands. Reflecting, in part, their individualism and beliefs in choice or self-determination, guilt as construed in the largely American literature seems to connote its citizens' great optimism regarding their ability to change or improve; interestingly, at least in this culture, guilt typically is experienced as short-lived and low to moderate in intensity (e.g., Walbott & Scherer). In contrast, American society seems to harbor extremely negative attitudes towards shame (e.g., Scheff, 1988). For many Americans, shame is a tortuous experience of defeat and dishonor (Cohen, Vandello, & Rantilla, 1998), and is even considered taboo (Scheff, 2003). American individuals' loathing of shameful experiences, their shame of shame, and the society's tendency to ill prepare individuals in shame's regulation might even be one of multiple contributors to violence, such as violence in parent-child and intimate relationships, or even school-related shootings (although shame as a precursor to violence certainly is not restricted to American culture).

In contrast to individualistic cultures, collectivistic societies are interdependent and look after larger units in the community in exchange for loyalty. Collectivistic

attitudes are prevalent in countries representing the Middle or Far East as well as Brazil, Chile, China, the Dominican Republic, Greece, Hong Kong, Mexico, and Puerto Rico. By far the most research has focused on collectivism in the Middle and Far East, as well as in Hispanic cultures. In these cultures, shame is a valued feeling and shaming is a frequent practice of parents (e.g., Kitayama, Markus, & Matsumoto, 1995). Individuals in collectivistic cultures appear more integrated or motivated by shame because of their stronger interdependence, and greater desires for unity and belongingness, which contrasts greatly with Americans' zeal for greater individuality and personal autonomy.

Nonetheless, it is untrue that collectivistic cultures value shame to the exclusion of guilt. Respondents from collectivistic cultures systematically acknowledge guilt as important. Lebra (1983) described Japanese individuals' strong inclinations to feel guilty regarding the plight of others. They report guilt because of a strong identification with or obligation to the group's welfare, and will even report guilt when not responsible for another's suffering. The Chinese also exhibit a strong social orientation in which the sense of self is firmly rooted in the group's welfare. As such, Stipek (1998) reported that Chinese participants felt much guiltier (and ashamed) than did Americans about someone else's untoward behavior (cheating by their brothers). Compared to individualistic societies, they rate guilt to last longer, involve greater degrees of immorality, and to evoke greater symptoms (such as stomach troubles or crying/sobbing; Wallbott & Scherer, 1995).

This brief overview of crosscultural differences in the significance of shame and guilt risks stereotyping cultures in much the same way that American researchers have compartmentalized or contrasted the functions of these two emotions. It nonetheless

serves the purpose of identifying wide-reaching societal contributions to the ways in which various scientists construe guilt and shame. In largely western or individualistic samples, guilt may receive greater moral credit, because of the very way in which researchers typically operationalize guilt (as approach/repair or indications of internal/controllable attributions) in response to a transgression. Similarly, shame may be viewed as more painful or negative because of its more typical westernized operationalization (as self-criticism/avoidance or evidence of internal/uncontrollable attributions). These typical Americanized conceptualizations should thus be given attention, as they may not accurately capture shame and guilt worldwide, and may even lead to inaccurate conclusions regarding these emotions.

Along with many investigations focusing on the crosscultural similarities and differences of shame and guilt, many studies have similarly examined shame and guilt in a variety of domains. Specifically, previous research has been conducted on shame functioning in an achievement context (Kelly, Brownell, & Campbell, 2000; Stipek, 1995; Thompson, Altman, & Davidson, 2002). For example, Stipek found that childrens' emotional reactions (e.g., experiencing shame, guilt, or pride) to their successes and failures in an achievement situation were a function of the parents' expression of approval or disapproval for the child's performance. Similarly, Kelly and colleagues found that children's shame responses at 3 years old could be predicted by the mother's negative evaluation of their poor performance in a difficult task at 24 months.

Related to the empirical evidence showing that shame functions in an achievement context and supporting the idea that shame can be elicited in a variety of situations are the domains of shame that have been proposed by Nathanson (1992) and

Greenwald and Harder (1998). Along with stating that shame is associated with domains

termed "sense of self," "personal attractiveness," and "sexuality," two of Nathanson's

(1992) domains are highly related to an achievement situation, and are: "matters of

personal size, strength, ability and skill," and "competition" (1992, p. 317). Similarly,

Greenwald and Harder asserted there are four types of shame experiences, including

conformity, prosocial behavior, sex, and status/competition. The domain most highly

related to an achievement situation is the status/competition domain of shame, where the

authors stated that individuals may have a "heightened concern with the avoidance of

shame from low status and the achievement of ambitious goals." (Greenwald & Harder,

p. 235). Futhermore, they asserted that individuals who do not make such efforts to gain

status or achieve may have a great sense of shame (Greenwald & Harder). Along the

same lines, Keltner and Buswell (1996) found that common elicitors of shame shared the

core feature of suffering from an impaired social self and lowered status, and

importantly, one common antecedent of shame was poor performance. Although

domains of guilt have not been proposed, Weiner (1985) contended that guilt can be

elicited when an outcome is attributed to internal, unstable, controllable characteristics,

specifically in situations such as low effort leading to test failure, rather than low ability.

Summary and Current Study

In order to lay the foundation for the current study, a brief summary of the above-

reviewed literature will be provided. Although many definitions and distinctions have

been proposed to distinguish between shame and guilt (e.g., moral/nonmoral,

public/private), little evidence has been found to support the assumption that they are two

completely discrete emotions that serve different functions (Tangney & Dearing, 2002).

Instead of attempting to distinguish between these two states, the position taken in the

current study is that shame and guilt serve similar functions, and are in fact both adaptive

self-conscious or social emotions linked to creating positive impressions in "the minds of

the other" (Barrett, 1995; Cooley, 1964; Gilbert, 2007; Scheff, 1988).

Problematic to recent attempts to study shame and guilt is that the "gold-

standard" instrument used to assess these emotions, the TOSCA (Tangney et al., 1989),

may be leading emotion researchers astray. To elaborate, many researchers using the

TOSCA have concluded that shame is the maladaptive, "dark" immoral emotion, while

guilt is the adaptive response for repairing damage done to interpersonal relationships

(see Tangney & Dearing, 2002 for a review). However, criticisms about how shame and

guilt are defined and operationalized in the TOSCA, as well as how the results from the

TOSCA are statistically analyzed were explored. Importantly, many researchers

criticizing the TOSCA have speculated that shame's many maladaptive correlates are not

due to shame's maladaptive nature, but instead result from the TOSCA's flaws (Elison,

2002, 2003a; Ferguson & Stegge, 1998; Ferguson et al., 2007; Luyten et al., 2002; Sabini

& Silver, 1997).

Although much research conducted to determine the nature of shame and guilt has

concluded that shame is maladaptive and guilt adaptive, the above review explored an

evolutionary view of these two states that instead presumes that both emotions evolved to

assist individuals with successfully navigating the social environment in which they live.

By considering shame through the "social self-preservation theory" (Gruenwald et al.,

2007), the idea of "social attraction holding power" (Gilbert, 1997; Gilbert & McGuire,

1998), and shame as an appeasement mechanism (Keltner & Harker, 1998; Scheff, 1988),

much evidence is provided to support the view that shame, just like every other emotion, is adaptive at appropriate levels. Evidence for how shame serves these adaptive functions, through its unique bodily expression, was also reviewed (Darwin, 1872; Gilbert & McGuire, 1998; Izard, 1977; Keltner, 1995; Tomkins, 1963, 1987). Although evidence for shame functioning as an appeasement mechanism was provided and supports an evolutionary view of shame (Keltner et al., 1997; Lazowski, 1988; Masters, 1988; Savitsky & Sim, 1974; Semin & Manstead, 1982; Tsoudis & Smith-Lovin, 1998), this previous research was found to be lacking in many important ways (e.g., use of written scenarios, lack of ecological validity, problems with the use of still photographs rather than dynamic emotional displays).

It is clear that the conclusions made by those researchers using the TOSCA directly contradict the evolutionary literature. Researchers using the TOSCA have concluded that shame is a maladaptive, self-focused, harmful emotion (Tangney & Dearing, 2002), while the opposite has been found for guilt (Tangney & Dearing, 2002). Moreover, evolutionary based researchers have asserted the opposite view, namely that shame serves as a warning signal and functions to appease another after a transgression (Gilbert & McGuire, 1998; Keltner & Harker, 1998). Thus, the primary purpose of the present study will be to explore whether shame really does serve the appeasement functions proposed. Furthermore, although many researchers (Keltner et al., 1997; Lazowski, 1988; Masters, 1988; Savitsky & Sim, 1974; Semin & Manstead, 1982; Tsoudis & Smith-Lovin, 1998) have examined the beneficial effects of shame with the use of various methodologies, no researchers beyond Ferguson and colleagues (2007) has specifically contrasted the functions of guilt and shame. Thus, as a secondary purpose,

the current study will also compare whether shame and guilt differ in their appeasement value.

As was previously stated, the conclusions made regarding shame as a maladaptive emotion could exist because of biases in how shame and guilt are defined, operationalized, and measured by the TOSCA. To address this problematic issue, the current study will instead operationalize shame from an evolutionary perspective. More specifically, and as was addressed above, much evidence exists to support the assumption that shame is reliably recognized and more effectively communicated through its unique nonverbal display. Thus, in the current study, shame will be operationalized as a facial/bodily display of shame (e.g., head down, gaze averted), rather than *a priori* as a maladaptive state as operationalized in the TOSCA. In addition, because no unique nonverbal display, vocalic, or physiological pattern has been reliably identified for guilt, guilt will be operationalized as an attempt to apologize and make reparations. The general consensus in the literature is that, when experiencing guilt, individuals focus on their bad behavior, take responsibility for their behavior, and are motivated to make amends, via, for example, verbalizations of apology (Barrett, 1995; Barrett & Campos, 1987; Gilbert, 1997; Tangney & Dearing, 2002).

The current study will improve on prior research beyond operationalizations. As was mentioned above, previous studies conducted on the appeasement functions shame serves do not completely capture the entire picture of shame as an appeasement mechanism. In this paper, the position taken is that shame and guilt are social emotions that function in an interpersonal context, which evolved to warn individuals that we may not be creating positive impressions in "the minds of the other" (Barrett, 1995; Cooley, 1964; Gilbert, 2007; Scheff, 1988). Shame functions to restore personal relationships,

thus it is essential to measure the appeasement functions shame serves using a realistic, behaviorally based study that explores shame functioning to reduce damage in an actual interpersonal context. Moreover, as was explored above, shame and guilt are not only elicited after a moral violation or transgression. Because evidence exists to support the claim that shame also frequently occurs in achievement/ competition situations, in the current study, shame and guilt will be investigated in the context of a job interview. Specifically, an achievement paradigm adapted from Pedersen and colleagues (2006) will be used, which falls squarely in the domains of competition and matters of ability and skill.

If evolutionary based assumptions regarding shame are correct, an expression of shame will have a positive effect on other individuals' reactions to the mistakes of the job candidate above and beyond any verbalization of guilt. Moreover, if it is found that shame does indeed serve the predicted appeasement functions, the current study will not only provide evidence to support the conclusion that shame does indeed serve adaptive functions, but also provide support for the argument that previous conclusions drawn regarding shame are misleading and result from biases in the TOSCA. In addition, as previously discussed, misleading conclusions stem from the overgeneralization of results based on shame measured as a trait (e.g., TOSCA, shame-proneness) to shame's qualities as a state. In contrast, the current study will manipulate shame as a state to investigate its adaptive functions, as a state. Thus, the general hypothesis is that after the job candidate makes multiple mistakes interviewing for a job, participants evaluating the job candidate will rate the candidate more favorably if the candidate shows a shame expression, rather than if the candidate just expresses guilt in the form of apologies.

CHAPTER III

METHODS

Design

Participants were randomly assigned to one of five conditions, which were a
control condition (mistake-free) and four experimental conditions (mistakes made)
representing a 2 X 2 factorial design, 2 (no-shame, high-shame) X 2 (no-guilt, high-
guilt). In the high-shame/high-guilt condition, the candidate showed an accepted
bodily/facial display of shame (e.g., head down, brief gaze aversion), as well as a verbal
guilt response (e.g., apologies). In the high-shame/no-guilt condition, the candidate
showed the same bodily/facial display of shame, with no verbal guilt response. In the no-
shame/high-guilt condition, the candidate showed no bodily/facial display of shame, but
did verbalize guilt in the same form as in the high-shame/high-guilt condition. Finally, in
the no-shame/no-guilt condition, neither a display of shame or verbalization of guilt was
displayed by the candidate.

Procedure

The following procedure was adapted from the Pedersen and colleague's
paradigm (study number 1, 2006). Participants were led to believe they were
participating in a study investigating the association between personality and intelligence,
and importantly, were assisting the faculty in the psychology department at Utah State
University with evaluating candidates applying for a coveted research assistantship in the
department (see Appendix B). Upon arrival at the designated testing room, participants

were greeted by the author posing as the experimenter. The experimenter informed

participants of the tasks they would be completing, and obtained their informed consent

(see Appendix F). Each participant, tested individually during a 1-hour session, was then

seated in front of a television monitor, webcam, and microphone. Each participant

viewed one of five recordings of the same actress enacting a script as an applicant for the

research position (see Appendix C). Participants were led to believe that the candidate

was a real person, interviewing for the research position live via a webcam, and that the

candidate was administering the tests for the applied or "performance" portion of the

interview. They were further told they would be evaluating how well the candidate

performed after the testing session was completed. To maintain the deception,

participants were told their microphone was not working, thus discouraging attempts to

communicate with the candidate.

Participants completed one personality test and three intelligence tests during the

testing session (see Appendix D). While the candidate was administering these tests, she

made three mistakes (i.e., misreading instructions, reading the incorrect list of words, and

reading the incorrect options for a multiple-choice question), thereby becoming a

transgressor who undermined participants' performance. Whether and which type of

emotion(s) the candidate displayed after each mistake varied across the five recordings,

with each display representing one of the experiment's five conditions. To reinforce the

manipulation, the candidate also gave a closing statement at the end of the interview

thanking the participants for their time, and once again showing a response consistent

with the 2 X 2 design. Because no mistakes were made in the control condition, neither

shame nor guilt was displayed in this condition, but instead the candidate remained

emotionally neutral throughout the testing period. Once testing was completed, and regardless of how the participant truly had performed, the live experimenter reentered the room, gathered the testing materials to determine an overall "preliminary" score for the participant, and then told each participant their performance was at the average level. After each participant was given feedback regarding their performance, the live experimenter administered a questionnaire containing the dependent measures. Finally, each participant was debriefed using the same series of questions in a planned order to assess if they were truly deceived (see Appendix E).

<center>Measure</center>

To determine whether displaying shame and/or guilt after multiple mistakes affected how favorably participants viewed the candidate, the participants completed a 12-item "candidate evaluation" form, from which scores for the primary dependent measure were derived (see Appendix B). Four of the items were filler items, and were not analyzed because they were created with the intention of disguising the true purpose of the study from participants. An example of a filler item would be, "I feel this person is helpful." The dependent measure consisted of eight items inquiring about various work and personality-related attributes of the candidate. Participants were asked to rate each item using a 1 to 5 Likert scale, with 5 anchored *strongly agree* and 1 anchored *strongly disagree*. No items were reversed-scored. The eight items were selected to represent attributes important in hiring/evaluation decisions. Because some of these items could easily be characterized as an important personality-related attribute, as well as a work-related attribute, the dependent measure was not designed to represent two

distinct subscales. Examples of the work and personality-related items are: "I would hire this person for the position," "I feel this person would be effective at performing their job," "I found this person to be likable," or "I feel this person is sincere."   Participants' scores on the eight nonfiller items were then summed to create an overall candidate evaluation score.

Population and Sample

In the current study, participants were recruited from three introductory psychology classes and two abnormal psychology classes at Utah State University. A power analysis revealed that to attain an effect size of 1.25 and a power of 1.0, 20 participants were needed in each condition. To be conservative, data were collected from 110 college students, with 22 students in each condition (7 males, 15 females)[1]. This 7 to 15 male-to-female ratio is representative of the college from which the participants were sampled. Participants ranged in age from 18 to 51 (M age = 21.1) and 68% were female. The majority of the participants were freshmen (40.9% freshmen, 27.3% sophomore, 20.9% junior, 10% senior, and 0.9% indicating they were transfer students), 93.6% Caucasians, and 89.1% reported The Church of Jesus Christ of Latter-day Saints as their religious affiliation. The greatest percentage, 18.2%, identified themselves as "undecided" in their academic major, and no academic major dominated the sample. Twenty-three majors were also endorsed, with the three most common being: 12.7% psychology, 10.9% nursing, and 10% business. Each student was randomly assigned to one of five conditions: high-shame/high-guilt, high-shame/no-guilt, no-shame/high-guilt, no-shame/no-guilt, and a control condition (mistake-free). Extra credit was given to each

student for their participation, and no student refused to participate once testing had begun.

Below are the predictions made regarding participants' ratings of the candidate throughout the five study conditions. Figure 1, follows depicting the predicted means plot based on the hypotheses.

Hypotheses

The specific hypotheses to be examined are:

1. In the 2 X 2 (Shame X Guilt) design, there will be a main effect for shame. The candidate will be rated most favorably in the high-shame/high-guilt and high-shame/no-guilt conditions in comparison to the no-shame/high-guilt and no-shame/no-guilt conditions.

2. In the same 2 X 2 (shame X guilt) design, there will be a shame X guilt interaction of the fan-like form displayed in Figure 1. Testing this interaction involves several subcomparisons or subhypotheses:

2a. Ratings of the candidate in the high-shame/high-guilt and high-shame/no-guilt conditions will not be significantly different, indicating that verbalizations of guilt do not add to positive impressions of the candidate above those formed based on bodily/facial displays of shame.

2b. The candidate should be rated more favorably in the no-shame/high-guilt condition only when compared to the no-shame/no-guilt condition.

3. Ratings of the candidate in the high-shame/no-guilt condition will be significantly more favorable than in the no-shame/high-guilt condition.

4. Ratings of the candidate in the control condition would be the most favorable, and would be used as a point of comparison for the experimental conditions. Ratings in the control condition would be significantly more favorable than ratings in the no-shame/no-guilt condition, and candidate ratings in the high-shame/high-guilt and high-shame/no-guilt will be comparably favorable to those offered in the control condition, as indicated by low magnitude effect sizes.
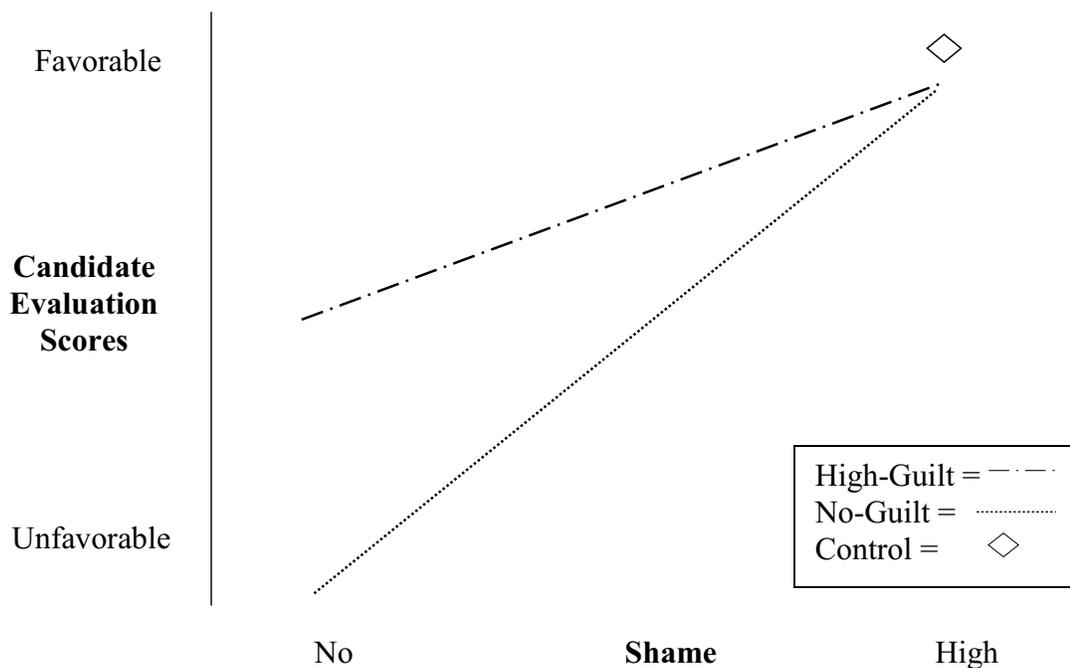

Figure 1. Hypothesized plot of means.

CHAPTER IV

RESULTS

Reliability and Component Analysis

of the Dependent Measure

Eight items in the candidate evaluation form were meant to assess how favorably

participants evaluated the candidate in terms of various personality and work-related

characteristics important in hiring decisions. In addition, the form included four filler

items (items 1, 10, 11, and 12), that were not to be used in the statistical tests of the

hypotheses. As a first step in evaluating the structure and reliability of this measure, an

initial principal components analysis using SPSS (with Promax Rotation[2]) was conducted

on the eight target items. Two components with eigenvalues greater than one were

found, but the scree plot and minimum average partial criteria suggested retention of only

one component (minimum average partial; MAP; O'Conner, 2000). Therefore, a

composite evaluation score was calculated for each participant by summing the scores

across the eight items and dividing by the total number of items.

To further examine whether the two-component solution was more appropriate,

subscale total scores were computed and reliability analyses were conducted. Cronbach's

alpha coefficients were 0.75 and 0.76 for the first and second components, respectively.

The correlation between the total scores for these subscales was nevertheless high ($r =$

0.61, $p < .001$; corrected for attenuation $= 0.81$). These are consistent with results of the

principal components analysis, which the two components were correlated at 0.52. The

eigenvalue for the second component was close to 1 (1.05), moreover, indicating the

second component explained little variance above the first component. These results

converge on the decision to consider the eight target items as a measure of one latent

construct. In fact, when so treated, Cronbach's alpha increased to 0.83. Inspection of the

item-total correlations for the eight-item scale revealed 0.47 to be the smallest item-total

correlation; importantly, removing this or any other item would have decreased the

scales' alpha coefficient.

These scale analyses suggest that a one-construct model best fits the data.

Consistent with this interpretation, analyses (i.e., ANOVAs) conducted revealed no

substantive differences in results when analyses were conducted separately for the four

personality and four work items. Therefore, all analyses reported below were conducted

on the dependent measure operationalized as the sum of participants' scores on the four

work-related and four personality-related items.

<div align="center">Manipulation Check</div>

Before specific hypotheses will be addressed, it is important to determine whether

or not the adapted Bushman paradigm (Pedersen et al., 2006) did, indeed, negatively

impact the evaluations of the candidate. Had this not been the case, there would be no

negative effect for shame and/or guilt to mitigate. Thus, an essential first step is to

address whether participants' ratings of the candidate in the no-shame/no-guilt condition

(in which mistakes were made but neither shame nor guilt were shown) were rated

significantly more negatively than those in the control condition (in which no mistakes

were made), therefore determining if the manipulation of inducing negative evaluations

occurred and created something to be mitigated by the independent variables (e.g., shame

and guilt). An independent samples *t* test demonstrated that this assumption was

supported, as the mean for the no-shame/no-guilt group ($M = 27.50$, $SD = 4.42$) was

significantly lower than the control condition ($M = 33.41$, $SD = 2.86$), $t = 5.27$, $p < .001$,

Cohen's $d = 1.59$. Thus, in a sense, the no-shame/no-guilt group acts as a baseline

against which the existence of mitigating effects can be evaluated.

<div align="center">Two-Way ANOVA and Condition Comparisons</div>

A 2 X 2 ANOVA was conducted to evaluate the effects of a shame expression

(no, high) and verbalization of guilt (no, high) on participants' ratings of the candidate.

Levene's test for homogeneity of variance was not significant, $p > .05$, and thus reliance

on the two-way ANOVA results is appropriate. No significant gender differences were

found for the following main effects, interaction, or independent samples *t* tests, thus all

following results are based on the entire sample. As can be seen in Table 1, and

supporting Hypothesis 1, the ANOVA results indicated a significant main effect for

shame. In comparison, the main effect for guilt was not statistically significant, nor was

the shame-by-guilt interaction, failing to support Hypothesis 2. Figure 2 plots the means

for the four shame-by-guilt conditions and control condition, depicting the main effects

and interaction.

The mean composite score and standard deviations for participants' ratings of the

candidate for each experimental condition as a function of the two factors are presented

in Table 2. Comparing the subscripts associated with the mean values reported in Table

2 indicate which differences are statistically significantly. As can be seen in Table 2, the

mean rating of the candidate for the control condition was the most favorable, with the

Table 1

Coefficients for the Main Effects and Interaction for Shame and Guilt

Source of variation	Sums of squares	*df*	Mean square	*F*	*p*	*Partial η^2*
Shame	324.56	1	324.56	21.83	<.001	0.206
Guilt	23.01	1	23.01	1.55	*n.s.*	0.018
Shame x Guilt	21.01	1	21.01	1.41	*n.s.*	0.017
Error	1248.86	84	14.87	--	--	–

Note. Type III sumes of squares used in calculation.
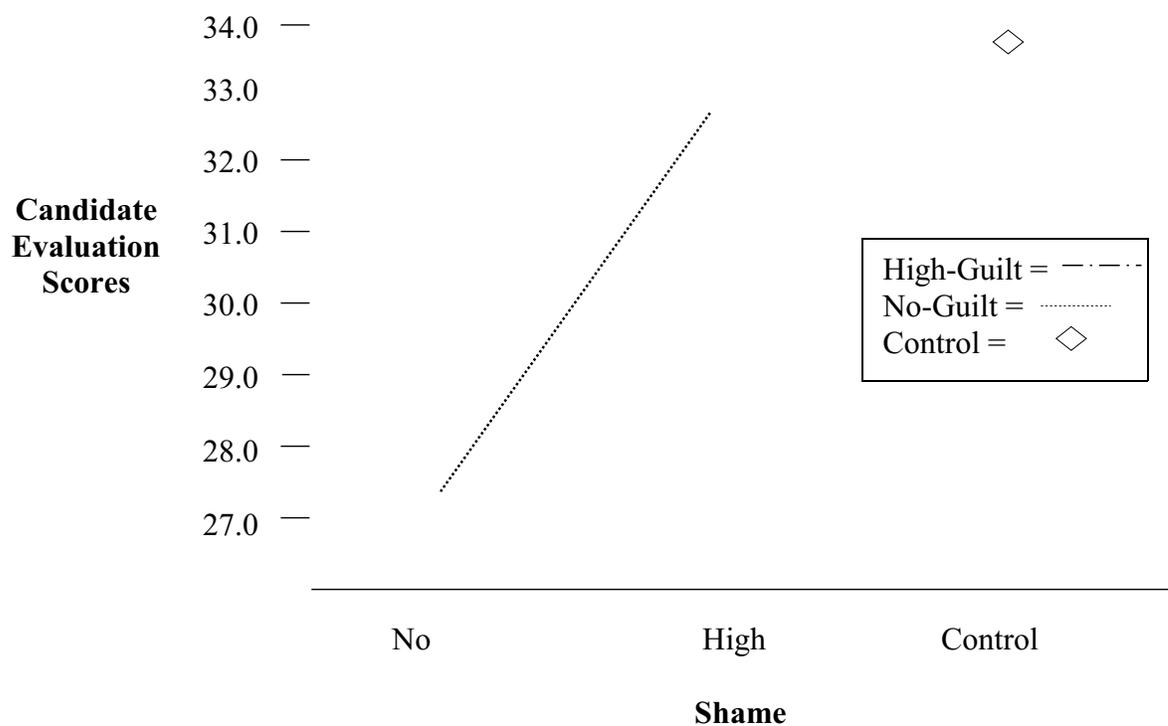
Figure 2. Plot of means.

Table 2

Descriptive Statistics for Candidate Evaluation Form Ratings for Each

Experimental Condition

Condition	Shame	Guilt	*M*	*SD*
Control	–	–	4.18$_{ab}$	0.36
	High	High	4.05$_{ab}$	0.45
	High	No	4.04$_{b}$	0.50
	No	High	3.69$_{c}$	0.41
	No	No	3.44$_{c}$	0.55

Note. $N = 22$ for each condition. Scale anchors were: 1 = *strongly disagree* to 5 = *strongly agree*. Cells sharing common subscripts do not differ significantly ($p < .01$).

average rating for the eight items being slightly above a rating of *agree*, which represents a rating of 4 on a 5-point Likert scale. This mean rating is not statistically significantly different from either high-shame conditions, as the mean rating for each item for the high-shame/high-guilt and high-shame/no-guilt conditions approximated a rating of *agree*. In comparison to both high-shame conditions, the mean ratings for each item in both no-shame conditions was less favorable (between a rating of *agree* and *neutral*). These ratings of the candidate initially support the hypothesis that the candidate would be rated more favorably when showing expressions of shame, in comparison to communications of guilt in the form of apologies.

Independent samples *t* tests were employed to determine in which condition participants rated the candidate more favorably. Select groups were compared based on a priori hypotheses about expected differences between groups. The results of these

planned comparisons using a Bonferroni correction are presented below in Table 3. As predicted in Hypothesis 2a, when looking at the comparison between high-shame/high-guilt and high-shame/no-guilt, the mean difference in ratings between groups is not significant, indicating that verbalizations of guilt did not increase the ratings of the candidate above the effect of expressions of shame. Similarly, when analyzing the mean difference between the no-shame/high-guilt and no-shame/no-guilt as stated in Hypothesis 2b, the difference is also not significant, indicating that ratings of the candidate did not significantly increase when verbalizations of guilt were provided compared to no verbalizations of guilt. Conversely, and supporting the prediction made in Hypothesis 3, when examining the comparison between high-shame/no-guilt and no-shame/high-guilt, which is the most pure comparison of the effect of shame and guilt on participants' ratings, the mean difference between groups is statistically significant. This result indicates that participants rated the candidate significantly more favorably when she only expressed shame compared to only verbalizing guilt. Finally, as a test of Hypothesis 4, the mean difference between the control group and high-shame/high-guilt and high-shame/no-guilt was not significant. This contrast involves a shift in baseline; rather than comparing to other conditions where mistakes were made, these comparisons are to the no-mistake condition. This result is interesting because participants did *not* rate the candidate more favorably when no mistakes were made compared to when three mistakes were made throughout the testing period.

Table 3

Planned Comparisons Between Conditions

Comparison	Mean difference	t	df	p	95% C.I.	Cohen's d
HS-HG by HS-NG	0.04	0.04	42	0.97	-2.29 to 2.38	0.01
HS-NG by NS-HG	2.82	2.56	42	0.01	0.59 to 5.04	0.78
NS-HG by NS-NG	2.00	1.72	42	0.09	-4.36 to 0.36	0.53
HS-HG by Control	1.05	1.06	42	0.26	-0.94 to 3.03	0.33
HS-NG by Control	1.09	1.04	42	0.31	-1.03 to 3.22	0.32

Note. HS-HG = high-shame/high-guilt; HS-NG = high-shame/no-guilt; NS-HG = no-shame/high-suilt; NS-NG = no-shame/no-guilt.

CHAPTER V

DISCUSSION

Throughout the psychological literature on emotion, a view that has become ever more prevalent is the assertion that emotions evolved and are adaptive because they assist individuals with successfully navigating the social and physical environments in which they live (Ekman, 1992; Keltner & Gross, 1999). Specifically, shame has been hypothesized to function in an interpersonal context where it serves as a warning system that our behavior or personal attributes may not be creating a positive impression in "the minds of the other" (Barrett, 1995; Cooley, 1964; Gilbert, 2007; Scheff, 1988). Similarly, guilt also has been hypothesized to serve adaptive functions, in the form of relationship maintenance, strengthening social bonds, and restoring equity in a relationship (Barrett; Baumeister et al., 1994; Tangney & Dearing, 2002). Importantly, both emotions have also been associated with negative outcomes as well: both shame and guilt have been found to be positively correlated with depression, somatization, hostility, anger, and psychoticism (Harder, 1995; Tangney & Dearing). Thus, it is unlikely that either is always adaptive or maladaptive. Part of this inconsistency could be because of biases in the operationalizations of shame and guilt in the predominantly used measure to assess these emotions, the TOSCA. Therefore, in the current study, operationalizations consistent with an evolutionary view of these emotions were used (e.g., unique nonverbal display of shame, verbalizations of guilt) to shed light on both emotions' appeasement functions after a transgression. The results of the current directly contradict the

widespread notion in the psychological literature that experiencing shame is maladaptive, whereas guilt is adaptive (Tangney & Dearing).

In the following section, the results of the present study will be discussed and evaluated in terms of how they compare to and extend findings from earlier research regarding appeasement, as well as their consistency with an evolutionary view of shame. In addition, implications for the measurement of shame and guilt will be presented; it will be argued that the currently dominant paradigm used to measure shame is not adequately assessing its appeasement function. This, in turn, casts doubt on the TOSCA being the "gold standard" for measuring shame. Finally, limitations and future research directions will be discussed.

Summary and Importance of Present Findings

Throughout the evolutionary psychology literature, multiple paradigms (e.g., social self-preservation, damage limitation, and appeasement; Gilbert, 1997; Gruenwald et al., 2007; Keltner & Harker, 1998) have been developed and converge on the assertion that shame serves adaptive functions. Similar to all these frameworks is the assumption that shame is an adaptive experience and display, because it signals to the people who are feeling ashamed that their behavior or appearance may not be eliciting positive responses from other members of their social group. Displays of shame also purportedly communicate to the group a transgressors' "submissive" (as opposed to "dominant" or "assertive") stance. These displays of submission might then weaken aggression or counter-attack from others in the social group, and have been seen in both human and nonhuman animals (de Waal, 1988).

In addition to readily inhibiting negative counter-reactions, a submissive shame display communicates the perpetrators' evaluations of their own behavior and future behaviors. Long before shame or submissiveness were framed in evolutionary terms, sociologists recognized shame's communicative value. Certain sociologists (e.g., Heise, 1979) conceptualized *all* emotions, and others (e.g., Scheff, 1988) specifically analyzed shame or submission, as salient internal feedback mechanisms *and* as external indicators to others of the self's approval or disapproval of different behaviors. Because transgressors' expressions of shame express recognition of their own failings and their negative impact on others, submissive displays such as shame essentially serve as an appeasement mechanism to restore social harmony after a transgression.

Importantly, little empirical research has been conducted investigating shame's (or guilt's) beneficial effects on the self and others in the social group. Moreover, as was reviewed above, those studies that have been conducted were found to be limited in their ability to better illuminate shame's adaptive functions. For example, many of these studies involved hypothetical incidents, in which neither the perpetrators nor the audience actually interacted. Furthermore, almost all of these studies examined *only* whether shame's presence or absence impacted others' evaluations of the perpetrators, thereby ignoring the *relative* influence of shame and guilt on others. The studies that most closely resemble the study conducted for this thesis are those of Ferguson and her associates (Ferguson et al., 2007). These studies represented important investigations of the benefits of shame *and/or* guilt across a wide variety of conditions and using multiple operationalizations of the two states. Yet these studies, like those mentioned above, also involved hypothetical or analogue situations. Although Harris (1991) argued and

presented evidence of the similarity in evidence found when using hypothetical or "real-life" situations even in research focusing on highly charged emotional events, evidence is rapidly accumulating to cast doubt on the necessary equivalence of findings based on hypothetical rather than actual involvement (Clore & Huntsinger, 2007).

Thus, in the current study, participants actively "interacted" with a female individual they believed was interviewing for a coveted researcher position. On several occasions throughout the interaction, the candidate made mistakes when administering test items or instructions; this, in turn, directly and negatively undermined the participants' performance. After each mistake, the job candidate expressed shame and guilt according to the 2 X 2 design: two shame conditions (high shame, no shame) by two guilt conditions (high guilt, no guilt). A control condition was also used to measure participants' ratings of the candidate when making no mistakes at all. The dependent measure was the Candidate Evaluation Form, which asked participants to rate the candidate on eight relevant judgments (e.g., likable, happy working with this person). The logic behind the design is that the candidate's mistakes represent transgressions based upon which participants would rate the candidate less favorably; mitigation of this negative effect in either the shame or guilt conditions would be evidence for appeasement.

It must be noted that "appeasement" is a broad term encompassing multiple outcomes, achieved through many potential underlying mechanisms that have not been fully explored in previous research on this subject. One of the prominent researchers in this area defines appeasement as "the process by which individuals placate or pacify others in situations of potential or actual conflict" (Keltner et al., 1997, p. 360). More

broadly, appeasement occurs when an individual anticipates a negative reaction by others, the individual emits some behavior, and the negative reaction is lessened or eliminated. When analyzing the current study in these terms, the mistake manipulation was introduced to garner the negative outcome (i.e., lower evaluation on Candidate Evaluation Form). In the appeasement literature, the potential negative outcomes have encompassed aggression, punishment, negative evaluations, social exclusion, and interpersonal conflict. Certainly, the items on the Candidate Evaluation Form allow for expression of any of these outcomes (e.g., aggression could be expressed through unfavorable evaluations, punishment through not recommending hiring). Because of the mistakes that are made, the candidate emits specific behaviors (i.e., shame and/or guilt). As communication of shame and guilt are the only independent variables, any observed lessening of participants' negative reactions to the candidate's mistakes can be attributed to shame and/or guilt.

Notably, there may be multiple mechanisms by which this mitigation occurs. Indeed, multiple mechanisms by which appeasement occurs have been suggested in the literature. The mechanism that links the emitted behavior to the outcome could be submission (deference), sympathy/empathy, forgiveness, or implicitly communicated information about the transgressor. The information communicated in this latter category could include the transgressor's own condemnation of their transgression, the fact that the transgression is less likely to be repeated, and that this action may not be representative of this person's true character. With few exceptions (e.g., Keltner et al., 1997), the empirical studies of appeasement have not investigated the underlying mechanisms leading to mitigation. The current study is no different; the goal of the

present study was not to delineate the exact mechanism by which shame achieves appeasement, in part, because shame is believed to operate through all of these mechanisms.

Interpretation of Findings

Before specific hypotheses will be addressed, it is important to point out that the paradigm used for this study did in fact lead to negative evaluations of the candidate. Had this not been the case, there would be no negative effect for shame and/or guilt to mitigate. Indeed, the manipulation showed a significant effect, as the no-shame/no-guilt group, in which mistakes were made by the candidate, was evaluated much lower than the control condition, in which no mistakes were made (i.e., a mean difference of 5.9), with a large effect size of 1.59 (Cohen, 1988). Participants also received the opportunity to provide open-ended comments while completing the Candidate Evaluation Form. These comments have not yet been exhaustively content analyzed or assessed for the reliability of coding. Yet, informal inspection of the comments revealed a consistent and qualitatively different thrust to them as a function of the condition to which participants had been randomly assigned. Several participants' comments are quoted in this Discussion as anecdotal evidence of the effects that participants' experiences in each condition had on them. Quotes are included *only* when a participant's open-ended comment seemed representative of those offered by his or his experimental condition "cohorts." The difference between the control and no-shame/no-guilt conditions is evident in the following two quotes. A participant in the control condition exclaimed that, "The candidate seemed to be quite a friendly person, and she seemed sincerely

interested in the study," while in contrast, a participant in the no-shame/no-guilt group commented that, "I did not know if I would trust her for a job."

It was hypothesized that there would be a main effect for shame (Hypothesis 1) for participants' evaluations of the candidate, such that they would evaluate the candidate more favorably when shame was expressed than when it was not expressed. Hypothesis 1 was based on the rationale that unique nonverbal displays of shame communicate several messages to participants, namely that the research candidate was aware of her multiple mistakes during the interview, felt bad about them, and that she was sincerely sorry and regretful for any impact those mistakes may have had on the participants' scores. If shame communicated these messages, it should appease participants, leading them to offer less unfavorable, or more favorable, reactions to the candidate.

Results of the present investigation revealed a main effect for the shame manipulation, and the form of this main effect strongly supported Hypothesis 1. Participants rated the research candidate significantly more positively on the eight items comprising the Candidate Evaluation Form when she expressed shame than when she did not. One participant in the high-shame/no-guilt condition eloquently described the positive effects of the nonverbal shame display, writing, "She messed up a few times but was calm, regrouped, and carried on. I think it is mostly nerves. She spoke clearly and slowly the rest of the time. People make mistakes, but I wouldn't hold that against her." From this statement, it is clear that the participant was not angry or upset with the candidate or her poor performance, but rather was forgiving and willing to excuse her mistakes. This participant observation can be contrasted with another participant's statement who had taken part in the no-shame/high-guilt condition. In this participant's

words "She should be more convincing when saying she made a mistake." Although the candidate did indeed apologize multiple times for her mistakes, it is clear that these attempts at reparation were far less believable without the nonverbal display of shame.

As stated in Hypothesis 2, it was predicted that there would be a Shame X Guilt interaction. The first component of this interaction (Hypothesis 2a) was that communication of guilt would not make an independent, positive contribution above that contributed by the shame display. The second component was that guilt would significantly contribute to positive candidate ratings above a response consisting of neither shame nor guilt (Hypothesis 2b). In the present study, this hypothesis was not supported, because although guilt did not uniquely contribute to favorable candidate ratings above the shame response, it also did not significantly add to positive ratings compared to the no-shame/no-guilt response.

According to Hypothesis 2a, verbalizing guilt--long with unique nonverbal displays of shame--would *not* contribute to positive ratings of the candidate. In support of Hypothesis 2a, the candidate was *not* rated significantly more favorably when the candidate nonverbally expressed shame and also verbalized guilt compared to the condition in which the candidate nonverbally expressed shame without an accompanying guilt verbalization. As documented earlier, the study possessed ample power for this effect to have been declared statistically significant. Not only was this main effect for guilt not statistically significant, but the standardized mean difference of this contrast's effect size was only .01, which is a small effect size according to Cohen (1988). Orally apologizing simply did not explain any additional variance above and beyond a nonverbal expression of shame. Unlike the appeasement difference produced by shame's

presence or absence, the lack of an effect for verbalizations of guilt suggests that guilt's presence does not strike its recipients as serving a sufficiently salient appeasement function. Again, the similarity of sample quotes from participants in these two conditions can be used to exemplify this result. One participant in the high-shame/high-guilt condition noted that "I think this candidate is sincere and intelligent, even though she messed up a few times." Similarly, a participant in the high-shame/no-guilt condition commented that, "Few mistakes were made but she was quick to correct them. Very friendly and tried to work her best without the microphone."

In Hypothesis 3, it was stated that participants would rate the candidate more favorably in the high-shame/no-guilt condition compared to the no-shame/high-guilt condition. This hypothesis also received support, as the candidate was again rated more favorably in the "pure shame" condition, compared to the "pure guilt" condition. Interestingly, when comparing pure shame to the no-shame/no-guilt condition, the standardized mean difference effect size was 1.14, which according to Cohen (1988) is a large effect size. Importantly, this effect size is actually more than twice the value of the effect size when comparing pure guilt and no-shame/no-guilt. Thus, the shame display was much more effective in mitigating negative evaluations than a verbalization of guilt.

Finally, Hypothesis 4 stated ratings of the candidate who expressed shame would be comparable to candidate ratings in the control condition in which the candidate had flawlessly delivered all of the task instructions. Importantly, this hypothesis involves a shift in baseline; rather than comparing to other conditions where mistakes were made, these comparisons are to the no-mistake condition. Thus, what is being explored is not how much more favorably the candidate would be rated over other mistake-present

conditions, but rather the degree to which shame would mitigate unfavorable ratings in contrast to the no-mistake baseline. In support of this hypothesis, there were no significant differences between candidate ratings in the control condition compared with either condition in which the candidate nonverbally expressed shame. Thus, although the candidate made three blatant mistakes throughout the experimental session, expressing shame nonverbally seemed to have alleviated negative impressions of the candidate, and to have repaired any damage done to the, albeit brief, relationship between the candidate and the participant.

These results bolster previous findings, deriving either from evolutionary and similar sociological analyses of shame's hypothesized functions. Authors who have conceptualized shame through the lens of evolution argue for shame's benefits by stressing its role in social self-preservation, limiting damage to one's reputation or status in the group, or its functions as an appeasement mechanism. Although these authors employ distinct terminology to characterize shame's benefits, they all seem to stress that shame's expression increases fitness by helping individuals maintain or strengthen social relationships, by motivating individuals to act in accordance with valued group norms, by encouraging individuals to adopt and act on those norms as valued social traits or personality characteristics, and thereby encouraging people to evaluate their very social selves in terms of whether behavior is or is not consistent with internalized conceptions of a positive social self. Keltner and colleagues (1997) cogently stated that shame functions in situations of perceived or actual conflict that are social in nature and "leads to social reconciliation by signaling the individual's commitment to the social norms and

by evoking emotions that increase cooperation (e.g., sympathy, forgiveness) and reduce aggression (p. 363).

This evolutionary view of shame's functions also rings true of the views of shame espoused by various sociologists (Savitsky & Sim, 1974; Scheff, 1988; Tsoudis & Smith-Lovin, 1998). These individuals similarly stress that shame serves various appeasement-related functions, such as communicating that their transgression is not typical of their normal behavior and/or should not be expected to reoccur in the future. Thus, the individual is communicating, albeit implicitly, to not be rejected or denigrated by the group. An interesting quote from the sociologist Scheff exemplifies the similarities between those viewing shame from an evolutionary lens and those from a more sociologically oriented stance. Scheff exclaims that "shame is *the* (italics in original) social emotion, arising as it does out of the monitoring of one's own actions by viewing one's self from the standpoint of others" (p. 398). The main difference between evolutionarily based views and those of the sociologists is that the former trace shame's functions much farther back in our ancestral heritage to shame becoming adaptive around the same time that life-and-death matters revolving around cooperation and competition in or between small social groups arose.

The findings of the current study supported these assertions regarding the functions of shame. In the present study, participants who were "interacting" with a research candidate were given the opportunity to rate the candidate on various personality and work-related attributes, which were inherently social in nature. Although the candidate made multiple mistakes that could have a negative impact on the participants, those participants who viewed the candidate showing a shame response after

committing those mistakes rated the candidate significantly more favorably. Thus, in terms of an evolutionary view of shame, unfavorable impressions of the candidate were mitigated when the candidate showed a shame response, thus eliciting forgiveness, reducing aggression (i.e., in the form of more favorable candidate evaluation ratings), and thus maintaining a positive social self.

Furthermore, when mistakes were made but only verbalizations of guilt were communicated, candidate ratings were significantly less positive. This finding rendered support for the assumption that it is not just verbally communicating regret that is important, but rather it is the evolved *submissive* display that is essential to limit damage done to the social relationship. Finally, participants did not rate the candidate significantly differently on either the personality or work-related attributes when the candidate made mistakes and showed shame, compared to making no mistakes at all. Out of all of the supported hypotheses in this study, this evidence possibly provided the strongest support for shame functioning as an appeasement mechanism. This is because although the candidate made multiple mistakes, showing shame allowed the candidate to maintain a positive image and be perceived as equally "likable," "conscientious," "sincere," "friendly," someone whom participants would be "happy to work with," and someone who would be "a positive contribution to USU" (see also Appendix B), compared with when the candidate made no mistakes at all.

<div align="center">Implications for Methodology Used to

Measure Shame and Guilt</div>

The results of the current study are important, not only because they support an

evolutionary view of shame as being adaptive, but because the methodology used improves on past studies that investigated shame as an appeasement mechanism. As was previously discussed, although multiple studies have been conducted on shame as an appeasement mechanism, no studies to date have tested this assumption by operationalizing shame through its reliably identifiable expression during what was believed to be an actual live, *interpersonal* interaction. If shame serves its adaptive functions in social interactions, it is essential to test this assumption in a social context where actual damage is done to the social relationship, and a shame expression is used to communicate regret or apology. This investigation improved on previous research by doing just that; participants were interacting live with an individual who made multiple mistakes that had a negative impact on participants' scores on various tests, and a shame expression was used to alleviate negative impressions of the candidate because of those mistakes. To accurately capture shame's adaptive functions in an ecologically valid manner, it was essential to investigate shame in the context in which shame actually functioned.

Not only does the current study have implications in terms of methodology used to investigate the adaptive functions of shame, but these findings have a strong implication for the use of self-report measures, in particular the TOSCA, for measuring shame and guilt. To begin, as was mentioned previously, researchers using the TOSCA have generally concluded that shame is maladaptive, while guilt is adaptive (see Tangney & Dearing, 2002 for a review). However, it is essential for researchers to be cognizant of the distinction between measures that assess *trait* emotions and those that assess *state* emotions; a point that is important in terms of the results of the current study. The

TOSCA was created with the intention of measuring shame and guilt proneness, thus measuring these emotions as traits (Tangney, 1996). Conversely, many researchers who assert that shame and guilt are adaptive are drawing those conclusions based on the assumption that shame and guilt are adaptive when functioning as states, or as traits when experienced at appropriate times/places/levels. The problem arises when researchers using the TOSCA (which has been found to have serious construct validity problems) generalize conclusions made regarding shame and guilt as traits to conclusions about these emotions as states, as is commonly done (e.g., Dearing et al., 2005; Stoeber, Harris, & Moon, 2006; Tangney & Dearing, 2002; Webb, Heisler, Call, Chickering, & Colburn, 2007). This overgeneralization is problematic because inappropriate conclusions regarding shame and guilt drawn from the TOSCA are not only generalized to these emotions as traits, but also as states. Thus, the contradiction in the literature regarding shame's adaptive versus maladaptive nature could be due to this overgeneralization of questionable findings. The current study sheds light on the importance of this issue: shame and guilt were operationalized as brief states, rather than prolonged traits as operationalized in the TOSCA, and it was found that shame was, indeed, adaptive when operationalized as such.

Being cognizant of the important distinction between state and trait emotions is not only important because results could be inappropriately generalized, but this issue also speaks to the importance of construct validity in psychological measures. As was discussed at length in Chapter II, the TOSCA has been criticized by various researchers because shame is operationalized a priori as maladaptive feelings, while guilt is operationalized as adaptive behaviors (Elison, 2002, 2003a; Ferguson et al., 2007;

Ferguson & Stegge, 1998; Luyten et al., 2002). From a methodological standpoint, in order to accurately assess shame and guilt's qualities, both emotions should be operationalized similarly, in such a manner that positive and negative qualities of both emotions are assessed. The TOSCA fails to measure the constructs of shame or guilt in their entirety, thus it is no surprise that conclusions have been drawn that guilt is adaptive and shame is maladaptive when they are operationalized as such. The results of the current study have implications for this problem. When shame is operationalized through an evolutionary lens (i.e., nonverbal behavior), rather than a priori as adaptive or maladaptive, the conclusions drawn regarding these emotions are strikingly different. In support of an evolutionary view of emotions, the data instead reveals shame as adaptive, and actually the more adaptive emotional response to social transgressions. This finding bolsters the multiple criticisms of the TOSCA regarding its biased operationalizations, and maintains the view that widespread use of the TOSCA to measure shame and guilt should be limited.

Finally, although the current study does not use the statistical technique partialing, the results of the current study have implications for the use of partialing with the TOSCA. Because these results indicate the TOSCA does not assess shame and guilt in their entireties, this flaw in construct validity represents systematic error. Given that the nature of the error is not consistent between the TOSCA shame scale and the TOSCA guilt scale, partialing is likely to exacerbate these problems inherent in the TOSCA. In effect, partialing magnifies systematic error (Elison et al., 2007, 2008). Biased operationalizations of shame and guilt have contributed to the inaccurate conclusion that

shame is maladaptive and guilt is adaptive. Most studies that employ the TOSCA also employ partialing, thus, contributing to this skewed conclusion.

Results of this study combined with those of previous studies raise concerns regarding whether the TOSCA validly measures shame or guilt. In previous investigations using the TOSCA, guilt expressions have been found to be associated with attributes that promote healthy interpersonal relationships (e.g., empathy). In contrast, Tangney and her associates (2002) adamantly claim that shame expressions do little to repair interpersonal damage. According to studies using the TOSCA, moreover, consistent expressions of shame actually appear to undermine the welfare of interpersonal relationships. These findings directly contradict the results of the current study, which showed that guilt actually played *no* role in appeasing respondents who were negatively impacted by the candidate's performance. In fact, it was only shame's expressions that undid the interpersonal damage.

The strong contrast between these sets of results leads one to ask just what the TOSCA actually *is* measuring. The TOSCA's guilt items focus on immediate reparative behaviors and apologies that lessen threats to the relationship, as discussed in Chapter II (Elison, 2002, 2003a; Ferguson et al., 2007; Ferguson & Stegge, 1998; Luyten et al., 2002). Strong endorsements of the TOSCA's "guilt" items allow individuals to make a good impression (e.g., that one is likely to quickly repair the damage), because these endorsements imply a desire to mend the damage to the relationship. In contrast to the TOSCA's guilt items, Elison and colleagues (2007, 2008) have found that the TOSCA's shame items are *not* statistically associated with impression management tendencies. It is clear from the TOSCA shame items that they focus on maladaptive, self-oriented

responses (i.e., "You would feel incompetent"), which is less likely to make a good impression on others. As Ferguson and Crowley (1994) emphasize, the TOSCA shame responses are actually inappropriate to the provided scenario, whereas the guilt responses are far more appropriate responses to these transgressions.

In addition to concerns regarding the TOSCA's impression management biases, Kugler and Jones (1992) have hypothesized that the TOSCA guilt scale measures people's awareness of appropriate interpersonal moral standards. Rather than assessing an individuals' likelihood of *feeling guilty*, the TOSCA guilt items instead measures participants' knowledge of moral standards and proper behavior (i.e., "You'd think you should make it up to your friend as soon as possible"). Importantly, that awareness and endorsement of morally appropriate conduct would, in turn, allow the individual to make a good impression, as emphasized above. Because of this focus, it is not surprising that the TOSCA guilt scale is positively associated with adaptive outcomes. In stark contrast, the TOSCA's shame items do not convey people's awareness of interpersonal moral standards. The focus instead is on selfish concerns and intrapunative responses that neglect the welfare of the individual harmed by the behavior (i.e., "You would keep quiet and avoid the coworker"). Because the shame items convey little concern for others' welfare, individuals who strongly endorse them are unlikely to be engaged in impression management strategies. It is, therefore, not surprising that the TOSCA shame measure is positively associated with many negative outcomes (e.g., depression, emotional instability, lack of sympathy/empathy). In all, it seems that the TOSCA is measuring adaptive or appropriate guilt responses in two senses, the first reflecting people's knowledge of what makes a good impression on others, and the second involving their

moral awareness. On the other hand, the TOSCA seems to assess "maladaptive shame" because shame is operationalized as an undesirable response that further neglects the importance of moral standards.

<div align="center">Limitations and Future Research Directions</div>

Although the current study builds upon previous evidence supporting the appeasement function of shame, the present study did have some limitations. One possible limitation is that participants were not directly questioned about whether they were aware of the manipulation of shame and/or guilt. Importantly, although a manipulation check was not used, various sources of evidence exist supporting the assumption that shame and/or guilt was, indeed, accurately displayed, and that participants were aware of the communication of these emotions by the research candidate.

To begin, shame and/or guilt was communicated after each mistake was made, and also during a final closing statement made by the research candidate. Thus, these emotions were communicated at four separate occasions throughout the 20-minute testing session, for a total of approximately 10 seconds. Although a display of a total of 10 seconds may seem brief, Tomkins (1964) and Ekman (1992) asserted that natural, nonverbal communication of emotions is, indeed, brief and short-lasting. Furthermore, each display of shame consisted of the empirically supported action units for shame. As was discussed in the literature review, a nonverbal display of shame consists of head and gaze downward movements, which are the action units 54 and 64 of Ekman and Friesen's (1978) Facial Action Coding System (FACS). Each display of shame in both shame

conditions consisted of these, and only these, action units. As was also emphasized in the literature review, there is no distinct nonverbal display for guilt, thus, guilt was communicated via verbalizations of apology and reparation, as is common in the emotion literature (see Tangney & Dearing, 2002). Moreover, before shame and/or guilt was even communicated, the research candidate made a statement such as, "Oh wait, hold on a second," in order to direct the participants' attention to the screen. Thus, participants were given ample time to change attention from their testing materials to the research candidate's emotional display.

Lastly, evidence of a more qualitative nature in the form of open-ended responses provided by participants on the Candidate Evaluation Form supported the assertion that shame and/or guilt was, indeed, manipulated in the current study. For example, various statements were provided in both High Shame conditions indicating that participants were aware of the candidate expressing shame. For example, "The candidate spoke clearly and made good eye contact. The candidate made me feel comfortable," or "Everyone makes mistakes, but it's what someone does to try and fix that mistake that really counts." These statements can be contrasted to comments from participants in the no-shame/high-guilt condition, such as "The candidate misread instructions twice. I don't feel as if she was prepared, but she was sorry about it," or "She seems unprepared to give me the test and very bland in her first impression." Lastly, just as participants rated the candidate the least favorable in the no-shame/no-guilt condition, many participant statements were similarly the most negative for this condition. For example, one participant wrote "She did not seem cheerful or caring," and another participant commented "This candidate seemed very impersonal even for it being one-way

communication through your TV set up. She just seemed like she was going through the motions." To conclude, although a manipulation check was not used, evidence does exist to support the assertion that shame and/or guilt was, indeed, communicated and received by the participants.

A related concern is the natural confound between operationalizing shame as an emotional display and guilt as verbalizations. In other words, was it shame *per se* that had the effect, or was it just any display of emotion that contributed to positive ratings of the candidate. This is a natural confound, because as explained above and in the literature review, there is no distinct nonverbal display for guilt. Thus, completely reconciling this confound may not be possible. However, a direction for future research would be to use various other negative emotional displays such as anger, disgust, sadness, or fear to determine if it was the emotional expression or uniquely shame that contributed to positive ratings.

It is clear from the data that the shame manipulation had a large effect on participants' ratings of the candidate, while guilt did not. This finding was inconsistent with the interpretation that shame strengthens the impact of guilt by rendering guilt to be perceived as more sincere. These results instead were clearly consistent with the hypothesized appeasement functions of shame. What was not completely clear was whether the more favorable candidate ratings truly represented "appeasement." Unfortunately, any such judgment depends on one's definition of appeasement, of which there are many. Various outcomes that have been used in the literature include reduced aggression/punishment, lessened interpersonal conflict, more positive evaluations, and avoidance of social exclusion. Indeed, the items on the Candidate Evaluation Form

capture all of these outcomes. A potential limitation is that the various appeasement-related outcomes were not evaluated distinctly from one another, but rather were aggregated as a composite measure of the effect of shame and/or guilt on participants' impressions. A related objection could be that participants may have rated the candidate favorably over these eight items, but still have evaluated them as objectively less competent. Following Semin and Manstead (1982), it was anticipated that in the current study, shame's appeasement function would manifest in multiple domains/outcomes. Thus, items used in the dependent measure were intentionally designed to capture work- and personality-related attributes. Perhaps, various outcomes have been used to operationalize appeasement because it does, indeed, operate to reduce multiple classes of negative outcomes. A direction for future research could be to investigate these multiple outcomes separately, possibly by way of multiple dependent measures (e.g., state measure of aggression, anger, sympathy, social exclusion via peer nominations).

A further concern that could be raised is the nature of the underlying mechanism in which appeasement operates. The conclusion in the present study is that shame as operationalized via its unique nonverbal display served to appease the participants. However, if what was observed was appeasement, shame could have achieved this through different underlying mechanisms. As was discussed above, the mechanism that links the mistakes made by the candidate to the favorable ratings of the candidate could be due to multiple shame-related mechanisms such as submission, sympathy/empathy, or forgiveness. To elaborate, participants could have rated the research candidate more favorably in both high-shame conditions because the candidate's nonverbal display of shame conveyed their emotional pain. Their perception of emotional pain, in turn, could

have elicited sympathy (i.e., sorry for the candidate) or empathy (i.e., to help boost the candidate's self-perception) toward the candidate, thus achieving appeasement. Rather than viewing these mechanisms as distinct from shame, they can be considered parallel paths by which shame operates to lessen negative reactions from others. Disentangling these mechanisms could be viewed as a limitation in the current study, but because shame is believed to operate through multiple mechanisms, it is likely that multiple mechanisms were responsible for the observed effect. A direction for further research could be to contrast these mechanisms separately to determine the validity and impact of each.

Distinct from the objections of the previous paragraph are alternate mechanisms that represent truly rival hypotheses. In other words, neither shame nor the perception of shame was responsible for the present findings. These alternative mechanisms could include sympathy (unrelated to the perception of shame), self-deception, or impression management. To elaborate, sympathy in response to general distress on the part of the candidate could be hypothesized as the mechanism by which negative responses were mitigated. For example, the participant could have just responded to what was perceived as sadness, worry, or general negative affect on the part of the candidate, thus rating the candidate more favorably. In this case, the more favorable ratings could represent true appeasement or simply kindness, meaning they still believed the candidate to be incompetent. As described above, careful measures in the operationalization of shame (FACS coding) were taken to maximize the accurate conveyance of shame, thus not to be confused with other negative emotional displays such as sadness. The facial display studies described above in the Literature Review demonstrate that people reliably

identify a static shame display at an explicit level (i.e., forced choice). Bolstering the validity of this study, the shame display was dynamic, and for shame to achieve its appeasement function, it does not require explicit identification.

Two rival hypotheses mentioned above are related: impression management and self-deception. Due to the nature of the current study, both of these mechanisms are less likely to operate here, in contrast to studies using hypothetical vignettes. For instance, in terms of impression management, it could be supposed that participants rated the candidate more favorably simply to make themselves appear more empathetic or forgiving. However, participants had no reason to believe that anyone else knew the candidate had, indeed, made mistakes, or that they would ever meet the candidate face-to-face. In terms of self-deception, participants could want to view themselves as a forgiving, empathetic person, thus they unconsciously rated the participant more favorably. Similarly, the participant could unconsciously want to avoid experiencing shame because of *not* being sympathetic to the candidate's response, thus again rating the candidate favorably. Even if these latter two mechanisms were at play, one can argue that shame was still achieving its appeasement function. For example, as was argued above regarding true sympathy, if a shame display elicits a true emotional response in the participant in the form of shame avoidance, which in turn results in favorable ratings of the candidate, appeasement is still achieved.

A further limitation of the current study is that the appeasement function of shame was only studied with a female research candidate. Support has been found for gender differences in the display rules of emotions (Mosher & Tomkins, 1988), the effect an emotional display may have on the receiver (Mosher & Tomkins), and gender differences

in eliciting conditions (Ferguson & Eyre, 2000; Lewis, 1979). Thus, differences in the favorable ratings of the candidate could possibly have been found if participants were exposed to a male, rather than a female, research candidate. Although this argument could be made, many studies providing evidence for the appeasement function of shame have investigated shame with a male, rather than a female transgressor (Masters, 1988; Robinson & Smith-Lovin, 1999; Semin & Manstead, 1982; Tsoudis & Smith-Lovin, 1998). Thus, in these studies it appears as though support for shame as an appeasement mechanism generalizes across gender.

Furthermore, questions could be raised regarding how the findings of the present study generalize across different situations. Although the current study only investigated shame and guilt in the context of one specific achievement paradigm, it is likely that the results will generalize beyond this situation. Shame functioning as an appeasement mechanism has been explored and supported in a variety of different contexts ranging from mild to more severe mistakes or transgressions (e.g., knocking over a store display, mock jury trials, political campaigns). Thus, it seems as though the results of the current study are not restricted, but rather broaden the findings of other researchers. Furthermore, extending the point made by Semin and Manstead (1982), there are social transgressions or qualities of oneself that evoke shame, but for which restitution may be impossible (e.g., tripping or stupidity) and a communication of guilt inappropriate. Therefore, a nonverbal shame or embarrassment display may be an individuals' only recourse to mitigate negative evaluations. Thus, a nonverbal shame display may function in a broader range of contexts and situations than that explored in the current study, and those in which guilt may be able to function.

Finally, as is typical of most experimental studies, the influence of participant characteristics, such as their religious affiliation, was not investigated. In the current study, 90% of the participants self-identified as being a member of The Church of Jesus Christ of Latter-day Saints. A relevant question is the extent to which this degree of religious homogeneity impacted tests of the hypotheses. For example, the results' generalizability might thus be reduced because of religious individuals' tendencies to engage in certain impression management tactics. If true, participants in this study may have reacted very sympathetically because their religion dictates a forgiving attitude. Based on this example, one might argue that obtaining results favorable to this study's hypotheses was biased by the sample's religious composition. This potential limitation needs to be viewed in light of the similarity of results obtained in this study and those found in several other studies using diverse samples (Keltner et al., 1997; Lazowski, 1988; Savitsky & Sim, 1974; Tsoudis & Smith-Lovin, 1998). Nonetheless, because of the obvious relevance of guilt and shame to many religions, it would be interesting to explore whether the appeasement-related effects are stronger in highly religious groups than in nonreligious ones.

The above-reviewed limitations can be used to stimulate further research. The current study fits neatly with a series of empirical studies performed by multiple researchers exploring multiple domains, antecedents, and outcomes. In light of the mounting evidence for shame's appeasement functions, three important directions for future research are: (a) exploring the specific mechanisms by which appeasement operates; (b) explore the temporal unfolding of the appeasement process; and (c) investigating the correlations between the specific domains, mechanisms, and outcomes

associated with appeasement. To elaborate, one could explicitly test the sympathy

mechanism (Keltner et al., 1997), by including a manipulation check of sympathy, in

contrast to other rival mechanisms. To explore the temporal unfolding, one could use

repeated measures designs testing, for example, temporal changes in outcomes and

process variables. More specifically, in the current study, sympathy levels and

evaluations could have been measured before a mistake, after a mistake, and after an

apology, with the expectation that ratings would be highest at time 1 and time 3. Lastly,

one could assess the relative likelihoods of specific outcomes being affected by specific

mechanisms in response to a given domain. For example, in relationships of unequal

power, a submissive display by a subordinate may placate a superior, while at the same

time, the superior delights in the subordinate's pain (i.e., superior feels no sympathy for

the subordinate). Taken together, these three avenues of research present a virtual

goldmine of research possibilities.

   In summary, the present investigation strongly supported the view that shame,

when operationalized through an evolutionary view as stated, is adaptive and essential to

positive human functioning in the social environment. Importantly, these findings

directly contradicted the wide-held assumption based on studies using the TOSCA that

"guilt is especially likely to 'take a turn for the worse' when it becomes fused with

shame" (Tangney & Dearing, 2002, p. 45). Rather, shame alone can serve a fundamental

appeasement function in social relationships by mitigating unfavorable responses after a

transgression. Because these findings fly in the face of the currently held view that

shame is the dark, less moral emotion, in contrast to guilt ("the moral emotion of

choice"), widespread use of the TOSCA should be limited. Neither emotion is uniformly

adaptive or maladaptive, but it appears that--in the moment--the nonverbal shame

response is crucial to sincerely convey regret or apology after a mistake or transgression.

Apparently, saying "sorry" is not quite enough.

Footnotes:

[1]Data were originally collected from 125 students, but after debriefing each participant,

data from 15 students were excluded because these participants recognized the deception.

[2]A Varimax rotation was also performed, but the Promax rotation produced simple

structure. The proportion of loadings in the hyperplane (i.e., between plus and minus

0.10) equaled zero for the Varimax rotation, and was 19% for the Promax rotation with

Kappa = 4.

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APPENDICES

Appendix A:

Table A1

Table A1

Investigations of Shame and Its Correlates

Study	*n*	Population	Assessment instrument	Dependent measure	Effect size
Murray et al., 2007	176	College	SSGS	SC	-.02
				HRS	.08
				GA	.300***
Webb et al., 2007	280	College	TOSCA	Depression	.42***
				Isolation	.26***
				Rejection	.24***
				Neglect	.19***
Baldwin et al., 2006	190	College	TOSCA	GSE	-.29***
				SSE	-.18**
Grabhorn et al., 2006	120	Clinical with eating disorder	ISS	Social anxiety	.96***
Pineles et al., 2006	156	College	TOSCA	PS	.23**
				PTSC	.32***
				Somatization	.30**
				SC	.38**
Stoeber et al., 2006	121	College	TOSCA	Perfectionism	.48***
Dearing et al., 2005	235	College	TOSCA	Alcohol use	.21**
				Drug use	.06
	249	College	TOSCA	Alcohol use	.06
				Drug use	.02
	332	Inmates	TOSCA-SD	Alcohol use	.12**
				Drug use	.21***
Abe, 2004	97	College	TOSCA	Emotional instability	.24*
			DES	Emotional instability	.31***
Covert et al., 2003	233	College	TOSCA	IPS	-.05
				Self-efficacy	-.18**
				OES	-.27***
				OEO	-.07
Leskela et al., 2002	107	POWs	TOSCA	PTSD	.28***

(*table continues*)

Study	*n*	Population	Assessment instrument	Dependent measure	Effect size
Luyten et al., 2002	870	Adults	TOSCA	Depression	.32***
				Externalizing	.28***
				Anxiety	.35***
				Anger	.16***

Note. TOSCA = Test of Self Conscious Affect; TOSCA-SD = Test of Self Conscious Affect for Socially Deviant groups; ISS = Internalized Shame Scale; SSGS = State Shame and Guilt Scale; DES = Differential Emotion Scale; GSE = General Self-Efficacy; SSE = Social-Self Efficacy; SC = Spiritual Connectedness; HRS = High-Risk Sex; GA = Good Alienation; PS = Psychological Symptoms; PTSD = Post Traumatic Stress Disorder; SC = Self-Concealment; IPS = Interpersonal Problem Solving; OES = Outcome Expectancy for Self; and OEO = Outcome Expectancy for Others. Effect size is expressed as Pearson correlations.

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

Appendix B:

Candidate Evaluation Form

(For Office Use Only)

<div align="center">
Candidate Name:
H. R. File Number:
Date of Interview:
</div>

....

Candidate Evaluation Form

Directions: Below is a list of statements regarding your evaluation of the research candidate that administered the tests to you. Please use the scale below and rate how much you agree or disagree with each statement. Read each statement carefully and circle the number you feel most closely resembles your opinion of the candidate.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1 2 3 4 5   1. I believe this person is hardworking.

1 2 3 4 5   2. I found this person to be likable.

1 2 3 4 5   3. I would hire this person for the position.

1 2 3 4 5   4. I think this person is conscientious.

1 2 3 4 5   5. I feel this person is sincere.

1 2 3 4 5   6. I feel this person would be effective at performing their job.

1 2 3 4 5   7. I would be happy working with this person.

1 2 3 4 5   8. I found this person to be friendly.

1 2 3 4 5   9. I feel this person would be a positive contribution to U.S.U.

1 2 3 4 5   10. I think this person is responsible.

1 2 3 4 5   11. I feel this person is helpful.

1 2 3 4 5   12. I feel this person is intelligent.

Additional Comments: _____

_____

Appendix C:

Thesis Script

Thesis Script

USU Researcher:

You have been asked to participate in a study being conducted by the USU psychology

department. In this study, we are assessing the relationship between personality and

certain aspects of intelligence. You will be asked to complete one personality test and 3

intelligence tests. A unique aspect of this study is that it is being conducted online via a

webcam. It is necessary for us to conduct this study online because the actual people

administering the study are not located in Utah, but at various universities across the U.S.

The individuals administering the tests are actually applying for a coveted researcher

position here at USU, and they are administering the tests as part of the

"practical/applied" aspect of the interview. Not only will you be participating in the

study by completing the personality and intelligence tests, but you will also be evaluating

the effectiveness of the research candidates. The candidates have already completed the

self-report paper and pencil portion of the interview, and the person administering the

tests to you is one of the 20 candidates that have made it to this final portion of their

interview. Because we are not equipped with a web camera at the psychology

department here at USU, you will be able to see and hear the research candidate, but they

will not be able to see or hear you. Because they cannot see or hear you, it is very

important that you pay close attention to the instructions given by the research candidate

for each test. Once you have completed the tests, you will be given a short questionnaire

to give your opinion about the research candidate. The position these candidates is

applying for is very desirable, and the professors here really care about your judgments,

so please take your ratings of the candidate seriously. The entire testing session should

only last about 25-30 minutes. Just sit tight after the testing is completed, and I will

come in and gather your testing materials. Do you have any questions?

Appendix D:

Participant Testing Materials

Research Candidate: Hi, my name is **INSERT NAME**, and as part of my interview,

I will be administering the 4 tests to you. The testing period should only last about 25

minutes, and when we are done, the researcher at U.S.U. will come in and give you any

further instruction. Record all of your answers on the answer sheets provided. Let's get

started.

<u>Test 1- Digit Span</u>

Research Candidate: (Read the instructions to the digit span test, but forget to tell the

participant to write the numbers backwards). After reading and having the participants

write 3 strings of numbers, the research candidate will say:

- o **High Shame/High Guilt:** (With brief gaze aversion and head down) "I messed up. I didn't read all of the instructions. After I read you the numbers, you are supposed to write the string of numbers down *backwards*. I'm sorry, but we will have to start over."
- o **High Shame/No Guilt:** (With brief gaze aversion and head down) "I messed up. I didn't read all of the instructions. After I read you the numbers, you are supposed to write the string of numbers down *backwards*. We will have to start over."
- o **No Shame/High Guilt:** (With NO gaze aversion or head down) "That's wrong. I didn't read all of the instructions. After I read you the numbers, you are supposed to write the string of numbers down *backwards*. I'm sorry, but we will have to start over."
- o **No Shame/No Guilt:** (With NO gaze aversion or head down) "That's wrong. I didn't read all of the instructions. After I read you the numbers, you are supposed to write the string of numbers down *backwards*. We will have to start over."

*** Start over again, and have the participants complete 6 strings of numbers***

Test 2- Word Recall

Research Candidate: (Read the instructions for the word recall.) After reading through

all of the instructions and the participant begins to write down words they have

remembered, the research candidate will realize that he has read the wrong list of words

and say:

- o **High Shame/High Guilt:** (With brief gaze aversion and head down) "I really apologize, but I read the wrong list of words."
- o **High Shame/No Guilt:** (With brief gaze aversion and head down) "I read the wrong list of words."
- o **No Shame/High Guilt:** (With NO gaze aversion or head down) "I really apologize, but I read the wrong list of words.
- o **No Shame/No Guilt:** (With NO gaze aversion or head down) "I read the wrong list of words."

Test 3- Color Code Personality Test ****NO RESEARCHER MISTAKE****

Test 4- Verbal IQ Test

Research Candidate: (Researcher reads the instructions, and then the multiple choice

items for the test, while the participant marks down their response on a response sheet.

On the 3rd item, the researcher will make a mistake.) Researcher will read the 3rd item

question, with the 3 of the 4th item responses. They will then realize that they read the

wrong responses, and say:

- o **High Shame/High Guilt:** (With brief gaze aversion and head down) "I'm sorry, I should have practiced administering this test more before the interview. Let me start over."
- o **High Shame/No Guilt:** (With brief gaze aversion and head down) "Let me start over."
- o **No Shame/High Guilt:** (With NO gaze aversion or head down) "I'm sorry, I should have practiced administering this test more before the interview. Let me start over."
- o **No Shame/No Guilt:** (With NO gaze aversion or head down) "Let me start over."

<u>Testing Completed</u>

- o **High Shame/High Guilt:** "That is all of the tests that you will be asked to complete. The USU researcher will be in in just a moment to give you further instruction. (With brief gaze aversion and head down) I just wanted to say that I am sorry for the mistakes I made when administering your tests. I hope my goof-ups didn't give you a bad impression of me and didn't negatively impact your score. Thank you for your participation."
- o **High Shame/No Guilt:** "That is all of the tests that you will be asked to complete. The USU researcher will be in in just a moment to give you further instruction. (With brief gaze aversion and head down) I hope the goof-ups didn't give you a bad impression of me. Thank you for your participation."
- o **No Shame/High Guilt:** "That is all of the tests that you will be asked to complete. The USU researcher will be in in just a moment to give you further instruction. (With NO gaze aversion or head down) I just wanted to say that I am sorry for the mistakes I made when administering your tests. I hope they didn't negatively impact your score. Thank you for your participation."
- o **No Shame/No Guilt:** "That is all of the tests that you will be asked to complete. The USU researcher will be in in just a moment to give you further instruction. (With NO gaze aversion or head down) Thank you for your participation."

USU Researcher: (Comes in to gather the test supplies. They wait five minutes to "score" the tests, and then re-enters the room of the participant) The USU researcher says, "I scored your tests, and you scored in the average range on the intelligence tests. I can't tell you anything about how that related to personality until we complete all of the testing. We now need you to fill out this evaluation form of the research candidate's performance. Again, the University believes your opinions are very important, so please take your ratings seriously. (The researcher leaves for another 5 minutes and returns). The last thing I need you to do is answer these last 4 questions. For these questions, please answer each question as if you were answering how you feel the research candidate would answer each question. Take your time, and I will be right outside the office when you are done."

Digit Span Test

"The first test is called a digit span test."

Instructions: I am going to read you several lists of numbers. After each list I read to you, write down that same list of numbers on your answer sheet. Please write each list of numbers down on the lines provided on the answer sheet. I'll pause about 10 seconds to let you answer each question before moving on. OK, let's begin.

List 1.

       1   5

List 2

       2   6   9

List 3

       4   1   0   5

Oh wait, hold on a second… (wait 2 seconds) [INSERT 2x2 here]

List 1.

       1   5

List 2

       2   6   9

List 3

       4   1   0   5

List 4

       3   8   7   1   2

List 5

       5   1   0   7   6   2

List 6

       7   8   4   1   0   2   7

Digit Span Test **CONTROL GROUP- NO MISTAKE**

"The first test is called a digit span test."

Instructions: I am going to read you several lists of numbers. After each list I read to you, write down that same list of numbers BACKWARDS on your answer sheet. Please write each list of numbers down on the lines provided on the answer sheet. I'll pause about 10 seconds to let you answer each question before moving on. OK, let's begin.

List 1.

       1   5

List 2

       2   6   9

List 3

       4   1   0   5

List 4

       3   8   7   1   2

List 5

       5   1   0   7   6   2

List 6

       7   8   4   1   0   2   7

Word Recall Test

"This second test is called a word recall test."
Instructions: I am going to read you a list of 20 words. After I have read the entire list of words, you will have 2 minutes to write down as many words as you can remember. Please do not write anything until I've finished the list and said "OK begin." Please write each word down on the answer sheet provided. Here we go…

List 1:

1. House
2. Car
3. Umbrella
4. Jacket
5. Tower
6. Hungry
7. Computer
8. Sandals
9. Remote
10. Couch
11. Candle
12. Happy
13. Winter
14. School
15. Drive
16. Rigging
17. Ear
18. Quarter
19. Shoe
20. Person
OK Begin.

(Wait 5 seconds)

Oh, stop writing.

(Wait 2 seconds)

[INSERT 2x2 here]

(The researcher then reads the new list of words more quickly, acting very nervous because of the mistake)

Let's start over. I'm going to read you the right list. Here we go again.

1. Volume
2. Throne
3. Octopus
4. Short
5. Movie
6. Restaurant
7. Apartment
8. Journal
9. Sleep
10. Diet
11. Drama
12. Key
13. Pear
14. Truth
15. Bandage
16. Serpent
17. Whistle
18. Sea
19. Staple
20. Pavement
OK Begin.

Word Recall Test**CONTROL GROUP- NO MISTAKE**

"This second test is called a word recall test."
Instructions: I am going to read you a list of 20 words. After I have read the entire list of words, you will have 2 minutes to write down as many words as you can remember. Please do not write anything until I've finished the list and said "OK begin." Please write each word down on the answer sheet provided. Here we go…

21. Volume
22. Throne
23. Octopus
24. Short
25. Movie
26. Restaurant
27. Apartment
28. Journal
29. Sleep
30. Diet
31. Drama
32. Key
33. Pear
34. Truth
35. Bandage
36. Serpent
37. Whistle
38. Sea
39. Staple
40. Pavement
OK Begin.

Personality Test

"This third test is just a multiple choice test consisting of ten questions."

Instructions: For each question I read to you, please circle the letter that corresponds to the answer that best represents you on your answer sheet. You will have about 10 seconds to answer each question.

1.   For me, life is most meaningful when it:
       a. Is task oriented and productive
       b. Is filled with people and purpose
       c. Is free of pressure and stress
       d. Allows me to be playful, light-hearted, and optimistic
       The question was: For me, life is most meaningful when it:

2.   When involved in an intimate relationship, if I feel threatened by my partner, I:
       a. Fight back with facts and anger
       b. Cry, feel hurt, and plan revenge
       c. Become quiet, withdrawn, and often hold back anger until I blow up over some minor issue later
       d. Distance myself and avoid further conflict
       The question was: When involved in an intimate relationship, if I feel threatened by my partner, I:

3.   If I applied for a job, a prospective employer would most likely hire me because I am:
       a. Driven, direct, and delegating
       b. Deliberate, accurate, and reliable
       c. Patient, adaptable, and tactful
       d. Funloving, spirited, and casual
       The question was: If I applied for a job, a prospective employer would most likely hire me because I am:

4.   If my friend was in trouble, I would be:
       a. Protective, resourceful, and recommend solutions
       b. Concerned, empathetic, and loyal- regardless of the problem
       c. Supportive, patient, and a good listener
       d. Nonjudgmental, optimistic, and downplaying the seriousness of the situation
       The question was: If my friend was in trouble, I would be:

5.   When I fail, I feel:
       a.   Silently self-critical, yet verbally stubborn and defensive
       b.   Guilt, self-critical, and vulnerable to depression- I dwell on it
       c.   Unsettled and fearful, but I keep it to myself
       d.   Embarrassed and nervous- seeking to escape the situation
       The question was: When I fail, I feel:

6.   Work is:
       a.   A most productive way to spend one's time
       b.   A healthy activity, which should be done right if it's to be done at all.
            Work should be done before one plays
       c.   A positive activity as long as it is something I enjoy and don't feel
            pressured to accomplish
       d.   A necessary evil, much less inviting than play
       The question was: Work is:

7.   In social situations, I am most often:
       a.   Feared by others
       b.   Admired by others
       c.   Protected by others
       d.   Envied by others
       The question was: In social situations, I am most often

8.   To feel alive and positive, I seek:
       a.   Adventure, leadership, and lots of action
       b.   Security, creativity, and purpose
       c.   Acceptance and safety
       d.   Excitement, playful productivity, and the company of others
       The question was: To feel alive and positive, I seek:

9.   In a relationship, I am most concerned with being:
       a.   Approved of and right
       b.   Understood, appreciated, and intimate
       c.   Respected, tolerant, and peaceful
       d.   Praised, having fun, and feeling free
       The question was: In a relationship, I am most concerned with being:

10. If someone crosses me:
    a. I am angered, and cunningly plan ways to get even quickly
    b. I am deeply hurt and find it almost impossible to forgive completely. Generally, getting even is not enough
    c. I am silently hurt and plan to get even and/or completely avoid the other person
    d. I want to avoid confrontation, consider the situation not important enough to bother with and/or seek other friends
       The question was: If someone crosses me:

Verbal IQ Test
This last test is also a multiple choice test consisting of 8 items.
Instructions: For each question I read to you, please circle the letter that best answers each question on your answer sheet. You will have about 15 seconds to answer each question.

For the first three questions, please indicate the word that best completes the sentence:

1. While some of the information in the book will be shocking to readers, most of what the author writes is really quite _____.

      A. Immoral
      B. Dubious
      C. Severe
      D. Commonplace

Again, the question is While some of the information in the book will be shocking to readers, most of what the author writes is really quite _____.

2. Although a few of the plot twists in her novel were unexpected, overall, the major events depicted in the work were _____ enough.

      A. Lively
      B. Well developed
      C. Predictable
      D. Complex

Again, the question is Although a few of the plot twists in her novel were unexpected, overall, the major events depicted in the work were _____ enough.

3. A recent poll shows that, while 81 percent of college students are eligible for some form of financial aid, only 63 percent of these students are _____ such aid.

      A. closet is to clothes
      B. court is to justice

"Oh wait, those are the wrong choices."

[INSERT 2x2]

Let me start over. Question 3.

3. A recent poll shows that, while 81 percent of college students are eligible for some form of financial aid, only 63 percent of these students are _____ such aid.

      A. Complaining about
      B. Recipients of
      C. Dissatisfied with
      D. Paying for

Again, the question is A recent poll shows that, while 81 percent of college students are eligible for some form of financial aid, only 63 percent of these students are _____ such aid.

The next two questions are analogies. Feel free to write down the analogy words to answer the question.

4. Hospital is to healing as

      A. closet is to clothes
      B. court is to justice
      C. mill is to machinery
      D. symphony is to instruments

Again, Hospital is to healing as

5. Dog is to mammal as

      A. larva is to insect
      B. penguin is to bird
      C. sonnet is to stanza
      D. computer is to machine

Again, Dog is to mammal as

The next 3 questions are about writing terms.

6. Which of the following is a simile?
      A. The clouds were like cotton candy.
      B. He is as big as a house.
      C. Bang!
      D. Jumbo shrimp

Again, the question is Which of the following is a simile?

7. Which is an example of alliteration?

     A. Language Arts
     B. Peter Piper Picked Peppers
     C. I like music
     D. A beautiful scenery with music.

Again, the question is Which is an example of alliteration?

8. What is the word for a "play on words"?

     A. pun
     B. hyperbole
     C. haiku
     D. metaphor

Again, the question is What is the word for a "play on words"?

Verbal IQ Test**CONTROL GROUP- NO MISTAKE**

"This last test is also a multiple choice test consisting of 8 items."

Instructions: For each question I read to you, please circle the letter that best answers each question on your answer sheet. You will have about 15 seconds to answer each question.

For the first three questions, please indicate the word that best completes the sentence:

1. While some of the information in the book will be shocking to readers, most of what the author writes is really quite _____.

    A. Immoral
    B. Dubious
    C. Severe
    D. Commonplace

Again, the question is While some of the information in the book will be shocking to readers, most of what the author writes is really quite _____.

2. Although a few of the plot twists in her novel were unexpected, overall, the major events depicted in the work were _____ enough.

    A. Lively
    B. Well developed
    C. Predictable
    D. Complex

Again, the question is Although a few of the plot twists in her novel were unexpected, overall, the major events depicted in the work were _____ enough.

3. A recent poll shows that, while 81 percent of college students are eligible for some form of financial aid, only 63 percent of these students are _____ such aid.

    A. Complaining about
    E. Recipients of
    F. Dissatisfied with
    G. Paying for

Again, the question is A recent poll shows that, while 81 percent of college students are eligible for some form of financial aid, only 63 percent of these students are _____ such aid.

The next two questions are analogies. Feel free to write down the analogy words to answer the question.

4. Hospital is to healing as

        A. closet is to clothes
        B. court is to justice
        C. mill is to machinery
        D. symphony is to instruments

Again, Hospital is to healing as

5. Dog is to mammal as

        A. larva is to insect
        B. penguin is to bird
        C. sonnet is to stanza
        D. computer is to machine

Again, Dog is to mammal as

The next 3 questions are about writing terms.

6. Which of the following is a simile?
        A. The clouds were like cotton candy.
        B. He is as big as a house.
        C. Bang!
        D. Jumbo shrimp

Again, the question is Which of the following is a simile?

7. Which is an example of alliteration?

        A. Language Arts
        B. Peter Piper Picked Peppers
        C. I like music
        D. A beautiful scenery with music.

Again, the question is Which is an example of alliteration?

8. What is the word for a "play on words"?

      H. pun
      I. hyperbole
      J. haiku
      K. metaphor

Again, the question is What is the word for a "play on words"?

Appendix E:

Debriefing Questions

Debriefing

1) Do you have any questions/comments about your participation?

2) Do you feel your opinions of this candidate will be taken seriously?

3) I know we had the problem with the microphone not working, but other than that, did you feel the rest of the equipment worked properly?

4) Did the interviewee seem sincere in her role as a graduate student applicant?

5) Did you ever suspect that there was another objective of this study besides studying the relationship between personality and intelligence? If so, what?

6) Did you ever suspect she wasn't really an applicant for a job?

7) Did you ever suspect that the mistakes she was making were not real?

8) What do you think we were really investigating in this study?

9) Did anyone tell you the purpose of the study?

Appendix F:

Informed Consent Forms

UtahState
UNIVERSITY

Department of Psychology
2810 Old Main Hill
Logan, UT 84322-2810
(435) 797-3272

Letter of Information
Personality and Intelligence

Introduction/Purpose: Dr. Tamara Ferguson in the Department of Psychology at USU and Elizabeth Dansie, a student researcher are inviting you to participate in a research study that will explore the relationship between certain forms of intelligence and personality. This study is being done at USU with a total of approximately 150 participants, age 18 years and older. There are two purposes to this study. The first purpose is to investigate how certain forms of intelligence are related to personality characteristics. The second purpose is to ask you to assist us in evaluating a research candidate for a position here at USU.

Procedures: You will be asked to complete three short tests of intelligence, one personality measure, and one brief evaluation form of the candidate. Then, as a final evaluation of the candidate, you will be asked to answer four short questions as if you were the candidate. The entire session may take 25-30 minutes. The candidate will be the individual actually administering the intelligence and personality tests to you. Because the candidates are located across the country, they will administer the tests to you over a web cam, so you will be watching and listening to the candidate from a computer monitor with a headset. Although you are routinely exposed to these types of measures as a college student, it is possible that the testing session could make you uncomfortable.

Please do not put your name anywhere on the instruments so that your tests remain anonymous. You may skip any question you do not want to answer; however, by answering each question, this will help strengthen the outcome of the study. A debriefing will follow, where you will have the opportunity to ask any further questions you may have about the study.

Risks/Benefits: Your participation in this study is considered minimal risk. However, there is a possibility that you may become uncomfortable or upset. If you experience emotional discomfort, please inform the researchers at any time. If you need further assistance, you can also contact the USU Counseling Center. They are located in the Taggart Student Center Room 306, (435)797-1012.

There may not be a direct benefit to you at this time. Pending approval of the professor of your course, you may receive extra credit points for your participation in this study. You will be informed verbally if extra credit will be offered. The researchers hope to learn about how intelligence and personality are related. More importantly, they wish to gain a student's perspective on the various research candidates that are interviewing for this very important position in the Psychology department.

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UNIVERSITY.

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Letter of Information
Personality and Intelligence

Explanation and Offer to Answer Questions: You may ask questions throughout this study at any time. Please contact the researchers by phone or email (contact information is below).

Voluntary Participation and Withdrawal from Study: Participation is voluntary. You may discontinue the study at any time for any reason without consequence.

Confidentiality: Research records will be kept confidential, consistent with federal and state regulations. Only the researchers will have access to the surveys. All data will be kept in a locked file cabinet in a locked room of Dr. Ferguson. Age and sex of the participant will be the only identifying information obtained and retained. You will also have the option to not provide that information.

IRB Approval Statement: The Institutional Review Board for the protection of participants in research has approved this study. If you have any questions about your rights please contact them at (435) 797-1821.

Researcher's Statement:
The research has been explained to the participant by Elizabeth Dansie and s/he understands the study, possible risks and benefits, and that taking part in the study is completely voluntary. The participant has had a chance to ask questions and have them answered.

_____   _____
Dr. Tamara Ferguson   Elizabeth J. Dansie
Principal Investigator   Student Researcher
(435) 797-3272   (435) 797-1460
tjferguson@cc.usu.edu   FAX (435) 797-1448
                                            lilboo999@hotmail.com