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TESTING MODELS OF DEPRESSION AND PARANOIA IN MEN AND WOMEN:  
THE ROLE OF COGNITIVE STYLE, GUILT, SHAME,  
AND DEFENSE MECHANISMS

by

Chad Sombke

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY  
Logan, Utah

2001

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## ABSTRACT

Testing Models of Depression and Paranoia in Men and Women:  
The Role of Cognitive Style, Guilt, Shame,  
and Defense Mechanisms

by

Chad Sombke, Doctor of Philosophy  
Utah State University, 2001

Major Professor: Tamara J. Ferguson, Ph.D.  
Department: Psychology

Gender differences in psychopathology have long been of interest in the fields of clinical, developmental, and personality psychology. Lewis proposed two models to explain the emergence of the development of gender differences in depression and paranoia. Lewis stated that gender differences in depression and paranoia can be traced to corresponding gender differences in cognitive style, guilt-proneness, shame-proneness, and the use of specific defense mechanisms. Although research evidence has validated certain components of these two models, neither model has ever been tested in its entirety. This research project intended to test Lewis's models in their entirety by utilizing structural equation modeling.

College students,  $N$  (men) = 104,  $N$  (women) = 197, at two universities participated in the study. Each participant completed the Group Embedded Figures Test (GEFT), Defense Mechanism Inventory (DMI), Adapted Shame/Guilt Scale (ASGS), Personal Feelings Questionnaire-2 (PFQ-2), Beck Depression Inventory (BDI),

and the Symptoms Checklist 90-R (SCL-90-R). Lewis hypothesized that the depression model would account for more of the variance in the data for women than for men, whereas the paranoia model would account for more of the variance in the data for men than for women. The results revealed little support for these hypotheses. It appeared, instead, that the constructs of guilt and shame were the most important in predicting paranoid and depressive symptoms, respectively. These results were similar for men and women. Continued research concerning the connection between guilt and paranoia as well as the connection between shame and depression appears to be warranted.

(168 pages)

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I give special thanks to my wife and family for their support, encouragement, and extreme patience over the last few years as I've struggled to finish this project. Your patience will be rewarded with my time, devotion, love, and admiration. Thank you.

Chad Sombke

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## CHAPTER I

### INTRODUCTION

#### Background and Significance of the Project

Gender differences in psychopathology, especially depression, are well documented in the psychological literature. In a review of the literature on depression and gender published in the American Psychologist, Culbertson (1997) reported that the prevalence rate for depression is twice as high in women as in men in the United States and in many other developed countries. Psychologists have proposed a variety of theories to account for the two-fold greater incidence of depression in women.

Biological differences between the sexes are emphasized by certain theorists, who claim that depression is tied to specific hormonal changes (see Nolen-Hoeksema, 1987, for a review of research on hormonal and genetic factors, as well as psychosocial factors contributing to depression in girls and women). Other theorists have emphasized the role that psychosocial factors play in increasing rates of depression in women, including their different socialization histories, unique social roles, and women's less favorable economic opportunities and social positions (Culbertson, 1997). In a report of the American Psychological Association task force on depression in women in the United States, McGrath, Keita, Strickland, and Russo (1990) asserted that personality variables, cognitive styles, and differences in coping styles, in addition to biological, social role-related, and economic factors, are important contributors to women's tendency to develop symptoms of depression.

Numerous theories incorporate different combinations of psychodynamic, sociological, and social-cognitive perspectives in their explanations for the increased

prevalence of depression in women. For example, it is speculated that gender differences in depression exist because of women's compromised superegos (Freud, 1961), the interaction between biologically based gender roles and cultural constraints on them (Cole & Barrett, 1991; Nolen-Hoeksema, 1987; Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler), and the socialization process that tends to inculcate passivity, dependence, and helplessness in women (Lewis, 1971; Nolen-Hoeksema, 1987; Witkin, 1979).

Empirical research has not built a strong case for the validity of any one model to account for gender differences in depression. This lack of validation can be partly attributed to inadequacies in the theoretical formulations, research methodologies, and instruments used in past studies. There is, however, one framework that convincingly and systematically integrates into a testable model many (although certainly not all) facets of available theories regarding gender-related differences for depression and also for paranoia. Gender differences in paranoia, contrary to depression, are not as prevalently discussed in the literature. Therefore, theories accounting for gender differences in paranoia are extremely limited. However, Lewis's (1971) models address gender differences in paranoia and will be the primary theory addressed in this study regarding gender differences in paranoia.

Specifically, Lewis (1971) proposed two models to account for the gender differences in depression and paranoia. In these models, gender differences in depression and paranoia can be traced to corresponding gender differences in cognitive style, guilt-proneness, shame-proneness, and the use of specific defense mechanisms.

To clarify, Lewis asserted that depression is the result of field dependence, a shame-prone emotional orientation, and tendencies to internalize blame (depression model). Because women are expected to outscore men in all of these variables, depression in women is expected to be greater than in men. Paranoia, on the other hand, is the result of field independence, a guilt-prone emotional orientation, and tendencies to externalize blame (paranoia model). Because men are expected to outscore women in most of these variables, paranoia in men is expected to be greater than in women. In general, the study is looking at Lewis's models, which are used to identify contributing factors related to depression and paranoia. These factors have been identified by Lewis as gender, cognitive style, guilt- and shame-proneness, and defense mechanism use.

#### Clarification of Terms

Before providing an overview of Lewis' models, it is necessary to define the terms "sex" and "gender." The word "sex" is often used to refer to a person's biological status as male or female, whereas the term "gender" is used to describe the formal and informal rules that society prescribes and proscribes for masculine or feminine behaviors, roles, and responsibilities (Gentile, 1993). Because the purpose of this study is to test those Lewis models that espouse a gender-based explanation of the differential prevalence of psychopathology in men and women, the present author will use the term "gender" rather than "sex." Furthermore, when Lewis talks about gender differences she is talking about the differences between males and females as opposed to the differences in individuals with a masculine or feminine identity orientation (Lewis, 1971). The masculine and feminine identity orientations are

subsumed in the cognitive style constructs of field dependence/independence, in that a field dependent orientation can be seen as parallel to a feminine orientation and a field independent orientation can be seen as equating to a masculine orientation (Witkin, Oltman, Raskin, & Karp, 1971).

It is also important to delineate four constructs that are central to Lewis's models. These include the two forms of psychopathology emphasized by Lewis (depression and paranoia), as well as the constructs of guilt and shame.

Depression is defined as a negative affective state characterized by a number of physiological, behavioral, and emotional symptoms involving sleep pattern changes, crying, and feelings of helplessness, hopelessness, apathy, and anhedonia (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, 4th ed., 1994). Paranoia is defined as feelings of persecution, an unwillingness to trust people, and tendencies to project blame onto others for wrongdoings (DSM-IV, 1994). Shame can be defined as a chronic negative internal affective state of awkwardness, embarrassment, and humiliation that is focused on the entire self, expressed metaphorically as "I am a horrible person" (Lewis, 1971; Thrane, 1979). Guilt, too, is seen as a negative affective state. It, however, involves chronic feelings of regret and remorse over what one has done, expressed as "How could I have done that?" (Harder, 1995; Thrane, 1979). Other constructs involved in the research will be discussed later.

It is also important to note that Lewis did not clearly specify in her models whether she was referring to clinical depression and paranoia, or whether she was merely referring to the symptoms of the disorders. In developing her models, she based them in part on psychiatric inpatients who had been clinically diagnosed as suffering from depression and/or paranoia (Lewis, 1979a). More frequently, however,

her observations were drawn from the experiences of individuals who merely presented with certain symptoms of depression and paranoia (Lewis, 1985). Because Lewis's models derived more from nonclinical than clinical samples, the focus of this study is on each model's ability to account for symptoms of paranoia and depression, rather than clinical levels of either depression or paranoia. Thus, the instruments used in this study are not designed to make a formal diagnosis.

### Helen Block Lewis's Models

According to Lewis (1971), parents and society at large socialize boys and girls in fundamentally different ways. These differential socialization practices are one source for the gender differences observed in cognitive style, use of defense mechanisms, psychopathology, and sometimes guilt- and shame-proneness.

Boys' socialization is oriented toward a field-independent cognitive style that puts them at risk for becoming emotionally detached and impersonal (Lewis, 1979a, 1979b). People with a field-independent cognitive style are less concerned with other people's opinions and more likely to define their beliefs according to personal experiences, rather than the general consensus of those around them (Ihilevich & Gleser, 1986). This egocentric individual style can support the development of a pattern of personal narcissism (Witkin, 1965).

Boys also are not discouraged from behaving aggressively and are, in fact, encouraged to behave in an independent, self-serving, and autonomous fashion relative to girls (Archer, 1996; Block, 1983; Hyde, 1984; Lewis, 1971; Lytton & Romney, 1991; Nolen-Hoeksema, 1987; Witkin, 1979). Failure to discourage aggression in boys increases their likelihood of engaging in culpable behaviors, such as turning against

others and projection of blame, thereby creating opportunities to experience guilty feelings about these behaviors.

People who feel guilty about their culpable behaviors often rely on the ego defenses of projection and displacement of blame to temporarily exonerate themselves from their misdeeds (Ihilevich & Gleser, 1971; Lewis, 1978). Excessive and chronic use of the defenses of projection and displacement of blame fuel habitual suspicion and distrust of others (Lewis, 1971), which is consistent with symptoms of paranoia. In addition, feelings of guilt over culpable behaviors can also lead to symptoms of paranoia (Lewis, 1971, 1985). For example, people who are consistently held accountable for behaviors that elicit feelings of guilt can develop feelings of persecution and a lack of trust in the people who hold them accountable.

It is thought that girls, on the other hand, are socialized to display passive obedience and to value the maintenance of smooth interpersonal relationships at any cost, fostering a field-dependent cognitive style (Lewis, 1971; Nolen-Hoeksema, 1987; Witkin, 1965, 1979). One characteristic of people with field-dependent cognitive styles is a lack of awareness of their own inner experiences (Witkin, 1979). They are more likely to focus their attention on people in their environment for guidance in developing their attitudes, feelings, and beliefs (Witkin, 1965, 1979). A field-dependent cognitive style may, therefore, promote children's increased sensitivity to potential rejection from people in the environment, because they greatly value other people's opinions (Lewis, 1971). This sensitivity to potential rejection can cause the child to fear the shame of lost love. Parents tend to use love withdrawal more often with girls than with boys (Lewis, 1971). Thus, one possible cause for the pathology deriving from shame is the self's expectation of others' global and pervasive negative evaluation.



The pathological anxiety fueled by the shame of perceived lost love and rejection is thought to be temporarily and paradoxically reduced through self-directed hostility and self-blame (Ihilevich & Gleser, 1986; Lewis, 1971). Shame is thought to be reduced by attaching an object (the self) to its cause and providing a temporary sense of control (A. Freud, 1965). Shame may also be reduced through humiliated fury and rage (Lewis, 1971; Scheff, 1987). Women, however, may be more likely to internalize blame and hostility to reduce their immediate feelings of shame. Although internalization of hostility or self-blame may momentarily defend the ego against acute feelings of shame, excessive and rigid use of self-blame can promote depressive symptomatology (A. Freud, 1965; Ihilevich & Gleser, 1986; Lewis, 1978, 1979a, b). Feelings of shame from perceived lost love can also culminate into feelings of depression (Lewis, 1971).

What evidence is there to support the various assertions made by Lewis regarding gender-related differences in field (in)dependence, guilt, shame, turning against others, projection, turning against the self, depression, and paranoia? First of all, research has consistently found that women score more toward the field-dependent end of the cognitive style continuum (Carter & Loo, 1980; Goggin, Flemenbaum, & Anderson, 1979; Ihilevich & Gleser, 1986; Morris & Shapiro, 1974; Witkin, 1965; Witkin, Lewis, & Weil, 1968), whereas men score more toward the field-independent end (Carter & Loo, 1980; Goggin et al., 1979; Ihilevich & Gleser, 1986; Lewis, 1971, 1985; Morris & Shapiro, 1974; Witkin, 1965; Witkin et al., 1968).

Evidence revealing gender differences in guilt and shame is not as obvious or consistent, however (Harder, 1995; Tangney, Burggraf, & Wagner, 1995). For example, women rate themselves as experiencing many types of emotions more

intensely than men (including guilt and shame), but they do not necessarily report the emotions of guilt and shame with differential frequency (Brody, 1985; Ferguson & Eyre, 2000; Schiffler, 1997; Tangney, 1990). Although some have taken the failure to find gender-related differences in guilt and shame as evidence against Lewis's models (Tangney, 1990), Ferguson and Crowley (1997a) pointed out that Lewis's primary emphasis was not on differences in the endorsement of guilt and shame by men and women. In their reading, a more important aspect of Lewis's ideas was that guilt and shame would be related to other constructs differently by each gender and reflected in Lewis's models. They provided some preliminary support for this interpretation of Lewis's models (e.g., that guilt accounted for a substantial proportion of variance in men's gender-role orientations and defensive styles, whereas shame accounted for the most variance in women's). In other words, within- rather than between-gender differences and interrelationships among the constructs could be the more important aspects of Lewis's models, especially for guilt and shame.

Lewis also emphasized the importance of men's versus women's differential use of defense mechanisms in accounting for gender differences in psychopathology. Ihlevich and Gleser (1971) claimed that a person's characteristic style of defense is a complex function of temperament, cognitive style, and learning experiences, all of which are reinforced and/or socialized differently in men and women. Consistent with this view, there is widespread empirical support for the existence of gender differences in the use of various defense mechanisms (Bogo, Winget, & Gleser, 1970; Cramer, 1983, 1988; Gleser & Ihlevich, 1969; Ihlevich & Gleser, 1986; Levit, 1991). Men typically utilize the externalizing defenses that involve blaming others through projection

and displacement, whereas women employ intrapunitive defenses involving self-blame (Ihlevich & Gleser, 1986).

Socialization practices can also account for the differential use of defense mechanisms by men and women. For instance, boys are socialized to behave more aggressively, independently, and in a self-serving manner (Block, 1983; Lytton & Romney, 1991). Feelings of guilt or anxiety over any aggressive act may be defended against by projection of blame and displacement of hostility. Over the course of development men become likelier than women to use projection and turning against others as their characteristic defensive style (Cramer, 1979; Ihlevich & Gleser, 1986; Margo, Greenberg, Fisher, & Dewan, 1993).

On the other hand, girls are socialized to view their success at establishing and maintaining interpersonal relationships and nurturance as a gauge for their self-worth (Block, 1983). This interpersonal view does not lend itself to blaming and being angry with others as a coping method. Instead, girls will turn blame inward on themselves for misdeeds and "perceived" love withdrawal (Lewis, 1985). Blaming oneself, as opposed to another, helps to maintain important relationships because it prevents the arguments and disagreements that can arise when blame is attributed to the relationship partner. This characteristic manner of maintaining relationships can even further perpetuate the defensive style known as "turning against the self" (Ihlevich & Gleser, 1986).

Gender differences in cognitive style and defense mechanisms accumulate to promote different types of symptom formation in men (paranoia) and women (depression). This view is consistent with evidence indicating that adult women are twice as likely to experience depressive symptoms than men (Culbertson, 1997; DSM-IV, 1994; Harder, 1990a). Adult men, in contrast, presumably manifest higher

prevalence rates for paranoia than adult women (DSM-IV, 1994; Harder, Rockart, & Cutler, 1993).

In summary, Lewis's models of the development of different gender-related forms of psychopathology are convincing in that the models incorporate competing theoretical orientations into one framework. For example, psychodynamic theories are represented in her models by the construct of defense mechanisms. Other psychosocial theories are represented by Lewis's discussion of how differential socialization practices can predispose boys and girls to the development of distinctive cognitive styles, guilt- and shame-proneness, defense mechanism use, and subsequent characteristic forms of psychopathology. Although there is evidence available related to each individual piece of Lewis's models, the models themselves have never been examined for their validity as a whole. The purpose of the present study is to provide a test of Lewis's models in their entirety using appropriate assessment instruments and data analytic techniques, including structural equation modeling.

## CHAPTER II

### PURPOSE

Lewis discussed factors related to psychopathology in many seminal articles, book chapters, and books throughout her career (Lewis, 1971, 1978, 1979a, 1979b, 1985, 1990). A review of Lewis's scholarship reveals that she advocates one model concerning factors that contribute to depression and a separate model pertaining to certain origins of paranoia. Her depression model depicts depression as emerging from field dependence, shame, and turning against the self (TAS). The paranoia model includes field independence, guilt, turning against others (TAO), and projection (PRO) as facilitating the emergence of paranoia. Because Lewis believed that depression was more prevalent in women; she therefore also believed that the depression model should be most useful for explaining depression in samples of women. Alternatively, Lewis proposed that paranoia was more prevalent in men, suggesting that the paranoia model should better explain paranoia in men. The purpose of this research was to assess the extent to which support is found for Lewis's assertions regarding the differential validity of the two models.

In order to claim support for Lewis's models, it is first important to show that the variables of cognitive style, guilt, shame, defense mechanisms, depression, and paranoia are interrelated in the manner Lewis hypothesized (see Table 1). All of these variables can also be represented in the two integrated models that were implied by Lewis (1971) and were explicated further in Chapter I. These two models are depicted in Figures 1 and 2. Lewis's two models were tested using linear structural relations (LISREL; Jöreskog & Sörbom, 1988), a statistical procedure used for structural

Table 1

Predicted Gender Differences in the Constructs

Construct	Gender
<b>Depression model</b>	
Cognitive style (GEFT, field dependence)	Greater women
Shame	Greater women
Turning against self (TAS)	Greater women
Depression	Greater women
<b>Paranoia model</b>	
Cognitive style (GEFT, field independence)	Greater men
Guilt	Greater women
Turning against others (TAO)	Greater men
Projection (PRO)	Greater men
Paranoia	Greater men

modeling. Keeping these goals in mind, several research hypotheses outlined below were addressed.

It is hypothesized that:

- (a) Men would exhibit higher scores than women on measures of cognitive style (the GEFT, in which higher scores index greater field independence), the defense mechanisms of turning against others (TAO) and projection (PRO), and paranoid ideation.

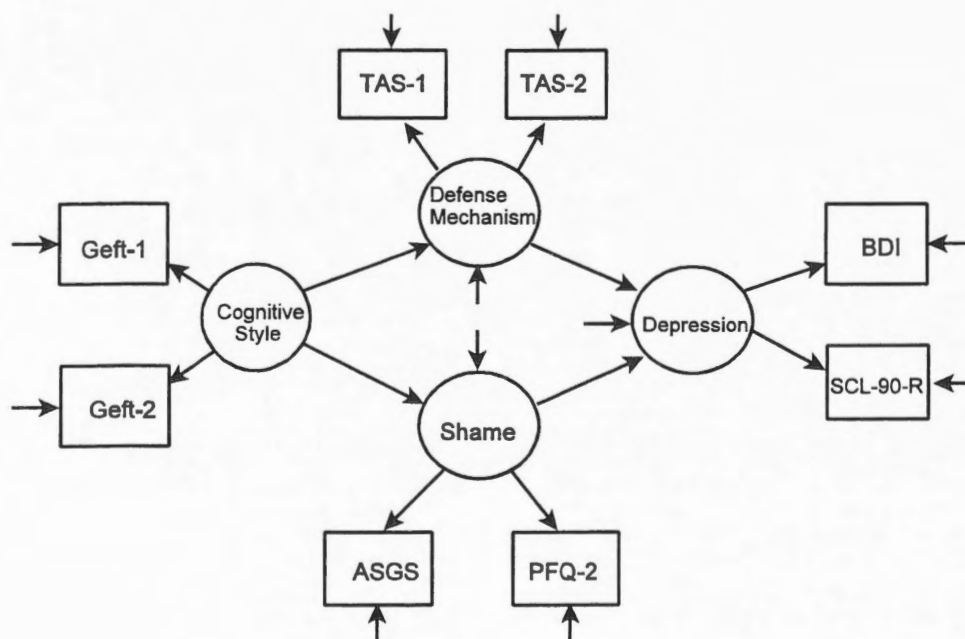
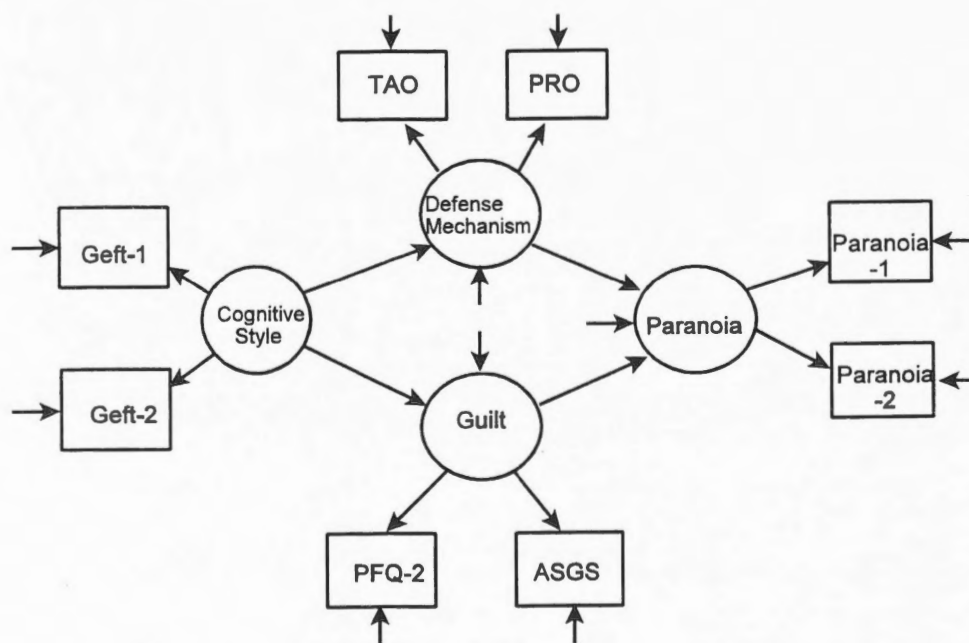


Figure 1. Depression model.

Note. GEFT = Group Embedded Figures Test; ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; TAS = Turning Against Self; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist 90 R.



**Figure 2.** Paranoia model.

**Note.** GEFT = Group Embedded Figures Test; ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; TAO = Turning Against Others; PRO = Projection.



- (b) Women would score statistically significant higher than men on measures of guilt, shame, the defense mechanism of turning against the self (TAS), and depression.

It is also hypothesized that the structural equation modeling analysis will reveal that:

- (c) the depression model will provide a better fit for the scores of the women participants than for the scores of the men participants.
- (d) the paranoia model will provide a better fit for the scores of the men participants than for the scores of the women participants.

### CHAPTER III

#### REVIEW OF LITERATURE

Several aspects of the literature will be reviewed in order to better understand those objectives and design of the research that bear on the existence of gender differences in each of the constructs embodied by Lewis's models. In the first section, a brief summary of gender differences in the incidence of depression and paranoia will be discussed. In the next section, the constructs of field-dependent and independent cognitive styles will be defined. Measures of cognitive style will be discussed and literature regarding links between cognitive style and other variables in Lewis's models will be reviewed. Findings regarding gender-related differences in cognitive style will also be reviewed.

The next section of the literature review will focus on guilt-proneness and shame-proneness. Research on guilt- and shame-proneness will be summarized with the view toward differentiating between the two constructs and how each may contribute to certain forms of psychopathology. Evidence for differences between men and women in guilt- or shame-proneness as well as difficulties that have been encountered in measuring guilt and shame as distinct constructs will be reviewed.

Defense mechanisms as conceptualized by Gleser and Ihilevich (1969) will be covered next. Evidence pertaining to the differential use of defense mechanisms by men and women will be elucidated along with the role various defense mechanisms play in contributing to different types of psychopathology. A brief exploration of whether those relationships among the constructs proposed in Lewis's models have received empirical support will complete the review of the literature.

Unless otherwise stated, all results reported in this study as significant were statistically significant at the  $p < .05$  level.

## Depression

### Gender Differences in Depression

In her model of depression, Lewis (1971) was trying to account for the greater incidence of depression in women. Throughout the psychological literature and in the DSM-IV (APA, 1994), women are consistently depicted as experiencing more depression with greater frequency and intensity than men. For the past 30 years, in the United States and elsewhere, women have been found to experience depression about twice as frequently as men (Culbertson, 1997). The 2:1 ratio for women's and men's depression has been found fairly reliably, especially in developed countries (Kessler, McGonagle, & Zhao, 1994). As Harder (1990a) stated, "That women exhibit more depressive symptomatology by now seems an indisputable assertion" (p. 286).

There is, however, evidence that the 2:1 ratio does not hold in samples of prepubescent children. In fact, at least in some studies, prepubescent boys have been shown to actually report more depression than girls (Nolen-Hoeksema, Girgus, & Seligman, 1991). However, around the age of 14 years, girls start reporting more depression, and this gender difference remains relatively stable into adulthood (Nolen-Hoeksema et al., 1991).

The reasons for the gender-related shift in reports of depression continue to be the focus of much research. Nolen-Hoeksema and Girgus (1994) reviewed the mounting evidence as it bears on three competing models of the emergence of greater depression rates in women during adolescence. The model that received the most

empirical support emphasized two ideas. First, from an early age, young girls are subjected to a greater number of risk factors for depression than boys (Nolen-Hoeksema & Girgus, 1994). Second, these risk factors combine with the added stresses of adolescence to place girls at greater risk for developing symptoms of depression (Nolen-Hoeksema & Girgus, 1994). The main risk factors include girls' highly ruminative and negative explanatory styles as well as a stronger tendency to be dissatisfied with their bodies during pubertal development (Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler, 1993). These conclusions are consonant with Lewis's (1971) suspicions that women's greater field dependent cognitive style, tendency toward feelings of shame, and use of intrapunitive defenses put them at greater risk for developing depression.

#### Links Between Depression and Other Constructs

In Lewis's model of depression, depression should be positively related to field dependence, turning against the self (TAS), and shame. There is support for these expectations, as noted in previous sections. For example, Kingsland and Greene (1984) showed that depressed women exhibited significantly greater field dependence than did nondepressed women,  $t(48) = 2.43$ ,  $p < .01$ . Moreover, as discussed previously, depression is related to the endorsement of TAS as a defensive reaction.

Depression is also frequently associated with shame. In a study using the Self-Concept and Attribution Inventory-Revised (SCAIR; Tangney, 1990), shame-proneness was related to indices of psychological maladjustment, such as the depression subscale of the SCL-90-R,  $r = .43$ ,  $p < .001$ , and with scores from the Beck Depression Inventory (BDI),  $r = .51$ ,  $p < .001$  (Tangney, Wagner, & Gramzow, 1992).

Shame-prone people are also likelier to show signs of depression when describing some of their early memories (Smith, 1972). In addition, people who exhibit feelings of depression have a negative self-image that adds up to an image of helplessness (Beck, 1967), which Lewis (1979b) claims is the type of self-image held by shame-prone individuals. In another study, shame, without guilt, was significantly related to the SCL-90-R subscale of depression,  $r = .24$ ,  $p < .05$  (Harder, Cutler, & Rockart, 1992). Finally, using the ASGS and the Self-Rating Depression Scale (Zung, 1965), a positive correlation for shame and depression,  $r = .49$ ,  $p < .001$ , was found in a study by Wright, O'Leary, & Balkin (1989).

In summary, there appears to be a strong gender difference in the reporting of depression, with females consistently reporting more depression than males. It also appears that the factors hypothesized to play roles in the presence of depression are indeed related. However, little systematic attention has been focused on whether depression is uniquely predicted by these factors in women compared to samples of men.

## Paranoia

### Gender Differences in Paranoia

In Lewis's model of paranoia, she was trying to account for what she saw as the greater incidence of paranoia in men than women. Although Lewis claimed substantial clinical support, as well as empirical support for the greater rate of paranoia in men (Lewis, 1971, 1978, 1979a, 1985), actual gender differences in paranoia have not been well researched. A PsychLit search using the key words "paranoia" and various versions of "gender differences" revealed a meager total of 18 references. None of

these references specifically looked at gender differences in paranoia. A similar search of the APA's Psycinfo database also failed to identify any research pertinent to this question. The DSM-IV's (APA, 1994) only reference to gender differences in paranoia (paranoid personality disorder) stated, "In clinical samples, this disorder appears to be more commonly diagnosed in men" (p. 636), although the norms tables for the paranoia subscale of the Minnesota Multiphasic Personality Inventory (2nd Ed.) (MMPI-2; Graham, 1990) shows no difference between the T-score conversions for men and women.

While the assumption that men exhibit more paranoid symptoms than women has persisted without much empirical research to assess its validity, based on the information provided in the DSM-IV (APA, 1994) as well as the clinical observations of Lewis and others, one cannot reject the hypothesis that men are more prone to paranoid reactions than are women without first testing the relationships. Therefore, it seems reasonable in this study to test the relationships that Lewis thought existed between paranoia and other constructs.

#### Links Between Paranoia and Other Constructs

In Lewis's model of paranoia (1971), paranoia should be related positively to the cognitive style of field independence, guilt, and the defensive categories of turning against others and projection. A field-independent cognitive style has been found among many people diagnosed with symptoms of paranoia (Jannucci, 1964; Powell, 1964; Witkin et al., 1954) and paranoia is connected to the defenses of turning against others and projection (see "Defense Mechanism" section below).

Paranoia is also related to guilt. For example, Personal Feelings Questionnaire-2 guilt (PFQ-2; Harder & Zalma, 1990) was found to be positively related to the Paranoid Ideation Scale of the SCL-90-R,  $r = .25$ ,  $p < .05$ , in one study by Harder et al. (1992). In addition, PFQ-2 guilt was also found to be significantly related to the Paranoid Ideation Scale of the SCL-90,  $r = .42$ ,  $p < .01$  (Tangney et al., 1995). Thus, there is evidence from the literature, though not as strong as for depression, for paranoia's relationships with each and every construct that Lewis included in her model of paranoia.

### Field Dependence/Independence

#### Background

The construct of cognitive style was first formally introduced to the psychological literature in the book Personality Through Perception (Witkin et al., 1954). The concept of cognitive style originated with Max Wertheimer's early studies, which asked whether the ego is egotistical or is a product of an interaction between it and the environment or field (Wertheimer, 1912). In Wertheimer's view, an egotistical ego is centered on the self and not on the environment.

Wertheimer (1912) tested the ego's egocentricity by showing participants a tilted scene reflected in a mirror. If participants saw the scene as tilted, then Wertheimer concluded that their egos were egocentric. However, if the participants saw the object reflected in the mirror as straight, their egos were viewed as not egocentric.

Wertheimer hypothesized that an egocentric ego would rely on its own perception and ignore cues from the environment for interpretation. Wertheimer's participants tended to see the object as straight even though it was tilted at a 45-degree angle.

Participants thus somehow ignored their own visual perception and used cues from the environment for interpretation, which led them to perceive the reflected object as straight. Therefore, Wertheimer concluded that his research participants' "egos" were not egocentric.

From his research studies, Wertheimer concluded that the ego of an individual is not egotistical or self-centered and in fact is a product of the environment and itself. However, in the United States, Gibson and Mowrer (1938) failed to replicate Wertheimer's results. This prompted Witkin and Asch (1948) to further examine Wertheimer's claim using other methods.

Witkin et al. (1954) observed large individual differences in the degree to which perception was influenced by the surrounding framework, noting further that these differences were highly gender related. Based on a series of studies, Witkin postulated that the individual differences reflected the operation of a single bipolar personality characteristic or perceptual style. Witkin et al. (1954) labeled the two poles of this perceptual style "field-dependence versus independence."

Field dependence/independence is one aspect of a much broader construct known as psychological differentiation. Components of psychological differentiation include segregation of psychological functions, segregation of neurophysiological functions, and self-nonsel self segregation (Witkin, Goodenough, & Oltman, 1979). Field dependence/independence is one defining feature of self-nonsel self segregation, encompassing a person's tendency to rely on the self (field independence) or the environment (field dependence) in everyday psychological functioning (Witkin, 1979).

The field dependence/independence construct was originally operationalized as reflecting the extent to which participants tended to rely on "the external visual field or



the body itself as the main referent in locating the upright in the field" (Witkin et al., 1979, p. 1128). This definition of field dependence/independence treats the construct as a perceptual and visceral experience. Field dependence/independence has subsequently been conceptualized as a cognitive style consisting of perceptual abilities that are highly related to specific personality characteristics and forms of psychopathology (Witkin et al., 1979). In brief, cognitive styles are the characteristic, self-consistent modes of functioning that individuals show in their perceptual and intellectual activities (Witkin et al., 1971).

#### Definition of Field Dependence/Independence

##### Field Dependence

The cognitive style of field dependence can be described as a mode of perception that is strongly dominated by the overall organization of the perceptual field and by a relative inability to perceive parts of a field as separable (Witkin et al., 1968). In addition, a person with a field-dependent cognitive style is characterized as having weak ego boundaries and may, therefore, rely on external referents as sources of information for self-definition and self-evaluation.

##### Field Independence

On one end of the cognitive style continuum, field independence is a mode of perceiving parts of the field as independent and separate from an organized background (Witkin, 1965). People with a field-independent cognitive style are aware of, and trust, their own needs and feelings and rely on internal referents for information regarding self-definition and self-evaluation. They tend to have an impersonal orientation, are not interested in other people's opinions, and prefer nonsocial

situations (Witkin & Goodenough, 1977). The more field independent an individual scores, the more of the characteristics listed above the individual is hypothesized as exhibiting.

### Measuring Cognitive Style

A number of scientific methods have been used to determine an individual's characteristic cognitive style of field dependence or field independence. The measures usually involve having participants perform perceptual tasks. Some of the more well known and most frequently used methods include the Rod and Frame Test (Witkin et al., 1954), in which participants in a darkened room are asked to place a luminous rod, suspended within a tilted luminous frame, into a vertical position (Witkin et al., 1954). Those who report that the rod is vertical only when it is aligned with the tilted frame are classified as field dependent, whereas people are characterized as field independent when they easily place the rod in a vertical position regardless of the frame's position.

Another method, called the Body-Adjustment Test (Witkin, 1965), requires participants to adjust the alignment of their body's position to vertical when the room and their body are tilted together (Witkin, 1965). Some people report their body as vertical when it is aligned with the tilted room. This is a sign of field dependence because one's own perceived body position is dictated by the surrounding world. Field independence is revealed by an ability to easily straighten one's own body into the vertical position. This ability is attributed to an immediate sense of separateness between an individual's body and their surrounding environment. Both the Rod and Frame Test and the Body-Adjustment Test are individually administered to each participant.

The Embedded-Figures Test (Witkin, 1950) was developed and is available in a paper-and-pencil version that can be administered to a group of individuals simultaneously. This paper-and-pencil test requires a participant to locate a simple figure in a complex design that conceals it. The people who find this task difficult and are unable to locate the designated simple figures are classified as more field dependent, whereas those who accurately perform this task without difficulty are said to manifest more of a field independent perceptual style. People tend to perform consistently across various methods of measuring cognitive style (Witkin, 1965).

#### Relationship Between Field Dependence/Independence and Other Variables

Throughout his years of studying field dependence/independence, Witkin consistently asserted that pathology occurs at the extreme ends of the cognitive style continuum (Witkin, 1979). He found that highly field-dependent individuals were more prone to depression and extremely field-independent individuals to paranoia (Witkin, 1965, 1979). Witkin also consistently reported gender differences in cognitive style that are consistent with women scoring more toward the field-dependent end of this continuum and thereby reporting more depression and men scoring more toward the field-independent end and thereby reporting greater paranoia (Witkin, 1965, 1979). In the next two sections, research results bearing on relationships of psychopathology and gender to cognitive style will be reviewed. Although field dependence/independence is a continuum, the research evidence is much more easily understood if presented in separate sections of field dependence and field independence.

### Field Dependence

Witkin (1965) initially asserted that having a field-dependent cognitive style was maladaptive for individuals, but was encouraged by the psychological community to discuss its potential adaptive aspects (Haaken, 1988). Research (Witkin, 1979) revealed that people with a field-dependent cognitive style had certain personality characteristics, such as an intense interpersonal orientation, a strong interest in others, and a willingness to express emotion and gravitate toward social situations. They also attend to the views and beliefs expressed by others before forming their own opinions. This social sensitivity contributes to the field-dependent person's acuity in recognizing the needs and wants of others and relating well with people (Witkin & Goodenough, 1977).

People with a field-dependent cognitive style not only subjectively report more emotions than field-independent people, but they also experience stronger physiological reactivity as measured by their skin conductance responses under stress (Newman & Hirt, 1983). Although field-dependent individuals experience and express more emotions, they do so in a less differentiated manner. In a study conducted by Parkes (1981), participants completed the Hidden Figures Test (HFT) and the Unpleasant Emotions Questionnaire (Leff, 1978). The emotion questionnaire required participants to rate a series of items in terms of how descriptive the items were of their experiences of anxiety and depression. Correlations between the ratings of depression and anxiety revealed much stronger links for those individuals classified as field dependent,  $r = .53$ ,  $p < .01$ , than field independent,  $r = .13$ , which could indicate that field dependent individuals do not differentiate negative emotions.

Field-dependent compared to field-independent individuals also manifest greater levels of certain types of psychopathology (Lewis, 1971, 1985; Witkin et al., 1954, 1968), including depression (Kingsland & Greene, 1984; Newman & Hirt, 1983; O'Leary, Calsyn, & Fauria, 1980; Parkes, 1981; Witkin, 1965; Witkin et al., 1954, 1968). Field-dependent individuals also manifest other symptoms that are thought to be highly related to depression (Harder & Lewis, 1987; Hoblitzelle, 1987; Witkin et al., 1968), such as feelings of shame (Lewis, 1979b; Witkin, 1965; Witkin et al., 1968) and a self-blaming defensive style (Ihilevich & Gleser, 1971; Lewis, 1979a, 1979b; Newman & Hirt, 1983; Witkin et al., 1968).

Using the Beck Depression Inventory (short form; Beck & Beck, 1972) and the Embedded Figures Test (Short Form A; Witkin et al., 1971), depressed women were more field dependent than nondepressed women,  $t(48) = 2.43$ ,  $p < .01$  (Kingsland & Greene, 1984). Psychiatric inpatients were also found to score highly toward the field-dependent end of the cognitive style continuum (Goggin et al., 1979). In the same study, field dependence, as measured by the Portable Rod and Frame Test (Koran & Maxim, 1972), was found to be highly related to the neuroticism scale of the Eysenck Maudsley Personality Inventory, (Eysenck, 1959),  $\chi^2(4, N = 99) = 11.8$ ,  $p < .02$ .

Witkin et al. (1968) assessed cognitive style using the Rod and Frame Test and guilt and shame with the Gottschalk (Winget, Gottschalk, & Gleser, 1963) method. The Gottschalk method involves coding samples of five-minute verbal responses as reflecting either guilt-prone or shame-prone answers. They found that field-dependent clients made significantly more shame verbalizations whereas field-independent clients expressed significantly more guilt responses. They also found that field-dependent

clients showed significantly more "hostility-in" or self-deprecating responses than did field-independent clients.

From the research reviewed, field dependence appears to be related to the constructs of shame, self-blame, and depression, which are all consistent with Lewis's model of depression.

### Field Independence

Witkin initially proposed that a field-independent cognitive style was more desirable than a field-dependent style (Witkin, 1965). Some of the reasons for this assumption included the field-independent person's feeling of him/herself as an individual distinct from others, their reported articulated cognitive functioning, and their suspected higher scores on intelligence tests (Witkin, 1965; Witkin et al., 1968). However, Witkin also elucidated some problems that field-independent individuals typically encountered. For example, people with a field-independent cognitive style have been found more likely to manifest symptoms of paranoia (Johnson, Kim, & Danko, 1989; Lewis, 1971, 1979a, 1985, 1990; Witkin, 1965; Witkin et al., 1954), guilt (Lewis, 1971, 1979a, 1985; Witkin, 1965; Witkin et al., 1968), and use the defensive styles of projection and blaming others (Ihilevich & Gleser, 1971; Lewis, 1971, 1979a, 1985; Witkin et al., 1968).

The relationship between field independence and paranoia is thought by Lewis (1971, 1979a, 1985) to be mediated by feelings of guilt and the defenses of projection and blaming others. For instance, field-independent people have been found to express more guilt, project more blame, and express more aggression in their responses to therapy sessions than field-dependent patients (Witkin et al., 1968). Witkin et al. (1979) also found that the defenses of projection were more commonly

being used by people who are field independent than field dependent. Furthermore, a study measuring cognitive style and defense mechanism clusters showed statistically significant correlations between a field-independent cognitive style and defensive clusters of TAO,  $r = .22$ ,  $p < .05$ , and PRO,  $r = .25$ ,  $p < .05$  (Ihilevich & Gleser, 1986).

Overall, field-independent individuals tend to be more socially aggressive and autonomous than field-dependent individuals. This social aggressiveness can lead to involvement in many more situations where someone with a field-independent cognitive style would experience feelings of guilt. In addition, individuals who are raised to be autonomous and self-serving tend to grow up with a more field-independent cognitive style (Witkin, 1979), which is consistent with how boys are traditionally raised in American culture (Brody, 1985). People who are field independent also have highly developed cognitive restructuring and analytic skills. For example, field-independent male and female 11th and 12th graders had significantly higher IQ scores ( $M = 107$ ) than field-dependent students ( $M = 93$ ; Perlman & Kaufman, 1990).

Finally, Lewis (1985) stated that men have a greater tendency than women of becoming emotionally detached, impersonal, and field independent. The expectation that men should dominate also increases their likelihood of aggressive behavior with a resulting increase in their levels of chronic unresolved guilt. The way is thus paved for the development of paranoia.

From the research discussed, field independence appears to be related to symptoms of paranoia, which is mediated by guilt and the defenses of projection of blame and acting out towards others. All of this is consistent with Lewis's assertions.

### Gender Differences in Cognitive Style

Witkin's findings that women are more field dependent and men are more field independent is a consistently replicated result concerning psychological gender differences in adulthood (Maccoby & Jacklin, 1974). The use of different socialization practices for boys and girls is widely thought to account for the fact that women score as field dependent on various measures of cognitive style (Carter & Loo, 1980; Goggin et al., 1979; Ihlevich & Gleser, 1971; Lewis, 1979a, 1979b; Morris & Shapiro, 1974; Witkin, 1965; Witkin et al., 1968), whereas men score more toward the field independent end of the cognitive style continuum (Carter & Loo, 1980; Goggin et al., 1979; Ihlevich & Gleser, 1971; Lewis, 1971, 1985; Morris & Shapiro, 1974; Witkin, 1965; Witkin et al., 1968).

Why would women be relatively field dependent, but men relatively field independent? Women are socialized to be more involved with others' problems and have an increased sense of responsibility for people close to them (Lewis, 1979a, 1979b). Society and families also require a greater sense of social responsibility from women and expect them to play roles defined in terms of forming attachments and maintaining relationships (Brody, 1985; Witkin, 1979; Zahn-Waxler et al., 1991). Men, on the other hand, are socialized to adopt roles that are more expressive of individuality and autonomy, allowing them to be more attuned to, involved with, and trusting of their own inner experiences (Lytton & Romney, 1991; Zahn-Waxler et al., 1991).

In addition, research in developmental psychology provides examples of girls being encouraged to "assimilate," or to solve problems within the framework of already existing schemas. Boys, on the other hand, in addition to being taught to assimilate, they are also trained to "accommodate," or solve problems by forming new schemas for



their own individual experiences (Block, 1983). This suggests that girls are not taught to trust their own abilities to form new schemas for problem solving. In relation to cognitive style, accommodation and assimilation are properties of field independence and field dependence, respectively (Block, 1983).

Moreover, Witkin (1979) stated that parents' methods of dealing with separation issues are very important in fostering the development of different cognitive styles. Encouraging autonomy in coping with separation is related to field independence (a pattern more characteristic of boys) because it helps the child develop a sense of trust in themselves. Encouraging conformity fosters field dependence (a pattern true of more girls) because it maintains a feeling of connection with others. Witkin (1979) specifically asserted that parents raise girls using practices that promote a field-dependent orientation, whereas parents raise boys using practices that facilitate a field-independent orientation. Witkin further asserts that these gender-differentiated child-rearing practices are fairly consistent across disparate cultures (e.g., Eskimo, African, Korean, and West Indian):

It appears to be a consistent phenomenon across cultures that child-rearing practices that encourage obedience in the child and conformance to parental authority are associated with the development of a field-dependent mode of functioning, whereas practices which tend to allow violations of parental authority and to encourage autonomy are associated with the development of a field-independent mode of functioning. (1979, p. 365)

### Summary

The literature concerning cognitive style is consistent with Lewis's hypothesis about the differential susceptibility of field-independent versus field-dependent individuals to feeling guilty, feeling ashamed, using distinct mechanisms of defense, and reporting different clinical symptoms (Goggin et al., 1979; Morris & Shapiro, 1974;

Newman & Hirt, 1983; Witkin, 1965). For example, guilt proneness and shame proneness are shown to be related to field independence and field dependence, respectively (Morris & Shapiro, 1974; Witkin, 1965). Because individuals with a field-dependent cognitive style are in tune with social cues and value social relationships, they are also apt to be aware of and concerned with any perceived withdrawal of love or ill feelings from others. This awareness tends to be internalized into self-blame, causing feelings of shame. On the other hand, field-independent individuals tend to be more socially aggressive, autonomous, and insensitive to withdrawals of love. Their social aggressiveness can lead to interactions that hurt others, thereby exacerbating feelings of guilt.

Differences in cognitive styles were also shown to be related to specific defense mechanisms (Lewis, 1985). Field dependence is related to the defense mechanism of turning against the self and field independence is related to defensive tendencies to turn against others and to project blame outwardly. People with a field-dependent cognitive style are willing to sacrifice their self-esteem and blame themselves for interpersonal problems in order to maintain smooth working relationships (Lewis, 1985). On the other hand, people who are field independent are more likely to value themselves, act out towards others, and blame others for any interpersonal problems that might arise. Therefore, it is not surprising that field dependence has consistently been shown to be related to symptoms of depression and field independence to symptoms of paranoia.

Lewis (1971, 1985) also consistently reported that field dependence and field independence were due to society's differential socialization of boys and girls. In addition, Witkin (1979) reported that individuals who are raised to be obedient and

conform (which is very true of many girls) are more likely to grow up to be field dependent. Conversely, individuals who are raised to be autonomous and self-serving tend to grow up with a more field-independent cognitive style (Witkin, 1979), which is consistent with how boys are traditionally raised in American culture (Brody, 1985).

The literature on cognitive styles was the beginning for the theoretical models proposed by Lewis (1971). Cognitive styles are hypothesized to be developed very early in life through the differential socialization practices used for boys and girls (Witkin, 1965). It is also hypothesized that because of their different socialization histories, men are consistently found to be more field independent and women more field dependent. This early development can potentially lay the groundwork for an individual to be guilt or shame prone, rely on specific defense mechanisms, and develop certain forms of psychopathology.

## Guilt and Shame

### Background

Active efforts have been made in the psychological literature to distinguish between the emotions of guilt and shame (Ferguson, Stegge, & Damhuis, 1990a, 1990b; Harder, 1990b, 1995; Harder et al., 1993; Harder & Zalma, 1990; Tangney, 1992; Tangney et al., 1995). Researchers and theoreticians alike have expressed considerable concern about our ability to differentiate the two emotions or the utility of doing so (Harder, 1995). Their concerns are well founded and will be elucidated later in this section.

Before providing a review of this literature on guilt and shame, it is helpful to consider some general distinctions drawn between the two emotions, as both emotional states and traits (Ferguson et al., 1990a, 1990b; Ferguson, Stegge, & Damhuis, 1991; Harder, 1995; Harder et al., 1992; Hultberg, 1988; Johnson et al., 1989; Kugler & Jones, 1992; Lewis, 1971, 1979a, 1979b; Lindsay-Hartz, 1984; Resneck-Sannes, 1991; Sorotzin, 1985; Tangney, 1990; Tangney et al., 1995; Wright et al., 1989).

Some researchers define the state of shame as a negative internal affective experience of embarrassment, humiliation, inadequacy, and worthlessness involving the entire self (Harder, 1995; Lewis, 1971). In contrast, guilt is seen as a negative affective state, involving feelings of regret and remorse about acts of commission or omission (Lewis, 1971). Although guilt and shame are both aroused by the perceived violation of standards, some researchers, although certainly not all, characterize guilt as specifically focused on the bad deed that could be seen to violate important standards (How could I do that?) and shame as specifically focused on the bad self (I am horrible for doing that).

Guilt and shame can also be viewed as emotional traits or styles of responding emotionally across time and situations. Thus, the guilt-prone person exhibits a stable predisposition to think that a personal, moral, and/or behavioral standard has been regularly and consistently violated. A shame-prone person, on the other hand, regularly and chronically experiences an internal sense of general inadequacy, worthlessness, and powerlessness (Lewis, 1971). When guilt and shame are chronically experienced across time and situations is when they become emotional traits that may lead to different forms of psychopathology (Ferguson & Stegge, 1995).

### Defining Shame

Gramzow and Tangney (1992) described shame as an acutely painful experience that involves a focus on the entire self. In the face of negative events, it is the global self that is painfully scrutinized and negatively evaluated. The painful self-scrutiny of shame is often accompanied by a sense of shrinking, or being small, and of being worthless and powerless. There is frequently a sense of exposure, a preoccupation or concern with the evaluation by others, real or imagined (Lewis, 1979a, 1979b; Retzinger, 1987; Thrane, 1979). Shame can also refer to a distinct family of emotions that includes embarrassment, humiliation, mortification, social discomfort, shyness, self-consciousness, and inferiority (Barrett & Campos; 1987; Lewis, 1971, 1988; Retzinger, 1987). The trait of shame is characterized by chronically experiencing these various reactions across time and situations.

Because it was initially downplayed by Sigmund Freud (1953) as a reaction formation against sexually exhibitionistic impulses, shame was not extensively studied or legitimized for a number of years (Piers & Singer, 1953). More currently, however, shame is seen as one of the most prominent and chronic affective problems of Western society (Nathanson, 1987). Chronic shame is either perceived as a sense of general inadequacy, worthlessness, or incompetence relative to the ego ideal or denied and inverted as false pride (Lewis, 1971).

Lewis (1971) was one of the first to provide a thorough description of shame and more recent research leans heavily on her elaboration of the construct (Harder, 1995; Harder & Zalma, 1990; Lindsay-Hartz, 1984; Tangney et al., 1995; Thrane, 1979). In Lewis's view, shame is said to characterize and involve the whole self. Because shame is perceived to be about the entire self, it is felt as selfish and

inappropriate, which evokes a shame spiral involving feelings of shame and guilt for feeling ashamed.

Lewis (1989) also discussed how shame evoked a particular kind of anger, which she labeled "humiliated fury" (p. 41). Humiliated fury occurs when an individual internalizes anger over some felt rejection instead of expressing the powerful feelings of anger one has toward someone who has presumedly rejected them. The anger or humiliated fury is usually not expressed because it involves the threat of damaging relationships with others (Lewis, 1979b). Lewis (1990) stated that "humiliated fury is blocked by the person's attachment (love), which has rendered the person vulnerable to shame to begin with" (p. 234). The feelings of humiliated fury are also seen by the individual as selfishly inappropriate, which causes the person to experience additional shame for the inappropriate anger (Lewis, 1971). It is for this reason, too, that shame often involves an emotionally self-perpetuating spiral with initial feelings of shame creating even more intense experiences of this emotion.

Shame can be seen as having a number of phenomenological components (Lewis, 1971). The involuntary "stimulus" component of shame includes disappointment, defeat, and a sense of self-deficiency. The "conscious content" of shame includes painful emotions and the autonomic responses of rage, blushing, and tears. Lewis also delineated a component having to do with the "position of the self in the field," which includes being passive and chronically perceiving negative evaluations from others. In Lewis's model, humiliated fury is the nature of shame's "discharge of hostility" while depression and hysteria are the "characteristic symptoms" associated with this emotional state.

Although the focus of the current research is on shame in its more chronic form, it is recognized that shame—when an appropriate response to a situation—is an adaptive response (Greenwald & Harder, 1998). For instance, Scheff (1988) remarked that moderate feelings of shame help keep our behavior within socially acceptable limits by encouraging us to care and be concerned about others.

The definition of shame that serves as a guide for its definition in this study is that proposed by Lewis (1971). Specifically, shame is defined as a persistent negative internal affective experience of embarrassment, humiliation, inadequacy, and worthlessness involving the entire self.

#### Defining Guilt

According to some authors (Lewis, 1971; Tangney et al., 1995), in contrast to shame, feelings of guilt are more likely to be focused on a specific behavior. The specific behavior is negatively evaluated somewhat apart from the global self (Lewis, 1979a). In guilt, there is a sense of tension, remorse, and regret over a "bad thing done" or something "not done." Following either a sin of commission or omission, the "self" remains essentially intact. Thus, according to Gramzow and Tangney (1992), the experience of guilt is less painful and debilitating than shame, and it often leads to a desire to apologize, confess, or make amends. The type of guilt emphasized by Tangney and her associates, which reflects tension, remorse, regret, and a desire to make repairs for one's bad behavior, really reflects the emotional component of a well-developed conscience, which some have labeled dispositional guilt (Bybee & Quiles, 1998; Ferguson & Crowley, 1997b).

Other views of guilt exist in the literature. For example, in classic psychoanalytic theory, guilt is viewed as a response to one's own unacceptable impulses, originating when feelings of hostility and/or sexuality toward the parents are repressed and turned inwardly (S. Freud, 1953). Mosher (1979) sees guilt as an unconscious affective experience involving self-blame, self-remorse, and self-punishment. Consistent with this idea, McGraw (1987) finds that self-blame, and not the perception that one had produced a negative outcome, is central to the experience of guilt. Guilt can also be chronic and maladaptive when the person persistently and inappropriately interprets experiences in terms of self-responsibility or continually tries to make amends but fails (Ferguson & Stegge, 1995). These chronic interpretations and behaviors can lead to the trait of surfeit maladaptive guilt (Malatesta & Wilson, 1988). This type of guilt needs to be differentiated from the more adaptive, predispositional manifestation emphasized by Tangney (1992) and Bybee and Quiles (1998).

The view that guilt involves self-punishment and self-blame bears a striking resemblance to the descriptions of shame discussed earlier. Because psychoanalytic theory traditionally ignored the construct of shame, it is understandable that definitions of guilt confounded with more contemporary views of shame. In other words, it is conceivable that traditional psychoanalytic theory actually combined the two experiences of shame and guilt into the single more recognized construct of guilt, thus overlooking the construct of shame.

Lewis was trained as a psychoanalyst, but believed that traditional psychoanalytic theory had seriously ignored the unique features of guilt and shame and the distinct roles that each played in the development of psychological symptoms. Her description of the unique features of guilt (1971) includes a number of



phenomenological components. The "stimulus" component of guilt involves a moral transgression for something the self has done. The "conscious content" of guilt includes a lack of painful affect and a less pronounced autonomic response than shame. Guilt's "position of the self in the field" is self-active and self-absorbed. Righteous indignation is involved in "discharging hostility" and the "characteristic symptoms" of guilt include paranoid and obsessive thought disorders.

Lewis (1971) stated that undischarged, chronic, and excessive guilt is considered maladaptive and leads to symptom formation that includes paranoia and blaming others. For instance, using Malatesta and Wilson's (1988) notion of surfeit pathology, if an individual constantly tries to make amends for transgressions and perceives that these efforts are not accepted by others, it is conceivable that this person will be inclined to blame others and turn against them for not accepting the corrective attempts. Chronic maladaptive guilt involves the consistent belief that an individual can never make amends for a transgression no matter how hard he or she tries (Ferguson & Stegge, 1995). This belief leads to excessive rumination and persistent feelings of culpability (Ferguson & Crowley, 1997a; Ferguson & Stegge, 1995).

Thus, although recent authors have touted guilt's adaptive role for the individual and society (Baumeister, Stillwell, & Heatherton, 1994; Bybee, Williams, & Merisca, 1994; Tangney et al., 1995), guilt in its maladaptive form is the focus of this study primarily because of the emphasis it receives in Lewis's models of symptom formation.

In keeping with Lewis's models, and consistent with a number of other prominent researchers in this area, guilt will be defined in this study as a chronic

negative affective experience stemming from the performance or nonperformance of behaviors that transgress behavioral standards.

Controversies Concerning the Measurement  
and Adaptive Value of Guilt and Shame

Recent efforts have been made with some success to validate measures of guilt and shame (Harder, 1990; Harder & Zalma, 1990; Tangney et al., 1995), although there are notable inconsistencies in how guilt and shame have been measured in the literature. The inconsistencies in measurement, particularly applicable to the construct of guilt, reflect divergent definitions of this construct.

Compared to guilt, the history of shame has been much less controversial, although what controversy there has been promises to increase in the near future. Historically, shame has been viewed as uniformly maladaptive for the individual. Its maladaptive potential is evidenced by the overwhelming amount of research using diverse methods, including the Test of Self-Conscious Affect (TOSCA; Tangney et al., 1995) and the PFQ-2 (Harder & Zalma, 1990). For example, shame-proneness correlates positively with indices of psychopathology as measured by the Symptoms Checklist 90-Revised (SCL-90-R) and with the Beck Depression Inventory (BDI; Tangney et al., 1995). In addition, using the Adapted Shame/Guilt Scale (ASGS), the Shame Scale was found to be positively correlated with the Depression Scale on the SCL-90-R,  $r = .38$ ,  $p < .05$  (Harder, 1995).

Shame is also related to chronic self-blame and avoidance of social situations, which does not produce empathy from others. Therefore, shame-prone individuals are likely to feel alienated and isolated from others (Lewis, 1979). Thus, in this sense,

shame is generally considered both intrapersonally and interpersonally maladaptive (Tangney et al., 1995).

Nonetheless, shame's adaptive value has been increasingly recognized in the literature (Greenwald & Harder, 1998; Scheff, 1988). Shame can be seen as temporarily adaptive by attaching an object (the self) to the source of the anxiety, which eliminates the shame-prone individual's free-floating anxiety and providing them some sense of personal control (Lewis, 1979b).

Although there is growing controversy over the maladaptive nature of shame and how to measure it, disagreements regarding the definition and measurement of guilt have existed for several years. Tangney and her colleagues construe guilt as essentially adaptive. In order to obtain a high guilt score on Tangney and colleagues' TOSCA, one must provide socially appropriate responses following fairly blatant and willful interpersonal mistakes. For example, one scenario in the TOSCA involves helping oneself to a coworker's supply of chocolates without his or her knowledge. The response scored as reflecting guilt is to "apologize and replace the chocolates." If participants rate this response as one they would be highly likely to engage in, they then receive a high guilt score for that scenario. If guilt is operationalized in this fashion, it is understandable why guilt, as measured using the TOSCA, does not correlate positively with other measures of guilt or such measures of psychopathology as depression (Ferguson & Crowley, 1997b; Harder, 1990b, 1995; Harder et al., 1992; Harder & Zalma, 1990; Hoblitzelle, 1987).

Harder (1995) and others (e.g., Ferguson, Stegge, Miller, & Olsen, 1999; Lewis, 1971) view chronic guilt as being maladaptive for the individual. They see guilt as being distinct from shame, but also recognize the difficulty in teasing apart the two

constructs. Yet, Harder has successfully validated his Personal Feelings Questionnaire (PFQ; Harder & Lewis, 1987) and the revised PFQ-2 (Harder & Zalma, 1990) as appropriate measures of the constructs. The PFQ-2 is an adjective checklist measure of guilt and shame, in which respondents rate how common each of several guilt-keyed or shame-keyed feelings are for them on 5-point scales ranging from 0 (you never experience the feeling) to 4 (you experience the feeling continuously or almost continuously). Guilt scores range from 0 to 24 with higher scores indicating more guilt-proneness. Harder's guilt and shame scales on the PFQ-2 show adequate construct validity (see Chapter IV in this study). Harder has consistently found guilt and shame to be positively related to many indices of psychopathology, including depression (Harder, 1995; Harder et al., 1992, 1993; Harder & Zalma, 1990). Many others join Harder in his view of guilt's maladaptive potential, including Ferguson and her colleagues (e.g., Ferguson & Crowley, 1993; Ferguson & Eyre, 2000; Ferguson & Stegge, 1995, 1998; Ferguson, Stegge, Eyre, Vollmer, & Ashbaker, 2000; Ferguson et al., 1999) who have argued and shown that guilt can be very maladaptive when expressed as an inappropriate response to the context at hand.

Many other researchers do not agree that the TOSCA's operationalization of guilt is necessarily the most valid one or the most clinically meaningful one for predicting certain forms of psychopathology (e.g., depression) as opposed to other types of psychopathology (e.g., antisocial tendencies; Ferguson & Stegge, 1998). For example, Kugler and Jones (1992) asserted that the TOSCA guilt scale is really a measure of empathy, social responsibility, and moral standards. Similar views have been expressed by Gilbert and his colleagues (e.g., Gilbert & Andrews, 1998; Gilbert, Pehl, & Allen, 1994) as well as Sabini and Silver (1997). In all, we need to recognize

that there is no unified type of guilt, rather there are many types of guilt. This is consistent with the functionalist approach to emotion that conceptualizes emotion in terms of families of affect rather than single, unitary constructs (Ferguson et al., 2000). Tangney and her associates' (1995) protestations to the contrary, there is such an entity as anxious, chronic, or maladaptive guilt (Ferguson & Crowley, 1993; Ferguson et al., 1996) and this construct nicely aligns with the type of guilt that Lewis thought so prominent in the etiology of various disorders.

Further problems with measuring guilt and shame using self-report measures include the fact that guilt and shame scores are moderately correlated for virtually every instrument used to assess them. Correlations have ranged from .39 to .64 (Harder & Zalma, 1990; Tangney et al., 1995). The consistent positive correlations between guilt and shame to some extent simply reflect shared method variance, as shown by Ferguson and Crowley (1997b). Method variance aside, some have asked whether it is meaningful or parsimonious to try to distinguish these two constructs. For example, Kaufman (1989; see also Nathanson, 1987; Tomkins, 1987) has maintained that guilt is merely "morally concerned" shame and is used to denote a number of negatively toned emotional states involving shame, distress, fear, and anger (p. 26). In addition, research (Lindsay-Hartz, 1984; Tangney, 1992) has indicated that even verbal, well-educated young adults have difficulty defining and distinguishing between shame and guilt in the abstract.

Regardless of the similarities and overlap between guilt and shame, drawing a distinction is important. Research has convincingly shown that there are important phenomenological distinctions drawn between the two emotions, even by young children (Ferguson et al., 1991; Lindsay-Hartz, Rivera, & Mascolo, 1995; Tangney,

1992). Many researchers have argued that the differentiation between guilt and shame is important for clinical theory and personality assessment (Harder, 1990; Lewis, 1971, 1990; Tangney, 1992). For example, Harder (1990) stated "it is clear that individuals do differ in their tendencies to experience one painful superego affect or the other. The clinical implications of this difference are great" (p. 287). In addition, therapists have long acknowledged the clinical significance and importance of implementing different therapeutic strategies for clients who struggle with issues of guilt or shame (Harder, 1995; Lewis, 1971; Tangney et al., 1995).

As the previous discussion shows, the measurement of guilt- and shame-proneness is a very contentious issue that is further complicated by disagreements among researchers regarding theoretical definitions of the two constructs. For this study, the Personal Feelings Questionnaire-2 (PFQ-2) will be the primary measure of guilt and the Adapted Shame and Guilt Scale (ASGS) will be the primary measure for shame. Further descriptions of the instruments are provided in Chapter IV of the study.

#### Gender Differences in Guilt and Shame

A central premise of Lewis's (1971) analysis of guilt and shame is that the two emotions are differentially involved in females' and males' self-definitions. She suggested there are two distinct ways of organizing the self, with guilt and shame representing fundamentally distinct modes of perceiving and experiencing information about the self (Ferguson & Crowley, 1997a; Lewis, 1971). These modes of perception are viewed as congruent with gender-linked differences in socialization practices (Lewis, 1971). Lewis predicted that through socialization women would be more likely to develop a shame-prone affective style and men a more guilt-prone style.

According to Lewis (1971), early socialization practices and experiences promote a predominantly field-dependent cognitive style in women, which is characterized by someone lacking strong ego boundaries and relying on others for their self-definition. Socialization of women also tends to create a traditionally feminine and passive view of the self (Zahn-Waxler et al., 1991). Due to the lack of strong ego boundaries and a passive self-view, women tend to internalize and personalize feelings of hostility and anxiety (humiliated fury) from others (Lewis, 1971). A chronic tendency to internalize and personalize feelings of hostility and anxiety from others ultimately leads to the development and persistence of a shame-prone affective style (Ferguson & Crowley, 1997a).

Someone with a shame-prone affective style also relies on the internalized defense mechanism of self-blame in order to defend the "self" against free-floating anxiety (Lewis, 1971). The defense operates by attaching an object or subject (the self) to the anxiety, which subsequently reduces the anxiety by allowing the ego to focus its attention on something specific, creating some arbitrary feeling of control, instead of dealing with an unknown and nebulous source of anxiety (Lewis, 1985).

On the other hand, a guilt-prone affective style is hypothesized as developing from socialization practices and experiences of rewarding traditionally masculine behaviors of outward aggression and hostility, creating a field-independent perceptual style and strong ego boundaries (Lewis, 1971). Social acceptance of male aggression and hostility provides opportunities for men to struggle with perceived transgressions and subsequent anxiety over the transgressions, allowing for a guilt-prone affective style (Lewis, 1985). In addition, people with guilt-prone affective styles try to protect

their strong ego boundaries with a defensive style that deflects negative feelings outwardly onto others (Lewis, 1985).

A number of studies show that women are more prone to both guilt and shame than men (Harder & Zalma, 1990; Johnson et al., 1989; Tangney, 1990). These findings are somewhat confounded due to the fact that women rate themselves as feeling many emotions more intensely and more frequently than men (Brody, 1985). Gender differences have also been found in guilt- and shame-proneness for children (e.g., Ferguson et al., 1991). For example, Lewis, Alessandri, and Sullivan (1992) found that 3-year-old girls scored higher in behavioral indicators of shame-proneness than boys. These little girls felt especially shameful when they failed at an easy task. Many studies also report stronger guilt in women than in men, particularly guilt over aggression and causing interpersonal harm (Harder & Zalma, 1990; Frodi, Macaulay, & Thome, 1977).

It needs to be strongly emphasized, however, that these gender differences in guilt and shame proneness are far from consistent in the empirical literature. For example, Smith (1972) stated that the relative proneness to shame and guilt did not appear to be gender-related in his study using Binder's Early Memories Test. Harder also rarely finds significant gender differences for guilt and shame when using his measure of the construct, the PFQ-2 (Harder, 1990b; Harder et al., 1993). In addition, in another study using the ASGS, there were no significant gender differences found for the two emotions (Wright et al., 1989).

Ferguson and Eyre (2000), stated that the tendency for women to experience more intense feelings of guilt than men has become almost a truism in the psychological literature. However, in their extensive review of the actual empirical



evidence, they concluded that women do not possess a greater tendency to express or report guilt-related experiences than men. In addition, Harder and Zalma (1990) found that, when using the ASGS, men reported significantly more guilt than women however, using the PFQ-2 women reported more guilt than men. Conclusions regarding the true presence of gender differences are obviously equivocal unless one takes into account the specific definitions and measures being used and their validity. For example, gender differences have consistently been found when using the TOSCA, but not so consistently with other measures of these constructs, including the PFQ-2 and the ASGS (Ferguson & Eyre, 2000).

Determining whether gender differences exist in guilt and shame depends greatly on the measurement instrument employed. It is fair to state that measures assessing the maladaptive forms of guilt rarely find gender differences in this emotion. It is also fair to state that the same types of measures rarely reveal gender differences in shame. In addition, the presence of between-gender differences in guilt and shame may not be as important as the fact that men or women may generally differ in the relative amount of guilt and shame they experience. The between-gender comparisons that were made based on the literature also revealed that women typically report both emotions more frequently or intensely than do men (Ferguson & Eyre, 2000). Both of these comparisons are inconsistent with aspects of Lewis's thinking. Also yet to be fully addressed is Lewis's central question of whether guilt and shame are differentially related to other constructs (such as cognitive style, defense mechanisms, and psychopathology) in the two genders. There exists preliminary support for her ideas in this respect in the work of Ferguson and Crowley (1997a). The focus of this study is to

provide a more complete test of her assertions regarding gender-specific differential associations among the constructs, as depicted in Figures 1 and 2.

## Defense Mechanisms

### Background and the Defense Mechanism Inventory

The construct of defense mechanisms was introduced to the clinical literature by Sigmund Freud (1953) and elaborated on by his daughter in her landmark book The Ego and the Mechanisms of Defense (A. Freud, 1936). Although the existence of defense mechanisms was challenged for years, researchers have provided empirical support for their existence and potential influence on behavior (Anderson & Leitner, 1991; Cramer, 1987; Noam & Recklitis, 1990).

Ihilevich and Gleser (1986) defined psychological defense mechanisms as "relatively stable response dispositions that serve to falsify reality whenever a person's resources, skills or motivation are insufficient to resolve inner conflicts or master external threats to well-being" (p. 5). Cramer (1987) defined the term defense mechanism as "any cognitive operation that functions so as to protect the individual from the disruptive effects of excessive anxiety" (p. 598). In this sense, defenses are adaptive; they allow the individual to continue to function and to cope with anxiety-arousing and threatening situations. The maladaptive nature of defense mechanisms depends on their degree of use and on the extent of reality distortion involved (Ihilevich & Gleser, 1986). When used chronically and excessively, defenses may overly distort reality and cause problems in everyday life (A. Freud, 1936). The present research focuses on the maladaptive aspects of defense mechanisms as they are related to the symptoms of depression and paranoia.

In their overview and integration of the massive literature on mechanisms of defense, Gleser and Ihlevich (1969) classified them into five major categories. These are:

1. Turning against the object (TAO). Using this class of defenses, the person copes with conflict situations by attacking a real or presumed external frustrating object. Defenses such as "identification with the aggressor" and displacement can be placed in this category. Example: You get turned down for a date and you feel upset. You then get mad and kick the dog, because you got turned down.

2. Projection (PRO). In this class of defenses, people justify the expression of aggression toward an external object or person by first attributing negative intent or characteristics to the object or person, regardless of whether the object or person truly does possess these characteristics or intentions. Example: After being turned down for a date, you believe that the person is not very friendly and does not like to date.

3. Principalization (PRN). People using this class of defense cope with conflict by repressing or splitting off their affective reactions to a situation from more cognitive responses to the situation. The person minimizes an affective response by invoking a principle, standard, or rule that enables them to respond fairly "objectively" to the threatening situation. Defenses such as intellectualization, isolation, and rationalization fall into this category. Example: You get turned down for a date and you say that you really did not want to go out with that person anyway.

4. Turning against the self (TAS). The person who uses this type of defense handles conflict by directing aggressive behavior and negative attitudes inwardly toward him/herself in an attempt to provide an object for the felt anxiety. Masochism and self-blame are examples of defensive solutions in this category. Example: You get

turned down for a date and you automatically assume that the person hates you or that they are ugly, instead of looking at many other plausible possibilities for the rejection.

5. Reversal (REV). The person who employs this type of defense deals with conflict by responding in a positive or neutral fashion to a frustrating object or situation that normally would be expected to evoke a negative reaction. Defenses such as negation, denial, reaction formation, and repression are included under this category. Example: Someone continually turns you down for a date, yet you continue to believe that the person really wants to date you.

Based on this classification system, Gleser and Ihilevich (1969) developed the Defense Mechanism Inventory (DMI), which in the past three decades has become one of the most widely used and accepted instruments for studying and investigating mechanisms of defense (see the section on "Measures" for a thorough description of the DMI).

#### Defense Mechanisms and Psychopathology

For many researchers the term "defense mechanism" has an exclusively negative connotation, but others point out that they can be either adaptive or maladaptive. The five clusters of defense mechanisms distinguished by Gleser and Ihilevich (1969) are often placed on an adaptive-maladaptive continuum, with some defense mechanisms being seen as more healthy and adaptive than others. Ihilevich and Gleser (1986) also asked 24 community mental health psychotherapists from psychiatry, psychology, and social work to rate the five DMI categories according to their presumed degree of psychopathology. Specifically, the five DMI categories were ranked in terms of how likely a person using each of them would be to develop

psychological symptoms. The order from least-to-most psychopathic was PRN, TAO, REV, PRO, and TAS, respectively, which is consistent with the idea that PRN and REV would be fairly adaptive responses to threatening situations and PRO and TAS fairly maladaptive responses (Ihilevich & Gleser, 1986). Turning against others was probably seen as relatively adaptive because it can be an effective defense against threatening situations in the short term, but in the long-term can lead to paranoia (Lewis, 1971).

Other research supports these views of the potential adaptive and maladaptive roles of various defense mechanisms. For example, both depressed male and female participants used much less PRN and REV than nondepressed participants (Margo et al., 1993). These results might suggest that the use of PRN and REV shields people from developing depression. In another study using canonical correlation analysis, PRN and REV were construed as representing a healthy defensive cluster and PRO and TAO an unhealthy cluster (Anderson & Leitner, 1991). In this study, greater tendencies to use TAO and PRO, but lesser tendencies to use PRN or REV, were related to clinical symptom scores from the Symptoms Checklist 90-R (Derogatis, 1977; Derogatis & Cleary, 1977) and the MMPI (Hathaway & McKinley, 1951). In another study, hostility as measured by the Interpersonal Style Inventory (Loor & Youniss, 1973) was positively related to scores for TAO,  $r = .50$ ,  $p < .01$ , and PRO,  $r = .32$ ,  $p < .05$  (Brems, 1990). Furthermore, psychotherapy clients, when compared to nonclients, endorsed significantly more PRO,  $F(1, 88) = 10.54$ ,  $p < .002$ , and less PRN,  $F(1, 88) = 15.60$ ,  $p < .001$ , than nonclients (Brems, 1990). Finally, in a sample of 56 men and 62 women psychiatric outpatients, PRO was positively related to Cattell's 16 PF suspiciousness scale (Factor L; Gleser & Ihilevich, 1979), which is a common symptom in people with paranoia (APA, 1994).

Turning against the self (TAS) is also linked to forms of psychopathology. Gleser and Ihlevich (1969), found that TAS was positively correlated with the depression subscale of the MMPI for both male,  $r = .42$ ,  $p < .01$ , and female,  $r = .24$ ,  $p < .05$ , psychiatric outpatients. This finding is consistent with another study, which found that TAS in women was statistically significantly related to the depression scale on the Symptoms Checklist-90,  $r = .26$ ,  $p < .05$  (Kaley & Hovey, 1983). However, Gleser and Ihlevich (1969) also found that women's TAS scores were positively correlated with the psychathesia,  $r = .36$ ,  $p < .01$ , schizophrenia,  $r = .41$ ,  $p < .01$ , and paranoia scale,  $r = .46$ ,  $p < .01$ , of the MMPI. These results, although inconsistent with Lewis's assertions that TAS should primarily be related to depression, are consistent with viewing TAS as being related to the development of psychopathology in general.

It appears from the literature that some evidence exists for a relationship between specific defense mechanism categories and specific forms of psychopathology. Namely, the defenses of PRN and REV tend to be relatively healthy defenses and the defenses of TAS, PRO, and TAO are related to symptoms of psychopathology. More specifically, the internalizing defense of TAS is most consistently associated with symptoms of depression, whereas the externalizing defenses of PRO and TAO are related to hostility and paranoia.

#### Gender Differences in the Use of Defense Mechanisms

Numerous studies have looked at gender differences in the use of specific defense mechanisms and have found consistent and significant gender differences in people's tendency to use the defensive clusters of TAS, TAO, and PRO (Bogo et al., 1970; Cramer & Carter, 1978; Margo et al., 1993; Levit, 1991). Turning against the self

is considered to be an internalizing defense and is consistently found to be utilized more by women than by men. On the other hand, men, more than women, consistently use the externalizing defenses of TAO and PRO. Principalization (PRN) and REV are not consistently resorted to by either men or women (Bogo et al., 1970; Cramer & Carter, 1978; Dudley, 1978; Frank, McLaughlin, & Crusco, 1984; Gleser & Ihilevich, 1969; Gleser & Sacks, 1973; Ihilevich & Gleser, 1971; Levit, 1991; Sugarman, Sheldon, & Roth, 1975).

Further evidence exists for the presence of gender differences in the use of defense mechanisms. A principal component analysis on DMI cluster scores revealed two distinct DMI dimensions (Gleser & Ihilevich, 1969). The first dimension accounted for 77% of the variance in male's responses, with men demonstrating a tendency to endorse TAO and PRO but not PRN and REV. The second dimension included the single defensive cluster of TAS that accounted for 80% of the variance in female's responses, indicating that TAS is used frequently by women.

The focus of this study is on the TAS, TAO, and PRO defensive categories, because these three are central in Lewis's models of paranoia and depression. In general, there is evidence that there are gender differences in defense mechanism use that are consistent with Lewis's models. Moreover, although less consistent, there is much evidence that TAS is strongly linked to depression (Frank et al., 1984), whereas TAO and PRO are linked more to paranoia (e.g., Cramer, 1988; Frank et al., 1984; Noam & Recklitis, 1990).

## Gender-Related Development of Defense

### Mechanism Use

Gender differences in the use of defense mechanisms arise in large part because of the unique pressures placed on girls and boys throughout socialization (Ihilevich & Gleser, 1986; Lytton & Romney, 1991; Zahn-Waxler et al., 1991). Relative to men, women are positively reinforced for behaving in ways that are passive, responsible, and responsive to others, but they are punished for more agentic, instrumental, or competitive displays (e.g., Zahn-Waxler et al., 1991). Women also receive active training in using self-deprecating explanatory styles or self-blame as a means of coping with stressors (Archer, 1996). All of these various pressures in socialization would lead one to expect women to externalize less and internalize more, which is consistent with the defense mechanism literature and Lewis's models.

On the other hand, men may be more prone to using the defenses of TAO and PRO in stressful situations because they are socialized to believe that others are trying to harm them in some manner. They, therefore, tend to attack and blame others (Weissman, Ritter, & Gordon, 1971).

The link between TAO and PRO in men is also understandable in light of various factors in early socialization of boys. Boys are socialized from a young age onwards to be active in the environment and responsible for themselves (Archer, 1996; Brody, 1985). For example, during early and middle childhood, boys are involved more in large same-gender group interactions in which the likelihood of being involved in overtly aggressive, competitive, or conflictual exchanges is increased (Archer, 1996; Lytton & Romney, 1991). These types of interactions give boys ample opportunities to practice aggressive forms of defensive responding (Brody, 1996). In fact, boys are



allowed, and at times are encouraged more than girls, to resolve conflicts by being aggressive (Archer, 1996; Lytton & Romney, 1991; Zahn-Waxler et al., 1991). The additional direct or indirect promotion of aggression and personal narcissism in men might lead them to use the externalizing defenses of blaming others and acting out (Chodorow, 1978; Gleser & Ihilevich, 1969; Nolen-Hoeksema & Girgus, 1994).

In summary, the literature supports the idea that chronic and excessive use of the TAS, PRO, and TAO defense mechanism categories pave the way for the development of certain forms of psychopathology. Men tend to rely on the TAO and PRO defenses leading to symptoms of paranoia and women use the TAS defenses leading to symptoms of depression.

### Conclusions

Lewis's (1971) models incorporate a number of factors (e.g., field dependence/independence, guilt, shame, and defense mechanisms) that presumably contribute to the emergence of gender differences in different forms of psychopathology (i.e., depression and paranoia). From the literature reviewed, results reveal that men are likely to have a field-independent cognitive style, be prone to both guilt and shame, be prone to the defenses of PRO and TAO, and be susceptible to paranoia (Gleser & Sacks, 1973; Goggin et al., 1979; Gottschalk & Gleser, 1969; Harder, 1990b; Harder et al., 1992; Ihilevich & Gleser, 1971; Lewis, 1971, 1979a, 1979b, 1985; Morris & Shapiro, 1974; Perlman & Kaufman, 1990; Shevrin, Smokler, & Wolf, 1979; Tangney et al., 1995; Witkin, 1965, 1979; Witkin et al., 1968). Women, on the other hand, appear likely to have a field-dependent cognitive style, to be shame-prone and guilt-prone, to be inclined to use the defense of TAS, and are predisposed to

developing symptoms of depression (Gottschalk & Gleser, 1969; Harder, 1990b; Harder et al., 1992; Tangney, 1992, Tangney et al., 1995; Witkin, 1965, 1979; Witkin et al., 1968). Thus, there is consistent support in the psychological literature for some pieces of Lewis' models but not for others.

Evidence that most consistently fails to support a particular interpretation of Lewis' models pertains to the lack of consistent gender differences in guilt and shame. Researchers who have used the PFQ-2 or comparable measures to assess the frequency with which guilt and shame are experienced rarely find gender differences in either emotion (Ferguson & Eyre, 2000). Others, including Tangney and her associates (Tangney, 1990; 1992; Tangney et al., 1992, 1995), who consistently use the TOSCA (or equivalents) regularly find that women score higher than males on both guilt and shame (see Ferguson & Eyre, 2000). It was also emphasized by Ferguson and Crowley (1996), however, that these comparisons are not directly germane to the validity of Lewis' models. Moreover, researchers have rarely examined associations of pertinent constructs with guilt or shame separately in men and women, thereby rendering much of the literature moot regarding the validity of these aspects of Lewis's models. Thus, although positive links between guilt, shame, defense mechanisms, and psychopathology have been inconsistently reported in the literature (Harder, 1995; Tangney et al., 1995, Wright et al., 1989), failure to examine these separately by gender makes it difficult to evaluate whether certain of Lewis's claims are valid.

Because the present study uses measures of all constructs represented in Lewis' models, and examines the models for men and women separately, it will serve as a concurrent test of her ideas. This test should improve upon past research efforts that have only scrutinized specific pieces of the model. Nonetheless, although there is

## CHAPTER IV

### DESIGN AND PROCEDURES

#### Participants

The population from which participants were drawn for this study was university college students at Utah State University and Louisiana State University who were enrolled in undergraduate psychology classes and who agreed to participate for extra credit. Complete data were available for 301 students. There were 133 (93 women and 40 men) participants from Utah State University and 168 (104 women and 64 men) from Louisiana State University.

Across both samples, participants ranged in age from 17 to 44 years with a mean of 20.73 years ( $SD = 3.31$ ). Ninety-four percent of the participants ranged from 17 to 24 years of age. While data were not collected regarding the ethnic composition of the sample, 1997 statistics from LSU's admissions office indicate that 79% of the undergraduates were Caucasian, 9% were African American, and 12% were a mixture of either Asian, nonresident Alien, Hispanic, Native American, or Unknown. Statistics from the Utah State University Planning and Analysis Office indicate that 91% of the students were Caucasian, 5% were nonresident alien, and 4% were either Native American, Asian, African American, or Hispanic.

#### Procedures

Students were approached in class with an opportunity to acquire extra credit points by completing a packet of six paper-and-pencil surveys. The instruments were presented to the students as a study on students' perceptions of everyday situations.

Participants were scheduled to arrive at a classroom to complete all of the instruments during a 90-minute session. They first read an informed consent form (see Appendix), which explained confidentiality procedures, and then handed the signed consent form to the proctor. Nobody who showed for the session refused to participate in the study. The proctor then informed respondents that they did not have to reveal their identity on any of the other instruments.

Students first completed the Group Embedded Figures Test (GEFT). This is a timed test that takes approximately 15 minutes to complete. Following the GEFT, the students completed forms of the Symptoms Checklist 90-R (SCL-90-R; Derogatis, 1977), the Beck Depression Inventory (BDI; Beck, 1967), the Adapted Shame and Guilt Scale (ASGS; Hoblitzelle, 1987), the Personal Feelings Questionnaire-2 (PFQ-2; Harder & Zalma, 1990), and the Defense Mechanism Inventory (DMI; Gleser & Ihilevich, 1969). After students completed all instruments, they handed in the survey packets and were awarded their extra credit points.

## Measures

### Overview of Measures

Figure 1 depicts the structural model for depression, which includes the latent variables cognitive style (GEFT, field dependence), defense mechanisms (TAS), shame, and depression. The structural model for paranoia, seen in Figure 2, involves the latent variables cognitive style (GEFT, field independence), defense mechanisms (TAO, PRO), guilt, and paranoia.

For the purposes of conducting the linear structural relations (LISREL) statistical analyses (Jöreskog & Sörbom, 1998), it was necessary to have two indicator variables

for each of the four latent variables in each of the two models (see Figures 1 and 2). For the depression model, two indices of cognitive style (GEFT-1 and GEFT-2), shame (ASGS shame and PFQ-2 shame), internalizing defense mechanisms (TAS-1 and TAS-2), and depression (BDI and SCL-90-R Depression) were needed. For the paranoia model, two indices of cognitive style (GEFT-1 and GEFT-2), guilt (ASGS guilt and PFQ-2 guilt), externalizing defense mechanisms (TAO and PRO), and paranoia (SCL-90-R, Paranoia-1 and Paranoia-2) were needed. The measures used to assess each construct in each model are described in subsequent sections.

#### Reliability of the Measures

Cronbach's coefficient alphas were calculated to determine the internal consistency reliability for the variables used in the structural equation models (Borg & Gall, 1989). Item reliability analyses were conducted for the entire sample and for the samples of men and women separately. Reliability coefficients ranged from .51 to .90 for all measures (see Table 2). The lowest reliability estimate appeared for females' TAS-2 scores (.51) and the highest resulted for female's SCL-90-R depression scores (.90). Borg and Gall (1989) indicate that reliability estimates of .47 reflect low reliability, .79 reveals moderate reliability, and .98 shows high reliability for scales assessing attitudes. Therefore, most of the reliability estimates for this study fall in the moderate range and can be considered adequate for the purposes of this study. The relatively lower reliability of scales TAS-1 and -2, and Paranoia-1 and -2 could reflect the fewer items comprising each of these scales.

Table 2

Cronbach's Alpha for All Scales

Scales	Entire sample	Men	Women
PFQ-2 (GUILT)	.68	.68	.67
PFQ-2 (SHAME)	.80	.79	.80
ASGS (SHAME)	.81	.78	.82
ASGS (GUILT)	.81	.74	.84
BDI	.87	.85	.88
SCL-90-R Depression	.89	.88	.90
SCL-90-R PARANOIA	.76	.77	.75
Paranoia-1	.60	.60	.60
Paranoia-2	.61	.62	.61
TAO	.83	.80	.84
PRO	.64	.64	.61
TAS	.76	.69	.73
TAS-1	.57	.52	.51
TAS-2	.68	.56	.69
GEFT	.80	.77	.81
GEFT-1	.78	.76	.77
GEFT-2	.79	.75	.78

Note. PFQ-2 = Personal Feelings Questionnaire-2; ASGS = Adapted Shame/Guilt Scale; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist-90-R; TAO = Turning Against Others; PRO = Projection; TAS = Turning Against the Self; GEFT = Group Embedded Figures Test.

## Measures for the Depression Model

### Cognitive Style Measure

The GEFT was determined to be the most practical cognitive style measure of field dependence/ independence to use for the purposes of this study, because of its demonstrated reliability and validity and its ease of administration in a group testing format. The GEFT is an adaptation of the original, individually administered Embedded Figures Test (Witkin et al., 1971). The test is composed of a series of group timed trials in which the task is to locate a simple geometric design that is embedded in a complex design. Only one geometric form is traced for each complex design, with structure, patterning, and coloration of the design serving to obscure the outlines of the simple figure within each design. There are eight possible simple geometric forms that participants can locate and trace within the complex patterns, with the designs varying in the degree of difficulty of disembedding.

The GEFT consists of three timed sections. The first is a 2-minute practice section with seven items. The two test sections contain nine items each, with a maximum of 5 minutes being given to complete each section. GEFT scores range from 0 to 18, with higher scores suggesting more field-independent functioning and lower scores indicating more field-dependent functioning.

The scores for the GEFT and the Rod-and-Frame Test (Oltman, 1968), another measure of field dependence/independence, are correlated in both male,  $r = .67$ ,  $p < .01$ , and female samples,  $r = .63$ ,  $p < .01$ , indicating the adequate convergent validity of this measure (Ihlevich & Gleser, 1971). Test-retest reliability coefficients have consistently been reported in the .75 to .95 range with a variety of participant populations (Witkin et al., 1971). Internal consistency has been reported as .80 with

elementary school students (Thompson, Pitts, & Gipe, 1983) and .86 with college undergraduates (Carter & Loo, 1980). A split-half reliability coefficient comparing the scores for the two nine-item sections is .82 (Witkin et al., 1971). The split-half reliability coefficient for the present study was .80. Cronbach's alphas for the present sample are reported in Table 2.

The two indicators of cognitive style created for this study (GEFT-1 and GEFT-2) were derived from each of the two nine-item test sections. A  $t$  test between the mean GEFT-1 score ( $M = 5.97$ ,  $SD = 2.15$ ) and the GEFT-2 score ( $M = 6.00$ ,  $SD = 2.52$ ) for the whole sample  $t(299) = -.25$ ,  $p = .80$ , for the men  $t(102) = -1.32$ ,  $p = .19$ , and for the women  $t(196) = .71$ ,  $p = .48$ , indicates that the two test scores do not differ statistically significantly in the three samples with the alpha level set at .05. In addition, a standard mean difference analysis was conducted between the GEFT-1 and GEFT-2 mean scores for the whole sample SMDs = .01, for women SMDs = .04, and for men SMDs = -.13, which all indicate a lack of statistically significance difference.

The correlation between scores from GEFT-1 and GEFT-2 in the present sample is  $r = .53$ ,  $p < .01$  for the group as a whole;  $r = .44$ ,  $p < .01$  for men, and  $r = .57$ ,  $p < .01$  for women. The correlation between scores from GEFT-1 and total GEFT is  $r = .85$ ,  $p < .01$  for the whole sample;  $r = .83$ ,  $p < .01$  for men, and  $r = .86$ ,  $p < .01$  for women. Finally, the correlation between scores from GEFT-2 and total GEFT is  $r = .90$ ,  $p < .01$ ;  $r = .87$ ,  $p < .01$  for men; and  $r = .91$ ,  $p < .01$  for women.

### Shame Measures

Adapted Shame and Guilt Scale. The ASGS is based on the Shame/Guilt Scale (Gioella, 1981; Hoblitzelle, 1987) and includes 10 adjectives corresponding to the emotion of shame (e.g., bashful, humiliated, embarrassed) and 14 adjectives



corresponding to the emotion of guilt (e.g., delinquent, indecent, unethical).

Participants rate each adjective in terms of how well it describes them on a 7-point scale ranging from 1 (never or almost never true) to 7 (always or almost always true).

The ASGS shame scores are derived by summing the scores across the 10 shame items. The shame scores range from 10 to 70 with a higher score indicating more shame-proneness.

Reliability and validity of ASGS. In the original sample, Cronbach's alpha for the shame adjectives was .86 (Hoblitzelle, 1987; Cronbach's alphas for the present sample are listed in Table 2). A 2-week test-retest reliability for the ASGS shame scale was found to be .93 (Harder & Zalma, 1990).

Construct validity for the ASGS Shame scale has been established primarily by examining its correlations with other similar variables. Researchers (Harder, 1995; Tangney et al., 1995) have asked whether shame scores from the ASGS are statistically significantly correlated with scores from a number of instruments that themselves purport to measure shame or constructs that should share a close affinity with shame. Following the design of previous validation studies (Harder & Lewis, 1987; Harder & Zalma, 1990), personality dimensions were used in this study as external criteria against which to evaluate the validity of the ASGS shame measure. Constructs such as self-derogation, fear of appearing incompetent, self-consciousness, and social anxiety were included in the assessment of the validity of ASGS shame scores because they are indicators of shame according to the shame literature and this dissertation's operational definition of shame (Lewis, 1971). Table 3 summarizes some of the correlations that have been obtained in the literature between ASGS shame scores and other measures of shame or close relatives of shame.

Table 3

Correlations with ASGS Shame

Variables	r
Fear of appearing incompetent (Good & Good, 1973)	.61***
Beall shame-guilt (Shame; Smith, 1972)	.46***
Self-consciousness (Fenigstein, Scheier, & Buss, 1975)	.25**
Social anxiety (Fenigstein et al., 1975)	.57***
Self-derogation (Kaplan, 1975)	.64***
PFQ-2 shame (Harder & Zalma, 1990)	.61***
TOSCA shame (Tangney et al., 1992)	.54***
SCAAIR shame (Tangney, 1990)	.54***

Note. PFQ-2 = Personal Feelings Questionnaire-2; TOSCA = Test of Self-Conscious Affect; SCAAIR = Self-Conscious Affect and Attribution Inventory Revised.

\*\*p < .01. \*\*\*p < .001.

Kaplan and Saccuzzo (1989) stated that there are no hard and fast rules about how large a validity coefficient must be in order to be meaningful. They indicated that validity coefficients in the range of .30 to .40 are commonly considered high. This range will be used to help determine the adequacy of the level of validity for each measure used in this study.

Validity for ASGS shame is provided by its positive correlations with the shame scores in Table 3. As indicated by the correlations in Table 3, the ASGS Shame Scale appears to have high validity with other shame measures. In addition, Harder (1995) stated that, of the ASGS shame, PFQ-2 shame, and TOSCA shame scales, the "ASGS Shame subscale appeared to be the best by a slight margin. It is very quickly

administered, and, compared to other shame measures, it has demonstrated slightly superior construct validity" (p. 379).

Other issues regarding the ASGS. It should be noted that some of the words used in the ASGS are not commonly used in everyday language, which has been one basis for criticizing the ASGS Shame Scale (Harder & Zalma, 1990). To help students understand the adjectives in the ASGS, commonly used synonyms for the more difficult words were added in parentheses. For instance, the original adjective "indecorous" was paired with the word "offensive" and the adjective "abashed" was paired with the word "appalled" (see modified ASGS in Appendix).

It should also be noted that some researchers prefer to measure shame using instruments (e.g., SCAAIR, or the TOSCA, Tangney et al., 1995) that provide scenarios for the participants to read and then rate how likely they are to respond in ways precoded to reflect shame. However, this procedure has been criticized (a) for creating response biases leading participants to respond in a socially desirable manner and (b) for including items of limited external validity, such as the high guilt response reported earlier for the TOSCA in the "Measurement of Guilt and Shame" section of the literature review (Harder, 1995). Although the ASGS Shame Scale might not be free of response set problems, it does appear to better capture the trait-like emotional responses that Lewis alludes to in her models than do the scenario-based assessments. In addition, due to the high correlations of the ASGS Shame Scale with other constructs considered to be maladaptive (i. e., depression), it also appears to better capture the maladaptive aspects of shame-proneness slightly more so than the TOSCA (Harder, 1995; Tangney et al., 1995).

Personal Feelings Questionnaire-2. The PFQ-2 developed by Harder and Zalma (1990) includes a shame scale and a guilt scale to be discussed later. The instrument consists of adjectives, which participants rate, that correspond to the feelings of shame and guilt. There are 10 shame items (e.g., embarrassment, self-consciousness, feeling humiliated). The instructions read, "For each of the following listed feelings, to the left of the item number, please place a number from 0 (you never experience the feeling) to 4 (you experience the feeling continuously or almost continuously), reflecting how common the feeling is for you." Shame scores, ranging from 0 to 40, are derived by summing the shame items, with higher scores indicating more shame-proneness.

Reliability and validity of PFQ-2. Cronbach's alpha for the shame scale was found to be .78 and a 2-week test-retest reliability analysis was .91 (Harder & Zalma, 1990). Cronbach's alphas for the present sample are listed in Table 2.

Validity for the PFQ-2 shame scale has been established primarily by examining its correlations with other instruments that themselves purport to measure shame or constructs that should share a close affinity with shame. A number of personality dimensions can be used as external criteria against which to evaluate the validity of this shame measure. Constructs such as self-derogation, fear of appearing incompetent, self-consciousness, and social anxiety were included in the assessment of the validity of PFQ-2 shame scores because they are indicators of shame according to the shame literature (Lewis, 1971) and this dissertation's definition of shame. Table 4 summarizes some of the correlations that have been obtained in the literature between the scores from PFQ-2 shame and other scores for measures of shame or close relatives of shame.

Table 4

Correlations with PFQ-2 Shame

Variables	$r$
Fear of appearing incompetent (Good & Good, 1973)	.56***
Beall ahome-guilt (Shame) (Smith, 1972)	.46***
Public self-consciousness (Fenigstein et al., 1975)	.35**
Social avoidance and distress scale (Watson & Friend, 1969)	.58***
Self-derogation (Kaplan, 1975)	.64***
Adapted shame/guilt scale, shame (Harder & Zalma, 1990)	.61***
TOSCA shame (Tangney et al., 1992)	.42**
Adapted shame/guilt scale, shame (present sample)	.63***

Note. TOSCA = Test of Self-Conscious Affect.

\*\* $p < .01$ . \*\*\* $p < .001$ .

The ASGS and the PFQ-2 shame measures correlate with each other,  $r = .63$ ,  $p < .01$  for the whole sample,  $r = .65$ ,  $p < .01$  for women, and  $r = .63$ ,  $p < .01$  for men. These correlations and the correlations presented in Table 4 indicate that the PFQ-2 shame scale appears to demonstrate high validity, which agrees with conclusions drawn by Harder et al. (1993).

Defense Mechanisms Measure

The Defense Mechanism Inventory (DMI), developed by Gleser and Ihilevich (1969), was used to derive indicators of defensive responding. The DMI is an instrument used for assessing five major defense mechanism clusters: (a) turning against object (TAO)—dealing with conflict by attacking a real or imagined external

object; (b) projection (PRO)—dealing with conflict by attributing negative intent or hostility to an external object; (c) principalization (PRN)—dealing with conflict by splitting off affect from content and then repressing the former; (d) turning against self (TAS)—dealing with conflict by directing aggressive behavior toward themselves; and (e) reversal (REV)—dealing with conflict by responding positively or neutrally to a frustrating or aggression-inducing event or object.

To assess the five defense clusters, participants are given 10 short stories that depict interpersonal conflict situations (e.g., competition with a peer, disputes with parents, or conflicts with employers). Each story includes four questions, and each question provides five alternative responses from which to choose. The four questions ask how the participant would actually behave, how they would behave in fantasy, what they would have thought, and how they would have felt according to the given scenario. The socially desirable response bias often seen in forced-choice scenario-based instruments is reduced by the presence of the "fantasy" question, which is factored into the sum with the other four questions. This question allows participants an opportunity to report how they might respond without the threat of social influences.

Five multiple-choice responses that correspond to the five defense clusters are provided for each of the four questions, yielding a total of 20 multiple-choice response options for each story. The participant marks one response that would be most representative of how he/she would react with a plus sign (+) and marks the one response that would be least representative with a minus sign (-). Responses marked with a plus sign are assigned a value of 2 points, responses without a sign receive 1 point, and responses with a minus sign receive no score. Thus, the sum for any of the

defense clusters can range from 0 to 80, and the sum across all of the defenses always equals 200.

Reliability and validity of the DMI. Test-retest reliabilities derived from multiple samples range from .85 (PRO) to .93 (TAO), with an average of .89 across all five defense clusters over a 1-week interval (Gleser & Ihlevich, 1969). Internal consistency reliability Cronbach's alpha coefficients obtained from random parallel tests with college students range from .47 to .66 for all defensive categories (Ihlevich & Gleser, 1986). Cronbach's alphas for the defensive clusters in the present sample are listed in Table 2.

Internalizing defense measure. The TAS-1 and TAS-2 indicators of internalizing defense mechanisms for the depression model were derived by splitting the TAS variable of the DMI in half with the first 100 TAS items encompassing the TAS-1 indicator and the second 100 TAS items encompassing the TAS-2 indicator. Cronbach's alphas for the new TAS-1 and TAS-2 variables in this study are .57 and .68, respectively. Test-retest reliability is not available for the TAS-1 and TAS-2 indicators; however, test-retest reliability for the entire TAS variable is .73 (Weissman et al., 1971).

The scores for the TAS-1 and TAS-2 variables are correlated with each other for the whole sample,  $r = .54$ ,  $p < .01$ ;  $r = .48$ ,  $p < .01$  for men; and  $r = .49$ ,  $p < .01$  for women. TAS-1 is correlated with the total TAS variable,  $r = .85$ ,  $p < .01$  for the whole sample;  $r = .83$ ,  $p < .01$  for women; and  $r = .84$ ,  $p < .01$  for men. The TAS-2 variable is correlated with the total TAS variable at  $r = .89$ ,  $p < .01$  for the entire sample;  $r = .88$ ,  $p < .01$  for women; and  $r = .86$ ,  $p < .01$  for men.

The overall means for the entire sample for TAS-1 and TAS-2 are  $M = 20.01$ ,

SD = 3.90 and M = 19.15, SD = 4.27, respectively. A t test conducted in order to determine whether the participants scored statistically significantly differently on the two scales indicated that the scores were significantly different,  $t(284) = 3.71$ ,  $p < .05$ , for the whole sample; for the female sample  $t(183) = 2.92$ ,  $p < .01$ ; and for the male sample  $t(100) = 2.28$ ,  $p < .05$  (see Table 5). Because statistically significant differences were found between scores for the TAS-1 and TAS-2 variables, the standard mean difference was also computed. The results indicate a rather small effect size for differences between the TAS-1 and TAS-2 scores for the whole sample, SMDs = .20; for women SMDs = .20, and for men SMDs = .23 (Stevens, 1996; see Table 5), suggesting that the difference between these subscales was not practically significant. Other methods of splitting the TAS variable into two comparable subscales, such as using every other item in the DMI TAS scale, were met with similar unimpressive correlations between the TAS-1 and TAS-2 variables.

Validity for the TAS variable is commonly ascertained through discriminant validity studies comparing correlations between each defense cluster and criterion variables. Ihlevich and Gleser (1986) reported that scores for TAS, unlike those for the other defense clusters, are significantly positively correlated with scores for the MMPI Depression Scale,  $r = .42$ ,  $p < .01$  in male outpatients and  $r = .24$ ,  $p < .05$  in female outpatients (Gleser & Ihlevich, 1969; see Table 6). In addition, Ihlevich and Gleser (1986) found that TAS scores (unlike other defense clusters) are positively correlated with scores from the Beck Depression Inventory,  $r = .25$ ,  $p < .01$  (see Table 6). In the present study, TAS scores were also positively correlated with scores from the BDI,  $r = .24$ ,  $p < .01$ , providing additional validity (see Table 6).



Table 5

Standard Mean Difference and t-Test Result for TAS-1 Compared to TAS-2 Scores

Group	SMDs for TAS-1-TAS-2 comparison	t test between TAS-1 and TAS-2
Entire sample	.20	3.71*
Women	.20	2.92**
Men	.23	2.28*

\* $p < .05$ , \*\* $p < .01$ .

Table 6

Correlations with TAS Variable

Variables	r
MMPI depression (Gleser & Ihilevich, 1969)	
Male outpatients	.42**
Women outpatients	.24*
Beck Depression Inventory (Gleser & Ihilevich, 1986)	.25**
Beck Depression Inventory (present sample)	.24**

\* $p < .05$ , \*\* $p < .01$ .

Depression Measures

Beck Depression Inventory. The Beck Depression Inventory (BDI; Beck, 1967) was used as the first indicator of depression. The BDI is one of the most widely used, well-validated measures of depression and is appropriate to use with both clinical and nonclinical populations. The measure provides a list of 21 symptoms, each of which is rated on a 4-point scale (0 to 3) to indicate intensity of depression. The depression

score is derived by summing the scores across the 21 items. Scores range from 0 to 63, with higher scores indicating more depression. Reliability estimates based upon Cronbach's coefficient alpha range from .86 to .88 (Beck, Steer, & Garbin, 1988). Cronbach's alphas for the present sample are listed in Table 2. A test-retest reliability of .90 over a 2-week interval with 204 undergraduates was ascertained by Lightfoot and Oliver (1985).

Validity coefficients with Lubin's Depression Adjective Checklist (Lubin, 1965) were .38 to .50 for psychiatric patients and .66 for nonpatients. Scores for the BDI correlated with scores for the Zung Self-Rating Depression Scale (Zung, 1965),  $r = .79$ ,  $p < .01$  in psychiatric patients and  $r = .54$ ,  $p < .01$  with college students (Kerner & Jacobs, 1983). Beck Depression Inventory scores also correlated with the scores for the MMPI Depression scale in nonpatients,  $r = .75$ ,  $p < .01$ , with MMPI depression scores for psychiatric inpatients,  $r = .78$ ,  $p < .01$ , and with scores on the Hamilton Rating Scale,  $r = .82$ ,  $p < .01$  (Schwab, 1967; Williams & Seiler, 1973). Beck (1970) also reported correlations between BDI scores and psychiatric depression ratings of university students,  $r = .66$ ,  $p < .01$  (see Table 7).

Symptoms Checklist-90-Revised, Depression Scale. The depression subscale from the Symptoms Checklist 90 Revised (SCL-90-R) was used as a second indicator of depression. The SCL-90-R was developed by Derogatis (1977) and has become widely used as a self-report measure of psychopathology (Gatchel & Baum, 1983). It is described as a measure that provides a profile of scores based on nine subscales that are related to categories of disorders (Schwarzwald, Weisenberg, & Solomon, 1991). Each of the 90 items is rated on a 5-point scale of distress, ranging from 0 (not at all) to 4 (extremely) distressed about the content represented in the item over the last seven

Table 7

Correlations with Beck Depression Inventory

Variables	$r$
Zung Self Rating Depression Scale (Kerner & Jacobs, 1983)	
Psychiatric patients	.79**
College students	.54**
MMPI depression (Williams et al., 1973)	
Nonpatients	.75**
Psychiatric inpatients	.78**
Hamilton Rating Scale (Schwab et al., 1967)	.82**
Depression rating of university students	.66**

\* $p < .05$ , \*\* $p < .01$ .

days. The SCL-90-R provides a profile of scores based on nine subscales comprised of 6 to 13 items each. The nine subscales include (a) somatization, (b) obsessive compulsiveness, (c) interpersonal sensitivity, (d) depression, (e) anxiety, (f) hostility, (g) phobic anxiety, (h) paranoid ideation, and (i) psychoticism.

The depression scale on the SCL-90-R includes 13 items having to do with symptoms of depression such as crying easily, feeling blue, and feelings of worthlessness. Scores range from 0 to 52 with higher scores indicating more depression. Dinning and Evans (1977) found that scores from the SCL-90-R Depression Scale have been shown to be positively correlated with scores from the BDI,  $r = .70$ ,  $p < .001$ , and scores from the MMPI Depression Scale,  $r = .48$ ,  $p < .001$ . Derogatis (1977; Derogatis & Cleary, 1977) found correlations between scores on the SCL-90-R Depression Scale and scores from the BDI,  $r = .76$ ,  $p < .01$ , in a sample of

248 psychiatric outpatients. Finally, in the entire present sample, BDI scores were correlated with SCL-90-R depression scores,  $r = .78$ ,  $p < .01$ ; for the female sample,  $r = .79$ ,  $p < .01$ ; for the male sample,  $r = .72$ ,  $p < .01$  (see Table 8). Cronbach's alphas for the present sample are listed in Table 2.

### Measures for the Paranoia Model

#### Cognitive Style Measure

The GEFT (Witkin et al., 1971) and its two indicators were used as the measure of cognitive style to examine the paranoia model (see description of the GEFT provided earlier).

#### Guilt Measures

Adapted Shame and Guilt Scale. The ASGS (Hoblitzelle, 1987) was also used as an indicator of guilt. Scores for the ASGS are derived by summing the scores across the 14 guilt items. Guilt scores range from 14 to 98, with higher scores indicating higher guilt-proneness. Cronbach's alpha internal reliability for the guilt items has been shown to be .88 (Hoblitzelle, 1987). Cronbach's alphas for the present sample are listed in Table 2. A 2-week test-retest reliability for ASGS guilt was found to be .95 (Harder & Zalma, 1990).

Validity for the ASGS is indicated by its association with scores from a number of instruments that themselves purport to measure guilt or constructs that share a close affinity with guilt. Table 9 summarizes correlations that have been obtained in the literature between the scores for ASGS guilt and scores for other measures of guilt or close relatives of guilt.

Table 8

Correlations with Symptoms Checklist-90-R, Depression

Variables	r
Beck Depression Inventory (Dinning & Evans, 1977)	.70***
Beck Depression Inventory (Derogatis, 1977)	.76**
MMPI Depression (Dinning & Evans, 1977)	.48***
Beck Depression Inventory (present sample)	.78**

\*\*p < .01, \*\*\*p < .001.

Table 9

Correlations with ASGS Guilt

Variables	r
Perceived Guilt Index (Otterbacher & Munz, 1973)	.36***
Self-rating for proneness to guilt (Smith, 1972)	.23**
PFQ-2 Guilt (Harder, 1995)	.30*
PFQ-2 Guilt (present sample)	.44**

Note. PFQ-2 = Personal Feelings Questionnaire-2.

\*p < .05; \*\*p < .01; \*\*\*p < .001.

The ASGS shows acceptable validity coefficients with other measures of guilt. However, validity has not previously been well established for the ASGS Guilt Scale (Harder, 1990b). Harder et al. (1993) stated that the only guilt scale that consistently yields some, though not completely convincing, evidence for construct validity has been a version of the Harder measures (i.e., PFQ-2). With this in mind, the positive correlation between scores for ASGS guilt and PFQ-2 guilt,  $r = .44$ ,  $p < .01$ , provides adequate validity for the ASGS Guilt Scale. In addition, the ASGS is a measure of trait-

like guilt that focuses on the maladaptive aspects of guilt that Lewis describes in her writings and is used in this study. Therefore, the ASGS can be seen as an adequate second measure of guilt for the purposes of this study.

Personal Feelings Questionnaire-2. The PFQ-2 is also used as an indicator of guilt. The score for the PFQ-2 guilt scale is derived by summing the scores across the six guilt items (e.g., regret, worry about hurting or injuring someone, feeling you deserve criticism for what you did). Scores range from 0 to 24, with higher scores indicating more guilt-proneness. A reliability estimate for PFQ-2 guilt based on Cronbach's alpha is .72 (Harder & Zalma, 1990). Cronbach's alphas for the present sample are listed in Table 2. Two-week test-retest reliability for the PFQ-2 guilt scale was found to be .85 (Harder & Zalma, 1990). In order to establish validity, personality dimensions established as representing aspects of guilt were used as external criteria with which to evaluate the PFQ-2 guilt scale. For example, because guilty self-judgments are made with increased sensitivity to internal standards of conduct (Buss, 1980; Lewis, 1971), private self-consciousness should positively relate to guilt. Table 10 summarizes relationships between scores for the PFQ-2 measure of guilt, other measures of guilt, and a construct that is closely related.

In the present sample, the guilt scales for ASGS and PFQ-2 correlated for the whole sample,  $r = .44$ ,  $p < .01$ , for women,  $r = .41$ ,  $p < .01$ , and for men  $r = .38$ ,  $p < .01$ . Harder (1995) stated that the best available scale for examining guilt and symptom relationships is the PFQ-2 guilt scale. As mentioned in the literature review, the PFQ-2 better conceptualizes the chronic guilt in which Lewis was interested than the scenario-based assessments of guilt (e.g., SCAAIR and TOSCA; Ferguson & Crowley, 1997b;

Table 10

Correlations with PFQ-2 Guilt

Variable	<i>r</i>
Private self-consciousness (Fenigstein et al., 1975)	.46***
SCAAIR guilt (Tangney, 1990)	.04
ASGS guilt (Harder, 1995)	.30*
ASGS guilt (present sample)	.44**

Note. SCAAIR = Self-Conscious Affect and Attribution Inventory Revised; ASGS = Adapted Shame/Guilt Scale.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

Ferguson & Eyre, 2000; Ferguson & Stegge, 1998; ). Therefore, the PFQ-2 guilt scale can be considered an adequate measure for the purposes of this study.

Defense Mechanisms Measure

The defense mechanisms of TAO and PRO were selected from the DMI (Ihilevich & Gleser, 1986) as the two indicators of externalizing defenses for the paranoia model because they are both indicators of a tendency to externalize. Cronbach's alphas for the TAO and PRO variables are .80 and .61, respectively (Ihilevich & Gleser, 1986), and Cronbach's alphas for the present sample are listed in Table 2. Test-retest reliability coefficients for 2- to 4-week intervals averaged .82 for TAO and .62 for PRO (Ihilevich & Gleser, 1986).

Validity for the externalizing defenses is provided with constructs thought to correlate highly with TAO and PRO. In the DMI manual and according to their definitions, Ihilevich and Gleser (1986) indicated that TAO scores should be positively related to scores for aggressiveness and hostility and PRO scores should be positively

related to suspiciousness scores. Ihilevich and Gleser (1986) reported correlations between the TAO scores and aggressiveness/hostility scores ranging from  $r = .25$ ,  $p < .05$  to  $r = .50$ ,  $p < .01$ . They also reported correlations between PRO scores and scores for suspiciousness ranging from  $r = .32$ ,  $p < .05$  to  $r = .39$ ,  $p < .05$ . In addition, the scores for TAO and PRO have consistently been found to be highly positively correlated. Correlations range from .42 to .64 (Ihilevich & Gleser, 1986) and in this study the two scores correlated,  $r = .57$ ,  $p < .01$  for the whole sample;  $r = .52$ ,  $p < .01$  for women; and  $r = .44$ ,  $p < .01$  for men.

#### Paranoia Measure

The Paranoid Ideation Scale of the SCL-90-R was used as the indicator for paranoia in the paranoia model. The Paranoid Ideation Scale includes six items having to do with paranoid thinking (e.g., feeling others are to blame for most of your troubles, feeling that most people cannot be trusted). Scores range from 0 to 24, with higher scores representing more paranoia.

In order to derive two measures of paranoia for the LISREL analysis, the six items of the SCL-90-R Paranoia Scale were split in half. Although not ideal, the Paranoia-1 indicator was derived from the scores for the first three SCL-90-R paranoia items and the Paranoia-2 indicator was derived from the scores for the last three SCL-90-R paranoia items. Cronbach's alphas for the Paranoia-1 and Paranoia-2 scores in this study are listed in Table 2. The scores for the two paranoia indicators are also positively correlated with each other for the whole sample,  $r = .62$ ,  $p < .01$ ; for the sample of women,  $r = .61$ ,  $p < .01$ ; and for the sample of men,  $r = .65$ ,  $p < .01$ . The entire paranoia score is correlated with the Paranoia-1 scale for the whole sample,  $r = .89$ ,  $p < .01$ ; for the sample of women,  $r = .89$ ,  $p < .01$ ; and for the sample of men,



$r = .89$ ,  $p < .01$ . Finally, the entire paranoia score is correlated with the Paranoia-2 scale for the whole sample,  $r = .91$ ,  $p < .01$ , for the sample of women,  $r = .90$ ,  $p < .01$ , and for the sample of men,  $r = .92$ ,  $p < .01$  (see Table 11). A standard mean difference was also conducted between the two paranoia mean scores for the whole sample, SMDs = .20; for the women, SMDs = -.14; and for the men, SMDs = -.32, indicating that the differences are not large enough to be considered in the moderate range of significance (Stevens, 1996).

Validity is evidenced by the SCL-90-R paranoid ideation subscale scores being positively correlated with scores from the paranoia subscale of the MMPI,  $r = .48$ ,  $p < .001$  (Dinning & Evans, 1977).

Table 11

Correlations Among the Total Paranoia, Paranoia-1, and Paranoia-2 Scores

	Paranoia	Paranoia-1
Paranoia-1	.89**	
Men	.89**	
Women	.89**	
Paranoia-2	.91**	.62**
Men	.92**	.65**
Women	.90**	.61**

\*\* $p < .01$ .

## CHAPTER V

### RESULTS

The questions addressed in this study include whether there are gender differences in cognitive style, guilt- and shame-proneness, and defense mechanism use. A further question asked whether hypothesized gender differences contribute to hypothesized gender differences in depression and paranoia. The intent of this study was to examine the validity of Lewis's models of depression and paranoia in both men and women, using structural equation modeling.

The organization of the results section is as follows. First, a discriminant analysis was conducted to determine whether the scores on the main predictor variables differed for men and women. Second, bivariate Pearson product-moment correlation coefficients were calculated between all the variables in the study for participants as a group and for men and women separately. Correlations were examined in order to determine whether the relationships that Lewis hypothesized to exist among the variables in the models held for the sample in this study. Finally, structural equation modeling (LISREL 8.3S, Jöreskog & Sörbom, 1998) was conducted in order to determine whether the depression model better described the data from the sample of women than the data from the sample of men. Another structural equation modeling analysis was conducted in order to test whether the paranoia model better described the data from the sample of men than the data from the sample of women. By "better" it is meant that the depression model should account for more of the variance in women's than men's scores, and that the paranoia model should account for more of the variance in men's than women's scores.

### Discriminant Analysis Between Men and Women

A direct discriminant function analysis was performed to determine whether there were gender-related differences among the eight main predictor variables of interest. The eight predictor variables used in the discriminant analysis were scores on the GEFT measure of field dependence/independence, ASGS Shame, PFQ-2 guilt, TAS, TAO, PRO, BDI Depression, and SCL-90-R Paranoia. It should be noted that, of the original 301 cases, 20 were dropped from the discriminant analysis due to missing data. Missing data were dispersed randomly throughout the cases and variables. For the remaining 281 cases, evaluation of assumptions of linearity, normality, and homogeneity of variance-covariance matrices revealed no threat to multivariate analysis. For instance, Stevens (1990) stated that when the group sizes in the discriminant analysis are unequal ( $197/104 > 1.5$ ), it is important to check the homogeneity of covariance matrices assumption. Therefore, a Box's M test of homogeneity of variance was conducted on the difference in group sizes; it did not yield a statistically significant result,  $F(36) = .74, p = .88$ .

The one discriminant function that was calculated, Wilks  $\Lambda = .83$ ,  $\chi^2(8, N = 280) = 51.68, p < .00$ , indicated that there was a statistically significant overall association between the eight predictor variables and gender (with women coded as "0" and men as "1"). The discriminant function-variable correlations suggest that the primary variables that defined the function were TAS (correlation = .85) and PRO (correlation = -.60; see Table 12). Loadings less than  $\pm .45$  were not interpreted for the sake of parsimony (Cohen & Cohen, 1983). It is also important to examine the standardized coefficients to determine which of the variables were redundant given others in the set (Stevens, 1996). When the standardized coefficients were examined,

Table 12

Discriminant Analysis Between Genders

Variables	Standardized coefficients	Discriminant function-variable correlations
TAS	.77	.85
TAO	.16	-.32
BDI	.14	.16
SCL-90-R Paranoia	-.02	.00
PFQ-2 Guilt	-.06	.02
ASGS Shame	-.18	.06
GEFT	-.32	-.30
PRO	-.48	-.60

Note. GEFT = Group Embedded Figures Test; ASGS Shame = Adapted Shame/Guilt Scale Shame; PFQ-2 Guilt = Personal Feelings Questionnaire-2 Guilt; TAS = Turning Against Self; TAO = Turning Against Others; PRO = Projection; BDI = Beck Depression Inventory; SCL-90-R Paranoia = Symptoms Checklist 90 R, Paranoia.

the TAS and the PRO variables appeared to be essential, with coefficients of .77 and -.48, respectively. The other variables did not appear to be contributing any meaningful information to the analysis, because their coefficients ranged from only -.32 to .16. Thus, combining the information from the coefficients and the discriminant function-variable correlations, we can say that the discriminant function is characterized as a continuum of TAS versus PRO. This result is also evident from Table 13, which summarizes effect sizes, means, and standard deviations for men and women in the sample on each of the eight variables. The effect sizes for TAS (.83) and PRO (-.58) also either met or far exceeded the traditionally accepted value of .50 as reflecting a moderate difference (Stevens, 1996). The effect sizes for the remaining variables were

Table 13

SMDs (for Gender Comparison), Means, and Standard Deviations for Men's and Women's Scores

Group	Variables							
	GEFT	TAS	TAO	PRO	ASGS Shame	PFQ-2 Guilt	BDI	SCL-90-R Paranoia
SMDs	-.30	.83	-.32	-.58	.04	.03	.14	-.04
Women								
<u>M</u>	11.55	41.09	38.8 9	38.06	25.28	8.78	9.58	5.11
<u>SD</u>	4.18	6.92	9.57	5.53	7.07	3.32	7.21	4.03
Men								
<u>M</u>	12.77	35.60	41.8 1	41.26	25.00	8.68	8.59	5.26
<u>SD</u>	3.83	6.31	8.62	5.58	6.82	3.16	6.70	4.06

Note. Women N = 197; Men N = 104; SMDs = Standard Mean Difference (effect sizes), GEFT = Group Embedded Figures Test; ASGS Shame = Adapted Shame/Guilt Scale Shame; PFQ-2 Guilt = Personal Feelings Questionnaire-2 Guilt; TAS = Turning Against Self; TAO = Turning Against Others; PRO = Projection; BDI = Beck Depression Inventory; SCL-90-R Paranoia = Symptoms Checklist 90 R, Paranoia.

low according to conventional standards. Contrary to expectations, gender differences in guilt, shame, depression, and paranoia were minimal.

### Correlation Analyses

#### Correlations Among Main Variables: Variable

#### Interrelations and Their Relation to Gender

Two sets of bivariate Pearson product-moment correlation coefficients were

calculated. First, the main variables were correlated with the dummy variable created for gender (women coded as "0" and men coded as "1," see Table 14). According to Lewis's hypothesis, gender should be positively related to the GEFT, Guilt, TAO, PRO, and paranoia scores and negatively related to the shame, TAS, and depression scores. These expected correlation groupings are also consistent with the variables in the paranoia and depression models, respectively. In addition, the correlations in Table 14 should produce positive correlations among the scores for the GEFT, Guilt, TAO, PRO, and paranoia variables. The data should also produce positive correlations among the scores for the shame, TAS, and depression variables. Because field dependence corresponds to a low score on the GEFT, the GEFT scores should be negatively related to the scores for shame, TAS, and depression.

Inspection of the correlations reveals that the scores for the gender variable correlated as expected with the scores for the GEFT-2, PFQ-2 shame, both TAS scores, TAO, and PRO variables. The remainder of the variables in Table 14 (GEFT-1, ASGS shame, ASGS guilt, PFQ-2 guilt, BDI, SCL-90-R depression, and SCL-90-R paranoia-1 and -2) failed to correlate as expected with the scores for the gender variable. For the purposes of this study, attention is paid to the practical significance and direction of the obtained correlations, as well as reporting each coefficient's statistical significance. As is common, a practically significant correlation must be least  $|\text{.30}|$ , accounting for 9% or more of the variance shared between two variables (Stevens, 1990). In addition, Cohen (1988) considers an  $r$  of  $\text{.30}$  to reflect a medium effect size and an  $r$  of  $\text{.50}$  to reflect a large effect size.

Several of the correlation coefficients in the paranoia model are medium to large in size and in the expected direction. For example, as seen in Table 14, both guilt and

Table 14

Correlations Among Main Variables: Variable Interrelations and Their Relation to Gender

	Gender	GEFT-1	GEFT-2	ASGS Shame	PFQ-2 Shame	PFQ-2 Guilt	ASGS Guilt	TAS-1	TAS-2	TAO	PRO	BDI	SCL-90-R Depression	SCL-90-R Paranoia 1	SCL-90-R Paranoia 2	
Gender	--															
GEFT-1	.09	--														
GEFT-2	.16**	.53**	--													
ASGS Shame	-.02	-.01	.01	--												
PFQ-2 Shame	-.20**	-.06	-.05	.63**	--											
PFQ-2 Guilt	-.02	-.05	-.02	.46**	.55**	--										
ASGS Guilt	.09	.03	-.01	.57**	.41**	.41**	--									
TAS-1	-.35**	-.05	-.11	.29**	.23**	.15*	.08	--								
TAS-2	-.32**	-.03	-.08	.19**	.19**	.06	.06	.54**	--							
TAO	.15*	-.04	.02	.18**	.04	.04	.17**	-.21**	-.39**	--						
PRO	.27**	-.11	-.02	.06	-.03	.03	.04	-.28**	-.36**	.51**	--					
BDI	-.07	-.05	-.02	.51**	.45**	.49**	.35**	.27**	.16**	.14*	.09	--				
SCL-90-R Depression	-.04	-.05	-.02	.58**	.50**	.49**	.35**	.23**	.15*	.08	.11	.78**	--			
SCL-90-R Paranoia 1	-.03	-.08	-.10	.44**	.46**	.35**	.36**	.13*	.08	.16**	.09	.50**	.60**	--		
SCL-90-R Paranoia 2	.06	.03	.01	.44**	.43**	.43**	.33**	0.1	-.03	.21**	.11	.52**	.82**	.62**	--	

**Note.** N = 301; Gender = females "0", males "1"; GEFT = Group Embedded Figures Test; ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; TAS = Turning Against Self; TAO = Turning Against Others; PRO = Projection; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist 90 R.

\* $p < .05$ . \*\*  $p < .01$ .

TAO scores are positively related to both paranoia scores and the scores for ASGS guilt are positively related to the scores for TAO. On the other hand, a number of correlations among the variables in the paranoia model failed to be produced as expected. For example, the scores for both GEFT variables failed to positively or negatively correlate in a practically meaningful manner with any other variable in the analysis. In addition, the scores for both guilt variables failed to positively correlate highly with the scores for the PRO variable, and the scores for PFQ-2 guilt failed to positively correlate with the scores for TAO (see Table 14).

For the variables in the depression model, several of the correlation coefficients were medium to large in size and in the expected direction, as seen in Table 14. The scores for the shame variables are positively correlated with the scores for both TAS variables and with the scores for both depression variables. In addition, the scores for the TAS and depression variables are also highly correlated in the positive direction. In the depression model, the only correlations among the variables that were not practically meaningful were the GEFT variables.

#### Correlations Among the Main Variables

Correlations among the main variables were calculated separately for men and women because the structural equation modeling analyses also were to be conducted separately for the women and men (see Table 15). Examining these correlations among the variables is important in light of Lewis's claims that certain variables should be highly correlated in men or women. Lewis (1971) hypothesized that individuals who score as field dependent (low GEFT score), who are shame-prone, and who extensively use TAS are at increased risk for the development of depression. This



Table 15

Correlations Among All Variables for Men and Women Separately

	GEFT-1	GEFT-2	ASGS Shame	PFQ-2 Shame	PFQ-2 Guilt	ASGS Guilt	TAS-1	TAS-2	TAO	PRO	BDI	SCL-90-R Depression	SCL-90-R Paranoia 1	SCL-90-R Paranoia 2
GEFT-1	--	.44**	.11	.04	-.04	.08	-.08	.01	-.03	-.06	.03	.03	.02	.05
GEFT-2	.57**	--	.04	-.07	-.13	.02	-.02	-.01	.06	-.03	-.01	.08	-.03	-.07
ASGS Shame	-.06	.00	--	.63**	.40**	.46**	.31**	.17	.20*	.03	.48**	.63**	.42**	.50**
PFQ-2 Shame	-.08	.01	.65**	--	.54**	.42**	.14	.08	.16	.08	.43**	.50**	.54**	.51**
PFQ-2 Guilt	-.05	.03	.49**	.57**	--	.38**	.08	.03	.07	-.04	.32**	.39**	.32**	.41**
ASGS Guilt	.00	-.04	.62**	.45**	.43**	--	.07	.08	.17	.03	.28**	.29**	.32**	.28**
TAS-1	.00	-.09	.30**	.19*	.20**	.15*	--	.48**	-.28**	-.24*	.26**	.27**	.14	.14
TAS-2	-.01	-.05	.20**	.16*	.08	.10	.49**	--	-.42**	-.25*	.16	.14	.07	.05
TAO	-.06	-.03	.17*	.04	.04	.16*	-.11	-.34**	--	.44**	.20*	.04	.20*	.22*
PRO	-.17*	-.07	.09	.01	.07	.01	-.18*	-.33**	.52**	--	.08	.02	.14	.05
BDI	-.08	-.01	.52**	.46**	.57**	.40**	.26**	.14	.12	.12	--	.72**	.38**	.47**
SCL-90-R Depression	-.08	-.05	.55**	.50**	.53**	.39**	.21**	.14	.11	.18*	.79**	--	.55**	.61**
SCL-90-R Paranoia1	-.13	-.12	.45**	.42**	.36**	.38**	.11	.08	.15*	.09	.55**	.62**	--	.65**
SCL-90-R Paranoia2	.01	.03	.41**	.41**	.43**	.35**	.14	-.04	.19*	.13	.55**	.62**	.61**	--

Note. Bottom Matrix = Female Sample, Top Matrix = Male Sample. Females  $N = 197$ , Males  $N = 104$ ; GEFT = Group Embedded Figures Test; ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; TAS = Turning Against Self; TAO = Turning Against Others; PRO = Projection; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist 90 R.

\* $p < .05$ , \*\* $p < .01$ .

expectation implies that field dependence, shame, TAS, and depression should be highly correlated, especially for women. Furthermore, she hypothesized that individuals who are highly field independent (high GEFT score), guilt-prone, and extensively use the defenses of TAO and PRO are at increased risk for the development of paranoia. This implies that field independence, guilt, TAO, PRO, and paranoia should be highly positively correlated, especially for men. Therefore, in light of the importance of the hypothesized relationships among the scores of the variables, it is important to present the correlations among the variables in question for each gender separately.

Inspection of the correlations in Table 15 reveals that several of the correlation coefficients were medium to large in size and in the expected direction. For women, the scores for both shame variables were positively correlated with the scores for both TAS and depression variables. In addition, TAS-1 was found to be moderately positively correlated with the scores for both depression variables. For men, the scores for both guilt variables and the TAO variable were positively correlated with both paranoia variables.

Inspection of the correlations in Table 15 also reveals a number of relationships that failed to correlate in the expected direction. For both women and men, the scores for the GEFT variables failed to either positively or negatively correlate statistically and practically significantly with any other variable in the analysis. For women, the scores for the TAS-2 variable failed to significantly correlate positively with the scores for both depression variables. For men, the scores for both guilt variables failed to positively correlate significantly with the scores for the TAO and PRO variables. The scores for the PRO variable also failed to positively correlate with the scores for either paranoia variable.

### Summary of the Correlation Analyses

Overall, the correlational analysis results for women indicate that Lewis's predictions regarding shame's relation to certain constructs were somewhat, but not convincingly confirmed. However, predictions regarding the link between TAS and other variables were not consistently confirmed. Lewis's hypotheses regarding links among guilt, paranoia, and externalization (TAO and PRO), which should have been confirmed in the sample of men, were not supported in the correlational analyses. Most of the correlations for men were low. Moreover, although the scores for the guilt and paranoia variables did produce the expected relationships, the PRO variable consistently failed to confirm Lewis's hypothesized relationships in the sample of men.

Of particular importance is the fact that the scores for the GEFT variable of field dependence/independence failed to correlate as expected with the scores for any of the hypothesized variables in the correlation analyses.

### Structural Equation Models

Structural equation modeling analyses were conducted in order to ascertain whether the theoretical models proposed by Lewis were valid. It was hypothesized that the structural equation modeling analysis would reveal that: (a) the depression model would provide a better fit for the scores of the women participants than for the scores of the men participants, and (b) the paranoia model would provide a better fit for the scores of the men participants than for the scores of the women participants.

The two research questions were examined using LISREL 8.20 (Student Version) program, which is a statistical package used for diagramming and analyzing structural equation models and measurement models (Jöreskog & Sörbom, 1998). The

minimal assumptions that need to be satisfied in conducting the LISREL analysis in this study are (a) multivariate normality, (b) a covariance matrix is analyzed, and (c) the sample size includes a ratio of participants to parameters estimated of at least 10:1. Evaluation of the LISREL assumptions revealed no violations to the Structural Equation Modeling analyses.

### Structural and Measurement Models for Depression

As shown in Figure 1, the structural model for depression consists of one exogenous (i.e., independent) latent variable, cognitive style, and three endogenous (i.e., dependent) latent variables, defense mechanisms, shame, and depression. Cognitive style is considered the independent latent variable because Lewis's theory (1971) states that the latent variables of defense mechanisms, shame, and depression are all dependent on an individual's cognitive style, which is developed as a result of specific socialization experiences in the early stages of life. The causal pathways from the exogenous (cognitive style) to the endogenous (shame and defense mechanism) latent variables and the pathways connecting the three endogenous variables (shame, defense mechanisms, and depression) are estimated as path coefficients and reveal the degree to which certain variables predict other variables.

The measurement model in a LISREL analysis consists of the pathways from the latent variables to the observed variables. In the measurement model for depression, each latent variable is indicated by two observed variables. The pathways connecting the latent variables to their observed variables are considered path coefficients. These path coefficients identify the covariance between the latent and observed variables.

The observed variables for cognitive style are GEFT-1 and GEFT-2, which are split-half scores from the total GEFT score. The observed variables for defense mechanisms are TAS-1 and TAS-2, which are also split-half scores from the total TAS score of the DMI. The observed variables for shame are the shame scores for ASGS and PFQ-2. Finally, the two observed variables for depression are the Beck Depression Inventory (BDI) and the SCL-90-R, Depression Scale (see Figure 1).

For each of the latent variables, one pathway between the latent and observed variables was constrained to a value of one and the other variable was allowed to be free. This was done so the program would not estimate the pathway to the observed variables thought to be secondary, which would allow the main predictor variables for each latent variable to remain free and estimated. For example, the pathways leading to the main predictor variables (e.g., ASGS, shame) were allowed to be free and estimated. The pathways leading to the secondary observed variables (e.g., PFQ-2, shame) were fixed at one and not estimated.

For cognitive style, the path leading to GEFT-1 was estimated and GEFT-2 was not estimated. For shame, the path leading to ASGS was estimated and PFQ-2 was not estimated. For defense mechanisms, the path leading to TAS-1 was estimated and TAS-2 was not estimated. Finally, for depression, the path leading to BDI was estimated and SCL-90-R was not estimated.

#### Structural and Measurement Models for Paranoia

As shown in Figure 2, structural models in LISREL analysis consist of latent variables. The structural model for paranoia consists of one exogenous variable, cognitive style, and three endogenous variables, defense mechanisms, guilt, and

paranoia. Cognitive style is considered to be the independent latent variable and defense mechanisms, guilt, and paranoia the dependent latent variables. The two causal pathways from the exogenous (cognitive style) to the endogenous (guilt and defense mechanism) latent variables and the two pathways connecting the three endogenous latent variables (guilt, defense mechanism, and paranoia) are estimated as path coefficients. The variables from which the pathways are initiated have predictive abilities for the receiving variables. The path coefficients reveal the extent of the predictive abilities between the initial and receiving variables (Loehlin, 1992).

The measurement models in a LISREL analysis consist of the pathways from the latent variables to the observed variables. In the measurement model for paranoia, each latent variable is also measured by two observed variables. The two observed variables for cognitive style are GEFT-1 and GEFT-2. The observed variables for defense mechanisms are TAO and PRO and the observed variables for guilt are the guilt scores for ASGS and PFQ-2. Finally, the two observed variables for paranoia are Paranoia-1 and Paranoia-2, which are split-half scores from the total SCL-90-R Paranoid Ideation Scale (see Figure 2).

For the cognitive style latent variable, the path leading to GEFT-1 was free and estimated and the path leading to GEFT-2 was not estimated. For the guilt latent variable, the path leading to PFQ-2 was free and estimated and the path leading to ASGS was not estimated. Personal Feelings Questionnaire-2 guilt was estimated because it was considered to be the most valid and reliable of the two guilt measures (see "Measures" section). For the defense mechanisms latent variable, the path leading to TAO was free and estimated and PRO was not estimated. The TAO variable was estimated because the PRO variable failed to correlate significantly with the

paranoia variables as originally hypothesized. Therefore, allowing TAO to be estimated would increase the chances for the model to fit the data. For the paranoia latent variable, the path leading to Paranoia-1 was estimated and Paranoia-2 was not estimated.

For both depression and paranoia models, residuals for the eight observed variables were ascertained. In addition, residuals from the latent variables were calculated. The residual scores represent the variance not accounted for by the observed and latent variables. Finally, covariance matrices were used in the syntax for the model analyses.

#### Determination of Model Fit

Adequacy of overall model fit was determined by the chi-square test and other fit indices less sensitive to sample size, including the chi-square-degrees-of-freedom ratio and the goodness-of-fit indices (Bentler, 1990). Determining the goodness-of-fit between a model and the data can be ascertained by testing it against its null hypothesis. The null hypothesis in a LISREL analysis states that there is no difference between the model and the data. Therefore, in order to provide evidence for an adequate model fit, the null hypothesis should be accepted. A statistically significant  $p$ -value,  $p < .05$ , for the chi-square is indicative of a model that does not adequately describe the data. However, if the chi-square is not significant, then we can only conclude that the test did not show the model to be incorrect (Loehlin, 1992).

In this study, we are looking for a small chi-square and a large  $p$ -value as an indicator of model acceptance (Loehlin, 1992). For reasonable sample sizes, a chi-square roughly equal to its degrees of freedom is a definition of satisfactory model fit

(Loehlin, 1992). Large goodness-of-fit indices are also indicative of model acceptance, in addition to a large Normed Fit Index (NFI; Bentler & Bonett, 1980). The Goodness-of-Fit Index (GFI) is roughly analogous to the  $R^2$  value in multiple regression in that it represents the overall amount of the covariation among the observed variables that can be accounted for by the hypothesized model (Stevens, 1996). The Adjusted Goodness-of-Fit Index (AGFI) is seen as a parsimonious fit index adjusting for the degrees of freedom. Finally, the NFI compares the given model with a "null model" and provides an idea of how relatively good or poor the model fit might be (Loehlin, 1992). Goodness-of-fit indices larger than .90 are considered by many researchers to be an indication of a good model fit (Stevens, 1996).

#### Testing the Models

In order to fully test the validity of Lewis's models, four separate LISREL analyses had to be conducted. The depression and paranoia models were analyzed separately, first with the covariance matrix for the sample of women and then with the covariance matrix for the sample of men. The structural and measurement models were analyzed according to the specifications listed in the above sections.

Out of the four analyses conducted, only one was able to converge on a solution, which was the paranoia model for women,  $\chi^2(6) = 24.92$ ,  $p < .051$ . Although the model converged, the chi-square results indicate that the model failed to adequately describe the data. For all other analyses, LISREL could not converge on an adequate solution, even after 210 iterations. Because the program could not converge on a solution, modifications were needed in order to improve the model fit.



### Improving the Fit of the Models

Loehlin (1992) stated that there are no simple rules for improving the fit of a structural model. Nevertheless, MacCallum (1986) suggested that deleting unnecessary paths and retesting the model until a nonsignificant chi-square is achieved is a defensible course of action. Because the LISREL analyses were unable to converge on a solution, it is difficult to determine whether the problem lies in the measurement or the structural models.

When modifying a model, Loehlin (1992) first suggested examining the path coefficients generated by the fitting programs to see whether existing paths are significantly different from zero. If they are not, then the researcher might consider dropping the paths from the model (Loehlin, 1992; MacCallum, 1986). Therefore, the coefficients from the original results for the four analyses generated by the LISREL program were analyzed. It was discovered that cognitive style was the variable that contributed the least to the model. For example, the results for the preliminary LISREL analyses indicated that the coefficient pathways leading from the cognitive style latent variable to the other latent variables ranged from  $-.04$  to  $.02$  across the four analyses. These low coefficient scores indicate that the cognitive style variable was of little predictive value for the endogenous variables, potentially leading to the inadequate structural models. This is consistent with results presented in Tables 14 and 15. The cognitive style variables of GEFT-1 and GEFT-2 did not significantly correlate with any of the other variables in the models, indicating that they might be excluded. Therefore, the structural model was changed to eliminate the cognitive style latent variable, because it contributed the least to the model (MacCallum, 1986). It is important to note that changing the structural model also changes the theory. The theoretical

implications of eliminating the cognitive style variable from the structural model will be reviewed in the discussion section.

#### Modified LISREL Models

Eliminating the cognitive style variable also removed the only exogenous (i.e., independent) variable from the original depression and paranoia models. In the modified depression model, the defense mechanism latent variable and the shame latent variable now represent exogenous (independent) variables and the depression variable remains an endogenous (dependent) variable. Furthermore, in the paranoia model, the defense mechanism latent variable as well as the guilt latent variable represent the exogenous (independent) variables and the paranoia variable remains an endogenous (dependent) variable.

The four LISREL analyses were conducted for the two modified models, which yielded acceptable outcomes. The four modified LISREL analyses were able to converge on a solution with a maximum of 17 iterations and they were found to fit the data from the two samples adequately as indicated by small chi-squares and large p-values (see Table 16). In addition, Table 16 shows that the goodness-of-fit indices were all large (93-99) and within acceptable limits. Therefore, the two modified models can be seen as adequately describing the data for the two samples and further model improvements were not needed. If improvements were continued to be made, the model would no longer be indicative of Lewis's theory and the models would essentially be nonexistent. Therefore, in keeping with Lewis's models, taking out the cognitive style latent variable was by far enough changes to the models without totally compromising Lewis's theory.

Table 16

Summary of Fit Statistics for the Modified LISREL Models

Results	$\chi^2$	df	p	R <sup>2</sup>	$\chi^2/df$	GFI	AGFI	NFI
Depression model								
women	5.24	6	0.51	.54	1.15	.99	.97	.99
men	4.08	6	0.67	.55	1.47	.99	.95	.98
Paranoia model								
women	9.74	6	0.14	.57	0.62	.98	.94	.96
men	7.19	7	0.41	.42	0.97	.98	.93	.94

Note. GFI = Goodness-of-fit; AGFI = Adjusted Goodness-of-fit; NFI = Normed Fit Index

Structural Equation Modeling Research Questions

Parts of Table 16 can be used to address the major research questions. These questions asked (a) whether the depression model would provide a better fit for the scores of the women participants than for the scores of the men participants, and (b) whether the paranoia model would provide a better fit for the scores of the men participants than for the scores of the women participants.

The GFI and AGFI values in Table 16 appear to show that the depression model adequately describes the data for both men and women. Again, goodness-of-fit indices larger than .90 are considered by many researchers as an indication of a good model fit (Stevens, 1996). The fit indices in Table 16 also appear to show that the paranoia model adequately describes the data for both men and women. Therefore, the results indicate little support for either major hypothesis of this study.

LISREL Path Diagrams

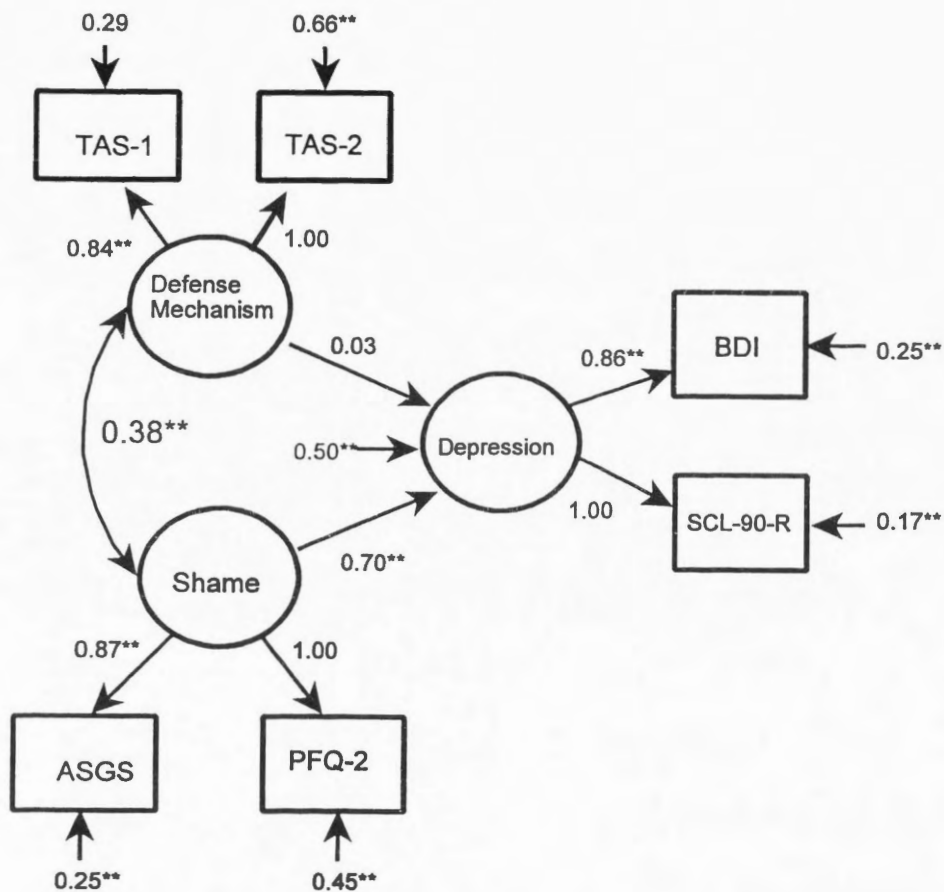
Thus far, it has been established that Lewis' original models did not receive

support in either gender. Nonetheless, the modified models did describe the data adequately. At this point, it is important to ascertain which latent variables were significant predictors of the latent depression and paranoia variables for women and men. The results of the modified LISREL analyses for the depression and paranoia models produced path diagrams that include path coefficients between the variables. These path coefficients are important to examine because they help ascertain which latent variables are significant predictors of depression and paranoia. Identifying the key variables in the models is important for guiding future research in this area and in adding to the present research knowledge on the specific factors potentially leading to the development of depression and paranoia in men and women.

#### Depression Model for Women

Figure 3 represents the path diagram for the depression model as it was fit to the scores for women. The scores for the observed variables in the measurement model in Figure 3 show that every path that was estimated was statistically significant ( $p < .05$ ). More specifically, the ASGS shame score with a path coefficient of  $R = 1.66$ ,  $p < .01$  is a significant indicator of the shame latent variable. The TAS-1 score with a path coefficient or  $R = 1.23$ ,  $p < .01$  is also a significant indicator of the defense mechanism latent variable. Finally, the BDI score with a coefficient of  $R = .75$ ,  $p < .01$  is a significant indicator of the depression latent variable (see Figure 3).

The structural model for the depression model for women indicates that the shame latent variable is a significant predictor of depression,  $R = 1.56$ ,  $p < .01$ ; however, the defense mechanism latent variable is not,  $R = .11$  (see Figure 3). Thus, although Lewis hypothesized that both shame and TAS would predict depression in



**Figure 3.** Depression model results for women.

**Note.** ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2, Shame; TAS = Turning Against Self; DEFMECH = Defense Mechanisms; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist 90 R, Depression.

women, we can only conclude that shame significantly predicts women's symptoms of depression according to the data in this study.

#### Depression Model for Men

Figure 4 represents the basic path diagram for the depression model as it was fit to the scores of the sample of men. The scores for the observed variables in the measurement model indicate that all but one pathway that was estimated is statistically significant ( $p < .05$ ), the exception being the estimate between the defense mechanism latent variable and the TAS-1 variable,  $R = 1.90$ . For the other measurement variables, the ASGS shame variable is a significant indicator of shame, with a coefficient of  $R = 1.76$ ,  $p < .01$ . The BDI variable is a significant indicator of depression, with a coefficient of  $R = .61$ ,  $p < .01$  (see Figure 4).

The structural model indicates that the shame latent variable is a significant predictor of depression,  $R = 1.68$ ,  $p < .01$ , and the defense mechanism latent variable is not,  $R = .38$  (see Figure 4). This is similar to the results for the sample of women, yet inconsistent with some of Lewis's predictions.

#### Paranoia Model for Women

Figure 5 represents the basic path diagram for the paranoia model as it was fit to the scores for the sample of women. The scores for the observed variables in the measurement model indicate that every pathway that was estimated is statistically significant ( $p < .05$ ). The PFQ-2 guilt variable is a statistically significant indicator of guilt, with a coefficient of  $R = .45$ ,  $p < .01$ . The TAO variable is a significant indicator of defense mechanism, with a coefficient of  $R = 2.73$ ,  $p < .05$ . Finally, the Paranoia-1

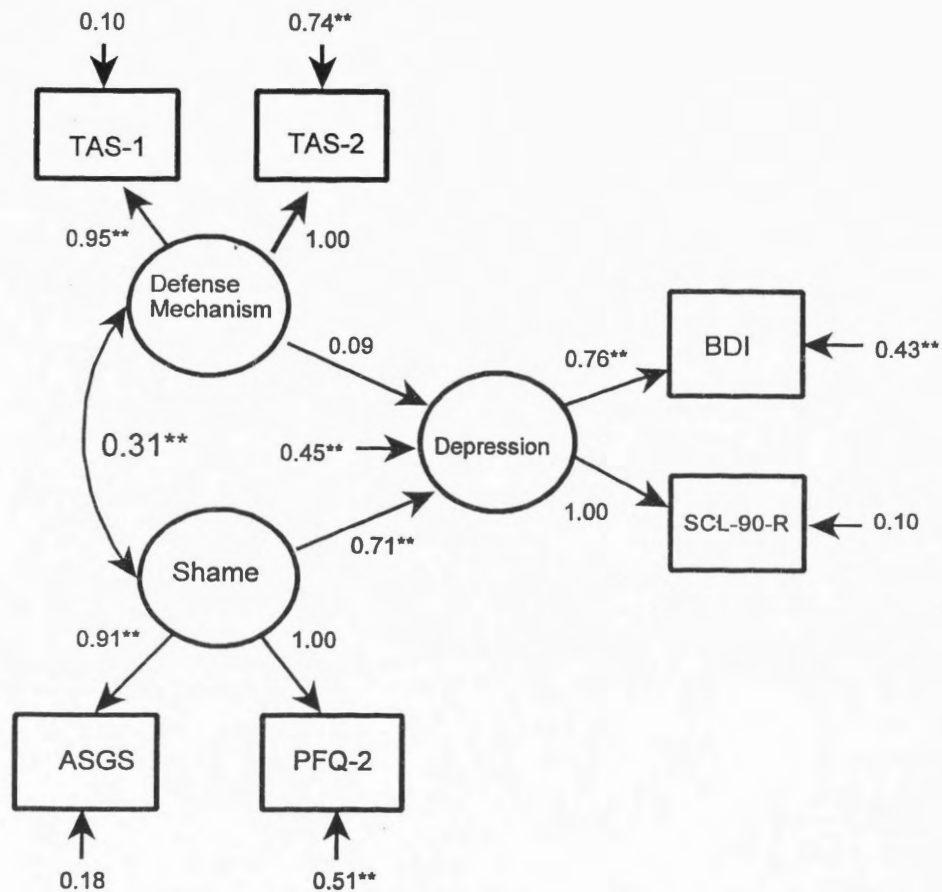
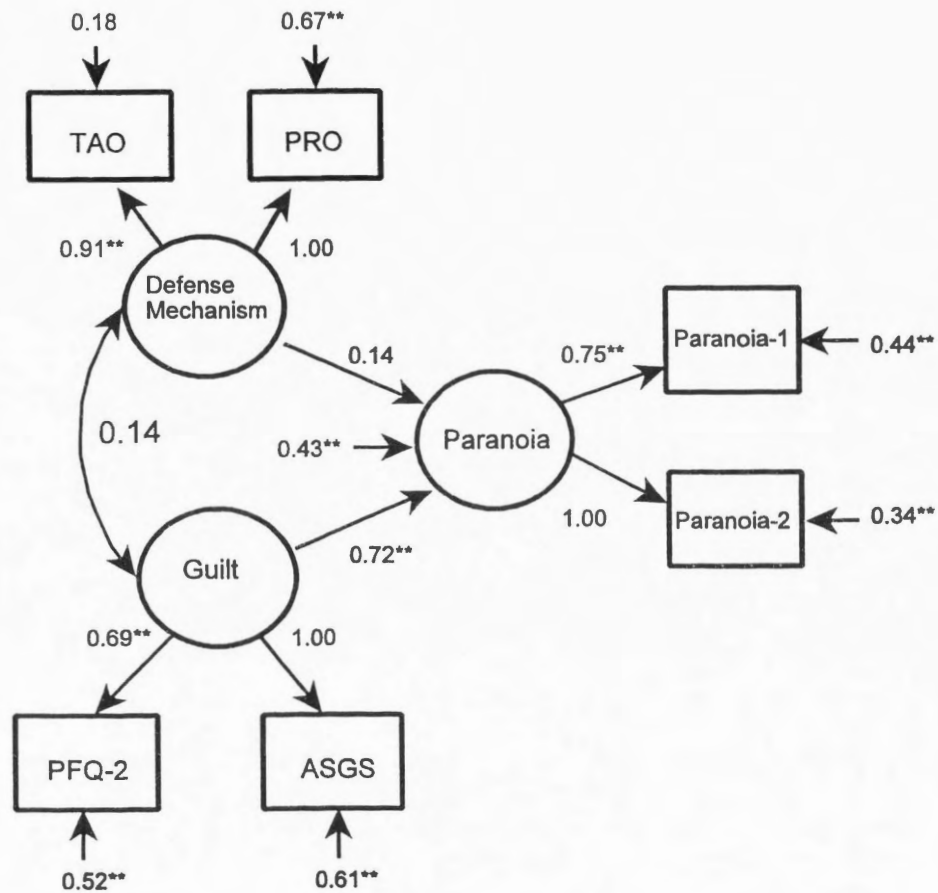


Figure 4. Depression model results for men.

**Note.** ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2, Shame; TAS = Turning Against Self; DEFMECH = Defense Mechanisms; BDI = Beck Depression Inventory; SCL-90-R = Symptoms Checklist 90 R, Depression.



**Figure 5.** Paranoia model results for women.

**Note.** ASGS = Adapted Shame/Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; TAO = Turning Against Others; DEFMECH = Defense Mechanisms; PARANO = Symptoms Checklist 90 R, Paranoid Ideation.



variable is a significant indicator of paranoia, with a coefficient of  $\underline{R} = .85$ ,  $\underline{p} < .01$  (see Figure 5).

The structural model reveals that the guilt latent variable was significantly predictive of paranoia,  $\underline{R} = .27$ ,  $\underline{p} < .01$ , however, the defense mechanism latent variable was not,  $\underline{R} = .08$ , (see Figure 5), which again indicates that Lewis's predictions were only partially confirmed.

### Paranoia Model for Men

Figure 6 represents the basic path diagram for the paranoia model as it was fit to the scores for the sample of men. The LISREL analysis of the modified paranoia model for men yielded several unreasonable parameter estimations. For instance, the residual score for the TAO variable was negative and the completely standardized coefficient between TAO and ASGS guilt was greater than one. Therefore, the measurement model was inaccurate for the data for men, meaning that the model was in need of further modification.

In order to modify a model, MacCallum (1986) has suggested that the researcher find the path that contributes the least to the model and exclude it from the model. The covariance pathway between the two latent variables, guilt and defense mechanism, was found to be the pathway that contributed the least to the model. In addition, the correlation analysis for the variables in the paranoia model showed that the scores for the defense mechanism variables (TAO and PRO) and the guilt variables (ASGS and PFQ-2) did not correlate significantly,  $\underline{r} = -.04$  to  $.17$ . Therefore, the paranoia model for men was configured to eliminate the covariance path between the two latent variables, defense mechanism and guilt. With this alteration, the paranoia



model for men was reanalyzed, this time yielding no unreasonable parameter estimations.

The scores for the observed variables indicate that all but one estimated pathway is significant, the exception being the estimate between the defense mechanism latent variable and the TAO variable,  $R = 2.96$ . The other observed variables indicate that the PFQ-2 variable is a significant indicator of guilt with a coefficient of  $R = .64$ ,  $p < .01$ . The Paranoia-1 observed variable is a significant indicator of paranoia with a coefficient of  $R = .75$ ,  $p < .01$  (see Figure 6).

The structural model indicates that the guilt latent variable is a significant predictor of paranoia,  $R = .34$ ,  $p < .01$ , however, the defense mechanism latent variable is not,  $R = .17$  (see Figure 6). Again, the defense mechanism latent variable was not a significant predictor of the psychopathology latent variable.

Overall, it appears that in the male and female samples the scores for the shame and guilt latent variables were significant predictors of the psychopathology constructs of depression and paranoia, respectively. However, the defense mechanism latent variables failed to provide any significant predictive abilities for the psychopathology variables.

## CHAPTER VI

## DISCUSSION

This study was designed to test the validity of two theoretical models that have never been fully tested in the psychological literature. Throughout Lewis's lengthy research career, she hypothesized that gender differences in cognitive style, guilt, shame, and defense mechanism use are major contributing factors to the emergence of gender differences in symptoms of depression and paranoia (Lewis, 1971, 1985). Before actually testing the models, it was first necessary to examine whether there were robust gender differences in depression, paranoia, cognitive style, guilt, shame, and defense mechanisms. This chapter first summarizes results concerning gender differences in the constructs and in the validity of the two models. It also is meant to interpret the findings and elucidate their clinical implications. The limitations of this study are then reviewed and suggestions for future research are provided.

#### Gender Differences Among the Predictor Variables

##### Gender Differences in the Criterion

##### Variable of Depression

Although women scored higher on depression than men, the difference was not large enough to reach statistical significance (SMDs = -.14; Stevens, 1996). The lack of significant difference between men's and women's depression scores was unexpected, because many studies have found that women generally report more depression than do men (Culbertson, 1997; APA, 1994). The failure to find significant gender-related differences in depression may reflect a growing trend of greater

similarity in the depression scores of men and women college participants than existed when Lewis (1971) and other researchers were exploring gender difference issues some 25 years ago (Faied, 1998; Joiner & Blalock, 1995). This is consistent with certain studies that have found higher rates of depression in men between the ages of 20 and 30 than in women (Kessler et al., 1994; Weissman, Bruce, Leaf, Florio, & Holzer, 1992). In addition, other studies have found no significant gender-differences in college age participants' depression scores (Faied, 1998; Joiner & Blalock, 1995).

One reason for the lower than expected depression scores for women may have to do with common risk factors for depression in college-age women. For example, the APA task force on depression among women in the United States reported common risk factors for women's depression as (a) being married, (b) having children, with more children equaling more depression, and (c) poverty (McGrath et al., 1990). It can be assumed that, compared to the general population, the college women in this sample ( $N = 197$ , 50% being 19 years old or younger) are more likely to be single, have no or few children, and not live in poverty. Of course, this means that the study calls for replication in a broader sample.

Beyond the paucity of risk factors for college women's depression contributing directly to the failure to find significant gender differences in participants' endorsement of depressive symptomatology, the lack of difference can also be viewed in terms of additional failures to find gender difference in self-reports of guilt and shame. If Lewis's hypothesis regarding how gender differences in guilt and shame contribute to gender differences in depression is valid, then the lack of significant gender differences found among guilt and shame in this sample may have also contributed to the lack of significant gender differences in depression (Lewis, 1985). In fact, according to the

results of this study, there are no significant gender differences present for the scores of depression, guilt, or shame. Therefore, a more important endeavor than looking for gender differences in measures of affect may be to identify predictive variables for measures of affect in general. The LISREL analysis helped elucidate this issue by identifying factors that accounted for depression and paranoia.

### Gender Differences in the Criterion

#### Variable of Paranoia

Lewis consistently claimed that men would be more prone to paranoia than women (Lewis, 1971, 1979a, 1979b, 1985). Unfortunately, the expected gender differences in paranoia were not found in this sample, even though men did score somewhat higher than women on paranoia. This finding is consistent with other findings in the literature that have suggested no significant gender differences in scores for paranoia (Derogatis, 1977; Derogatis & Cleary, 1977; Graham, 1990). Therefore, the hypothesis regarding the existence of gender differences in paranoia may have to be re-evaluated in subsequent research and in the DSM.

Lewis anticipated that men would score higher on measures of paranoia because of men's tendency to blame others and be aggressive towards them (Lewis, 1971, 1985). In point of fact, men in this sample did score significantly higher on indices having to do with blaming others (PRO) and being aggressive towards others (TAO), but this apparently did not carry through to impact on or reflect the existence of gender differences in paranoia as Lewis anticipated would happen.

One explanation may be that the paranoia scale only includes six items and the individual subscales of the SCL-90-R have not been shown to have solid discriminant

validity because all nine subscales (e. g., depression, paranoid ideation) show high positive correlations with each other (Clark & Friedman, 1983). Therefore, the lack of gender differences in paranoia may be due to the instrument used to measure paranoia. On the other hand, this sample also showed no significant gender differences for other measures (i.e., ASGS, PFQ-2, BDI, and SCL-90-R), which further suggests that the men and women in this sample simply did not differentially respond to the measures used in this study.

#### Gender Differences in the Criterion

##### Variable of Cognitive Style

As hypothesized, significant gender differences were found with this sample for the cognitive style variable of GEFT. This finding is consistent with much previous research showing that men score higher (i.e., more field independently) on measures of cognitive style than women, presumably because men and women are socialized to be field independent and field dependent, respectively (Witkin et al., 1971). The gender differences in cognitive style lend some validity to Lewis's theories. Ironically, however, the GEFT variable did not play a significant role in accounting for the variance in scores for guilt, shame, defense mechanisms, depression, or paranoia. This is seen correlationally in Tables 14 and 15.

One possible explanation for the lack of significant gender differences is that boys and girls may be developing more resilience to socialization practices and more able to overcome the potential ramifications of being socialized as either field dependent or field independent (Lytton & Romney, 1991; Nolen-Hoeksema & Girgus, 1994; Nolen-Hoeksema, Girgus, & Seligman, 1992). That is, when Witkin was studying

cognitive style in the 1950s through the 1970s, individuals who were either field dependent or field independent also consistently reported high levels of depression or paranoia, respectively (Witkin, 1965, 1979). With this sample it is possible that being field dependent or field independent may not lead to reporting symptoms of depression and paranoia as readily as it once did.

#### Gender Differences in the Criterion

#### Variables of Defense Mechanisms

The hypothesized gender differences in defense mechanisms were found with this sample. Men scored significantly higher on TAO and PRO and women scored significantly higher on TAS. These findings coincide with similar findings (Gleser & Sacks, 1973; Ihilevich & Gleser, 1986; Levit, 1991; Margo et al., 1993).

An attempt was made by Weissman et al. (1971) to explain the gender differences in defense mechanism use. They stated that under conditions of conflict, men more than women tend to attack externally frustrating objects (TAO, displacement) and to justify doing so by attributing negative characteristics to the source of frustration (PRO). Women, on the other hand, tend to direct their aggression inward (TAS). This explanation appears to be consistent with the literature in the Defense Mechanism section.

An interesting finding among the DMI scores involves the scores for LSU women. The data indicate that the DMI scores for the LSU women scored higher than the USU women and the normative data in the DMI manual (Ihilevich & Gleser, 1986; see Table 17). It appears that LSU women use the defenses of TAO and PRO to a



Table 17

Defense Mechanism Scores for USU, LSU, and Normative Samples

Samples	N	TAO		PRO		TAS	
		M	(SD)	M	(SD)	M	(SD)
USU							
Women	85	35.32	(9.79)	36.42	(4.83)	43.32	(6.59)
Men	38	40.03	(9.74)	40.66	(4.50)	35.89	(5.92)
LSU							
Women	100	41.93	(8.27)	39.45	(5.72)	39.20	(6.66)
Men	63	42.89	(7.76)	41.62	(6.15)	35.43	(6.58)
DMI Manual, Ihilevich & Gleser, (1986)							
Women	987	36.70	(8.80)	36.80	(6.00)	42.00	(7.20)
Men	958	41.60	(9.20)	40.00	(5.80)	36.40	(6.80)

Note. USU = Utah State University, LSU = Louisiana State University. TAO = Turning Against Others, PRO = Projection, TAS = Turning Against Self.

much greater extent than college women on average. The results suggest that women who go to Louisiana State University, more than women from other cultural areas of the United States (i.e., Mountain West), may choose to deflect the possible portrayal of a weak or self-critical character, as evidenced from their low TAS scores and high TAO and PRO scores. Future researchers studying defense mechanisms should be aware of potential differential response patterns that may reflect subcultural differences.

Whether a gender difference consistent with previous theorizing is or is not found seems to depend strongly on whether the subculture in question actually socializes women and men in the traditionally expected manner (Lytton & Romney, 1991). However, as mentioned earlier, traditional socialization practices may continue

to be prevalent, yet boys and girls may be getting more resilient and not acquiring the typical personality and emotional characteristics commonly associated with the differential socialization practices (Nolen-Hoeksema & Girgus, 1994).

Overall, it appears that gender differences in the defense mechanisms of TAO, PRO, and TAS are robust and can be consistently expected from samples of college students. These gender differences, however, appear not to contribute to depression or paranoia in this study, as was hypothesized by Lewis. This will be discussed later in the LISREL section.

#### Gender Differences in the Criterion

##### Variables of Guilt and Shame

As mentioned in the Results section, there were no significant differences between men and women in their reports of guilt or shame. The lack of significant gender differences could be seen as contradictory to Lewis's expectations. One explanation for the nondifference is the restricted nature of the sample in this study. Fewer gender differences in affect are found when college students are sampled than when individuals from a more general population are sampled (Harder, 1990a). This is especially true when college-level men and women are asked to report using ratings of emotion words, such as is the case in the PFQ-2 and the ASGS used in this research (Ferguson & Eyre, 2000).

The guilt and shame measures for the ASGS and PFQ-2 are self-report Likert scales with scores that are highly correlated in this study and others (Harder, 1995; Tangney et al., 1995). Strong correlations between the scores of two traits measured by the same method, relative to the same two traits measured by different methods

demonstrates a large method variance that does not lend itself to differentiation between the two constructs (Pedhazur, 1982). In addition, there are weak to nonexistent gender differences on measures of the frequency with which guilt and shame are experienced might also reflect the influence of other factors. For example, the frequency measures allow men and women to draw on contexts relevant to their gender in which they have felt either emotion. By allowing men and women to draw on gender-relevant contexts, men and women may find relatively equal number of situations in which they have felt these emotions (even though the situations they draw on may differ). Thus, previously estimated differences in guilt and shame using other measures (e.g., the restricted set of scenarios used in the TOSCA-2) may actually overestimate gender differences in either of these emotions (Ferguson & Eyre, 2000).

#### Summary of Gender Differences

The fact that there were no significant gender differences for both psychopathology variables and the variables of guilt and shame suggests that there are potential problems with the research methodology or with the theory or both. Instead of looking at factors related to gender differences in psychopathology, a more prudent course of action may be to look at factors related to psychopathology in general. Manstead (1992) also agrees with this strategy and has suggested that it seems prudent to develop and test an individual difference model without specific reference to gender because gender differences in emotion are likely to diminish as the socialization of men and women becomes more similar.

For example, gender differences in emotion are commonly thought to develop through socialization practices (Lewis, 1971) and the current view on gender role

socialization is that socialization practices are becoming more and more similar for boys and girls. That is, it is becoming more acceptable for girls to exhibit traditionally masculine characteristics such as independence, assertiveness, and autonomy and boys to exhibit more feminine characteristics. For instance, Manstead (1992) stated that "if, as current research suggests, differential socialization is a key factor underlying gender differences in emotion, these differences are liable to diminish as the socialization of males and females becomes more similar" (p. 38).. Furthermore, Archer (1996) stated that sex differences in social behavior are viewed as having arisen historically from the societal position of women and men—their division of labor into homemakers and full-time paid employees. It can be argued that this strict division of labor is not as clear-cut as it once was and can be expected to continue to in the future. As the socialization of boys and girls continues to mesh, so can the gender differences once commonly seen in social behavior. Therefore, with this study the lack of gender differences found among many of the constructs could possibly be related to the merging socialization practices of boys and girls.

#### Hypothesized Bivariate Correlations

Many of the hypothesized relationships were confirmed including the positive relationships between the scores of TAO and paranoia, TAO and PRO, and guilt and paranoia. Having the scores for both guilt variable scores correlate as hypothesized with both paranoia variable scores foreshadows the consistent relationship between the guilt and paranoia latent variables in the LISREL model analyses. The fact that only one of the defense mechanisms variables (TAO) correlated as hypothesized with the scores for the paranoia variable suggests a possible explanation for the lack of

predictive ability found between the latent variables of externalizing defense mechanisms and paranoia in the LISREL model analyses.

Scores for the variables shame and depression were also positively correlated, which is an indication of the positive relationship between the scores of the latent variables of shame and depression in the model analysis. Again, only one defense mechanism variable score (TAS-1) correlated as expected with the depression scores, which provides a possible explanation for the defense mechanism latent variable's lack of predictive ability with the depression latent variable.

On the other hand, a number of hypothesized relationships were not confirmed. The results using the GEFT scores foreshadowed problems that were discovered with Lewis's original structural models. The cognitive style variable, as measured by the GEFT with this sample, apparently does not behave in the manner Lewis had alluded to so frequently in her theoretical writings. Some may assume that the problem with the GEFT is that it is a purely perceptual task and the other measures were self-report measures of affect. However, perceptual tests such as the Rorschach have followed the rationale that, from the way in which an individual perceives particular stimuli, inferences may be drawn about their personality (Witkin et al., 1971). Therefore, the fact that the GEFT is a perceptual task does not adequately explain why it does not show any significant relationships with the other variables in the models. Men scored significantly higher than women on the GEFT, as expected, yet no other hypothesized relationship for the GEFT scores was obtained. The reasons why the GEFT scores did not correlate with the other variables can only be speculated.

The major implication for the GEFT scores' lack of significant relationships with the scores for the other variables includes the eventual exclusion of the GEFT variable

in the model analyses. Excluding the GEFT variable from the models changed Lewis's theory significantly. These changes will be further discussed in the model analysis sections.

Another nonconfirmed hypothesized relationship involved the scores for TAS-2, which were not significantly related to the depression scores. However, the scores for the TAS-1 variable were significantly related to the depression scores. One explanation for the lack of a significant relationship between depression scores and TAS-2 scores could be the restriction in range in the depression scores. A restriction in range leads to a lowering of correlation coefficients, which may account for the lower than expected correlations between the scores for TAS-2 and depression.

As previously mentioned, the TAS-1 and TAS-2 scores are somewhat different from each other. Some reasons for the differences between the TAS-1 and TAS-2 scores may have something to do with how the variables were developed. They were developed by splitting the entire TAS scores in half, creating TAS-1 from the first 100 scores and TAS-2 for the last 100 scores. It is possible that the participants started to get tired at the end of the DMI, which was the last instrument completed in the 90 minute session, and did not put forth as much effort in answering the latter half of the instrument. Thus, the participants' lack of effort may have compromised the integrity of the TAS-2 results, which might account for the lack of relationship between TAS-2 scores and the other variables in the model. It may be important for future researchers using split-half scores of the DMI to ensure that participants are not just filling in answers to complete the instrument, but are taking their time and putting forth adequate effort in finishing the DMI.

Another nonconfirmed relationship includes the PRO and paranoia variables. It was expected, especially with men, that projection of negative qualities onto others (PRO) would positively correlate with such feelings as "others are to blame for your problems" and "people cannot be trusted" (paranoia). However, this hypothesized relationship was not found in this study. Despite this, the DMI manual states that the relationship between paranoia and the rigid use of projection is one of the major associations between defense mechanisms and psychopathology emphasized in the clinical literature (Ihilevich & Gleser, 1986). Given these results, one might question the validity of the PRO variable, because other hypothesized relationships with the paranoia scores were obtained. All other results for the PRO variable indicate that it functioned as expected. For instance, men scored significantly higher than women, as expected, the internal consistency scores for the PRO variable were in acceptable ranges, and PRO scores were significantly correlated to TAO scores.

Finally, the low correlations obtained from the PRO scores and the paranoia scores may account for the rather low predictive ability of the defense mechanism latent variable has for the paranoia latent variable in the LISREL analysis. This issue will be further explored in subsequent sections.

### Lewis's Models and Theory

Throughout her writings, Lewis consistently stated that women's tendency to manifest a field-dependent cognitive style but men's inclination towards a field-independent cognitive style were the basis for gender differences in guilt, shame, defense mechanism use, depression, and paranoia (Lewis, 1971, 1985). However, bivariate correlational analyses and analyses of the complete LISREL models indicated

that cognitive style, in fact, detracted from the convergence of a solution to the models. Thus, the original hypothesized models did not adequately describe the data so the cognitive style latent variable was eliminated from subsequent modeling efforts.

#### Removing Cognitive Style from the Models

It is important to stress that changing the structural model also rejects the theory behind the model (Loehlin, 1992). These modifications need to be tested on a new sample before one can safely assert that cognitive style is not an important predictor of defense mechanism use, guilt or shame, or psychological symptoms (Loehlin, 1992). Because gathering new data is beyond the scope of this study, ascertaining why the cognitive style variable did not contribute to the model will be important in establishing support for the new theory.

It is possible that the relationships Lewis discusses between GEFT scores and other variables are present earlier in development than assessed in this study. College students were the participants in this study and the development of a propensity for one cognitive style or another emerges from early socialization practices (Witkin et al., 1971). The effect of these early socialization practices may diminish in college students who are striking out to find their own identity, many times the opposite of what their parents have instilled in them, thus diminishing the personality characteristics commonly associated with certain cognitive styles (Perlman & Kaufman, 1990). Previous studies have also failed to find significant correlations between cognitive style scores (GEFT) and other variables in the model (i.e., defense mechanisms) (Perlman & Kaufman, 1990; Shevrin et al., 1979). Therefore, in future research with college



students, the GEFT's inclusion and the assumption of its relationship to guilt, shame, defense mechanisms, and psychopathology should be analyzed closely.

### Modifications to Lewis's Theory

The modifications to Lewis's theory involved excluding cognitive style and focusing instead on guilt, shame, and defense mechanism use as the factors related to the development of depression and paranoia. As reviewed previously, the same socialization factors function for field dependence/independence as for the constructs of guilt, shame, and defense mechanisms (Ferguson & Crowley, 1997a; Harder, 1995; Ihlevich & Gleser, 1986; Lewis, 1971; Tangney et al., 1995; Zahn-Waxler et al., 1991). The socialization practices of love withdrawal and instilling a focus on maintaining interpersonal relationships tends to lead to a personal style of shame-proneness and turning against the self (Lewis, 1971; Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler et al., 1991). Socialization practices of physical punishment and encouragement of individual identity and autonomy tend to lead to a personal style of guilt-proneness, turning against others, and blaming others (Lewis, 1971; Lytton & Romney, 1991; Zahn-Waxler et al., 1991). The constructs of shame and TAS continue to be hypothesized as contributing to depression and the constructs of guilt, TAO, and PRO are still believed to contribute to paranoia.

### Modified Depression Model

The results for the modified depression model indicate that the model adequately describes the data for women and men alike. For both samples of men and women, the chi-squares are low, the p-values are high, and the goodness-of-fit indices

are high, all indicating a satisfactory model fit (Loehlin, 1992). Therefore, Lewis's theory (1971) regarding the constructs of shame and the defense mechanism of TAS significantly predicting depression was supported with these results. Analyzing the depression model as a whole allowed one to identify which variable did not predict depression (cognitive style) and which ones did predict depression, which includes all other variables in the analysis.

Shame appears to be the major variable that is predictive of depression in both genders. An explanation for shame predicting depression may come from the correlation analyses (see Table 15). The scores for both shame measures significantly correlated with the scores for both depression measures for the samples of women and men. In addition, many characteristics of shame are very similar to symptoms of depression. For example, on the ASGS, one of the items coded for shame is the adjective "depressed."

Identifying shame as a significant etiological factor involved in the development of depression provides an important replication of previous research (Harder, 1995; Tangney et al., 1995). The conclusion that can be drawn from the results of the depression model analyses is that shame, more than any other variable in the study, appears to be a significant factor in men and women's reporting of depression.

#### Modified Paranoia Model

The results for the paranoia model indicate that the model, as it was revised, adequately describes the data for women and men alike. For both samples, the chi-squares were low, the  $p$ -values were high, and the goodness-of-fit indices were all high, indicating an overall satisfactory model fit (Loehlin, 1992). Therefore, Lewis's theory

regarding paranoia being significantly accounted for by guilt and externalizing defense mechanisms (TAO and PRO) was supported by these results. More specifically, guilt appears to account for the majority of the predictive abilities of the model for paranoia.

The bivariate correlations presented in Table 15 reveal strong correlations between the two guilt variables and scores for both paranoia variables, which may account for guilt's overwhelming ability to predict paranoia, compared to the other variables. Harder (1995) also found that PFQ-2 guilt and SCL-90-R paranoia correlated significantly, providing further reliability for the association between guilt and paranoia.

The external defense mechanism scores of TAO and PRO may not have adequately predicted paranoia because the purpose of using defense mechanisms is to decrease inner tension and anxiety (A. Freud, 1936). Therefore, people's effective use of TAO and PRO may prevent them from experiencing paranoid symptoms.

### Summary and Clinical Implications

Overall, the cognitive style variable of GEFT did not contribute to the theoretical models and was therefore removed from the model analyses. Modified models, without the GEFT, were then developed and retested. For the modified model analyses, the samples of women and men appeared to score similarly, as evidenced by their equivalent goodness-of-fit indices for the depression and paranoia model analyses.

For the depression model, the scores for the shame variable showed significant predictive abilities for depression and the scores for the defense mechanism variable (TAS) did not. For the paranoia model, the scores for the guilt variable showed significant predictive abilities for paranoia and the scores for the defense mechanism

variables (TAO and PRO) did not. Therefore, it appears that shame and guilt showed significant predictive capabilities for depression and paranoia, respectively.

One major inconsistency between Lewis's theory and the results was the lack of any significant gender differences in the scores of shame, guilt, depression, or paranoia. Lewis's theory (1971) was principally developed throughout her research in order to help explain the development of the frequently found gender differences in the incidence of depression and paranoia. The fact that no significant gender differences were found for depression and paranoia in this sample may render moot the question of gender-related differences as predictors of either set of symptoms among these college students. However, Lewis's theory may still hold for older or less affluent people. Moreover, out of the five latent variables used to predict depression and paranoia, the variables with the best predictive abilities were the ones that did not show any significant gender differences. Guilt and shame were the variables that best predicted paranoia and depression, respectively, yet there were no gender differences in either emotion. Furthermore, the GEFT and defense mechanism variables showed fairly robust gender differences, yet neither substantially predicted psychological symptoms.

The clinical implications suggest that an important factor to explore in psychotherapy with people presenting with depression and paranoia is the extent of their shame- and guilt-proneness, respectively. According to the results of this study feelings of shame appear to be a strong predictor of depression. Understanding the etiology of a disorder can help a clinician treat more effectively by developing efficient and effective treatment plans. Considering the prevalence rates of depression and the number of people seeking relief through therapy and other means, it would seem

prudent to identify and focus on precipitating and mediating factors related to depression, such as shame. Therefore, treatment options for depression should include addressing a client's shame-proneness and the etiology behind those feelings.

### Limitations and Future Research

There are several potential limitations of this study. The most important limitation of this study may be how the data were gathered and the instruments that were used to measure the constructs. The data were gathered in a group format using college students, which may have created an artificial response bias (Borg & Gall, 1989). That is, the participants may have felt pressure to respond to the instruments in the way they believed their peers would respond, rather than how they really felt. It may be beneficial to administer the assessment instruments on an individual basis in the future.

As mentioned previously, because of the ambiguity of defining the constructs of guilt and shame, the assessment instruments used to measure guilt and shame have not been consistently validated. However, the instrument used to measure defense mechanisms has been well validated throughout the literature (Ihilevich & Gleser, 1986). Ironically, the variables that performed in a manner consistent with Lewis's model hypothesis were guilt and shame since they were shown to be predictive of paranoia and depression.

Research measuring guilt and shame and finding gender differences in guilt and shame is an ongoing endeavor. According to this study, efforts in searching for gender differences in guilt and shame with the ASGS and PFQ-2 may be better spent researching how guilt- and shame-proneness may be contributing to psychopathology

(i.e., paranoia and depression). It would also be wise to retest Lewis's theoretical models using other samples, possibly much younger ones, in order to truly rule in or out the influence of cognitive style in her model (Ferguson & Stegge, 1998).

Finally, while the search for gender differences in psychopathology is extremely prevalent in the psychological literature, it appears that men and women are responding more and more alike and efforts to look for gender differences in psychological constructs may be better spent looking for overall factors contributing to different forms of psychopathology (Archer, 1996; Faied, 1998; Joiner & Blalock, 1995; Kessler et al., 1994; Weissman et al., 1992). In this study, it appears as though shame firmly predicts the presence of depression and guilt predicts paranoia in both men and women. Continued research in these areas appears to be warranted.

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APPENDIX

## Consent Form

I would like to ask your cooperation in some survey research that is being conducted. I am interested in students' perceptions of everyday situations. To assess this, you are to complete a few brief surveys.

The intention is for you to complete all of the surveys. If you do this, you will receive—extra credit points. However, failure to complete any one of the surveys will result in 0 extra points.

In addition to questions about your experience in everyday situations, there are a few questions in the survey referring to background information. This information is collected only as a means of describing the background of the people participating in the study. Your completed surveys will be treated confidentially and individual scores will not be examined.

I have read the above information and agree to participate in the study. I understand that I may withdraw from the study without adverse consequences. I understand that I will receive extra credit points from my instructor for completing the surveys.

Print your name here \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

AGE \_\_\_\_\_ Gender \_\_\_\_\_ LAST FOUR DIGITS OF SSN \_\_\_\_\_

Have you ever received psychological counseling?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, are you CURRENTLY receiving counseling?

YES \_\_\_\_\_ NO \_\_\_\_\_

## PFQ2

For each of the following listed feelings, to the left of the item number, please place a number from 0 to 4, reflecting how common the feeling is for you.

- A "4" means that you experience the feeling CONTINUOUSLY or ALMOST CONTINUOUSLY  
A "3" means that you experience the feeling FREQUENTLY but not continuously  
A "2" means that you experience the feeling SOME OF THE TIME  
A "1" means that you experience the feeling RARELY  
A "0" means that you NEVER experience the feeling

- \_\_\_ 1. embarrassment
- \_\_\_ 2. mild guilt
- \_\_\_ 3. feeling ridiculous
- \_\_\_ 4. worry about hurting or injuring someone
- \_\_\_ 5. sadness
- \_\_\_ 6. self-consciousness
- \_\_\_ 7. feeling humiliated
- \_\_\_ 8. intense guilt
- \_\_\_ 9. euphoria
- \_\_\_ 10. feeling "stupid"
- \_\_\_ 11. regret
- \_\_\_ 12. feeling "childish"
- \_\_\_ 13. mild happiness
- \_\_\_ 14. feeling helpless, paralyzed
- \_\_\_ 15. depression
- \_\_\_ 16. feelings of blushing
- \_\_\_ 17. feeling you deserve criticism for what you did
- \_\_\_ 18. feeling laughable
- \_\_\_ 19. rage
- \_\_\_ 20. enjoyment
- \_\_\_ 21. feeling disgusting to others
- \_\_\_ 22. remorse

## ASGS

Below are a number of descriptive words that people frequently use to describe themselves in situations. Please use these words to describe yourself. That is, indicate on a scale from 1 to 7 how true of you these various descriptive words are.

For example: Sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.

Mark a 2 if it is USUALLY NOT TRUE that you are sly.

Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.

Mark a 4 if it is OCCASIONALLY TRUE that you are sly.

Mark a 5 if it is OFTEN TRUE that you are sly.

Mark a 6 if it is USUALLY TRUE that you are sly.

Mark a 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are sly.

## DESCRIBE YOURSELF

\_\_\_\_\_ Bashful

\_\_\_\_\_ Guilty

\_\_\_\_\_ Wicked

\_\_\_\_\_ Mortified

\_\_\_\_\_ Embarrassed

\_\_\_\_\_ Deprecated  
(criticized)

\_\_\_\_\_ Foolish

\_\_\_\_\_ Depressed

\_\_\_\_\_ Indecent

\_\_\_\_\_ Liable  
(responsible)

\_\_\_\_\_ Reproached  
(condemned)

\_\_\_\_\_ Unscrupulous  
(corrupt)

\_\_\_\_\_ Humiliated

\_\_\_\_\_ Immoral

\_\_\_\_\_ Abashed  
(appalled)

\_\_\_\_\_ Improper

\_\_\_\_\_ Delinquent

\_\_\_\_\_ Unethical

\_\_\_\_\_ Disgraced

\_\_\_\_\_ Inappropriate

\_\_\_\_\_ Shy

\_\_\_\_\_ Indecorous  
(offensive)

\_\_\_\_\_ Ashamed

\_\_\_\_\_ Imprudent  
(reckless)

## SCL-90R

0	1	2	3	4	
Not at all	A little bit	Moder- ately	Quite a bit	Extremely	BDI
___ 1	___ 24	___ 47	___ 70	___ 1	
___ 2	___ 25	___ 48	___ 71	___ 2	
___ 3	___ 26	___ 49	___ 72	___ 3	
___ 4	___ 27	___ 50	___ 73	___ 4	
___ 5	___ 28	___ 51	___ 74	___ 5	
___ 6	___ 29	___ 52	___ 75	___ 6	
___ 7	___ 30	___ 53	___ 76	___ 7	
___ 8	___ 31	___ 54	___ 77	___ 8	
___ 9	___ 32	___ 55	___ 78	___ 9	
___ 10	___ 33	___ 56	___ 79	___ 10	
___ 11	___ 34	___ 57	___ 80	___ 11	
___ 12	___ 35	___ 58	___ 81	___ 12	
___ 13	___ 36	___ 59	___ 82	___ 13	
___ 14	___ 37	___ 60	___ 83	___ 14	
___ 15	___ 38	___ 61	___ 84	___ 15	
___ 16	___ 39	___ 62	___ 85	___ 16	
___ 17	___ 40	___ 63	___ 86	___ 17	
___ 18	___ 41	___ 64	___ 87	___ 18	
___ 19	___ 42	___ 65	___ 88	___ 19	
___ 20	___ 43	___ 66	___ 89	___ 20	
___ 21	___ 44	___ 67	___ 90	___ 21	
___ 22	___ 45	___ 68			
___ 23	___ 46	___ 69			

Male	Female	Age	<u>TAO PRO PRN TAS REV SUM</u>						
			AB	FB	T	A	SUM		
1.ML	21.ML	41.ML	61.ML	81.ML	101.ML	21.ML	41.ML	61.ML	81.ML
2.ML	22.ML	42.ML	62.ML	82.ML	102.ML	22.ML	42.ML	62.ML	82.ML
3.ML	23.ML	43.ML	63.ML	83.ML	103.ML	23.ML	43.ML	63.ML	83.ML
4.ML	24.ML	44.ML	64.ML	84.ML	104.ML	24.ML	44.ML	64.ML	84.ML
5.ML	25.ML	45.ML	65.ML	85.ML	105.ML	25.ML	45.ML	65.ML	85.ML
6.ML	26.ML	46.ML	66.ML	86.ML	106.ML	26.ML	46.ML	66.ML	86.ML
7.ML	27.ML	47.ML	67.ML	87.ML	107.ML	27.ML	47.ML	67.ML	87.ML
8.ML	28.ML	48.ML	68.ML	88.ML	108.ML	28.ML	48.ML	68.ML	88.ML
9.ML	29.ML	49.ML	69.ML	89.ML	109.ML	29.ML	49.ML	69.ML	89.ML
10ML	30.ML	50.ML	70.ML	90.ML	110.ML	30.ML	50.ML	70.ML	90.ML
11ML	31.ML	51.ML	71.ML	91.ML	111.ML	31.ML	51.ML	71.ML	91.ML
12ML	32.ML	52.ML	72.ML	92.ML	112.ML	32.ML	52.ML	72.ML	92.ML
13ML	33.ML	53.ML	73.ML	93.ML	113.ML	33.ML	53.ML	73.ML	93.ML
14ML	34.ML	54.ML	74.ML	94.ML	114.ML	34.ML	54.ML	74.ML	94.ML
15ML	35.ML	55.ML	75.ML	95.ML	115.ML	35.ML	55.ML	75.ML	95.ML
16ML	36.ML	56.ML	76.ML	96.ML	116.ML	36.ML	56.ML	76.ML	96.ML
17ML	37.ML	57.ML	77.ML	97.ML	117.ML	37.ML	57.ML	77.ML	97.ML
18ML	38.ML	58.ML	78.ML	98.ML	118.ML	38.ML	58.ML	78.ML	98.ML
19ML	39.ML	59.ML	79.ML	99.ML	119.ML	39.ML	59.ML	79.ML	99.ML
20ML	40.ML	60.ML	80.ML	100ML	120.ML	40.ML	60.ML	80.ML	200ML





## PROFESSIONAL EXPERIENCE

## Idaho Department of Corrections Boise, Idaho

- 1999            Correctional Medical Services: Chief Psychologist, Idaho Department of Corrections.  
Director of the Idaho Secure Medical Facility, consult with department clinicians from around the state, and head of psychological services for the Department of Corrections.
- Supervisor: Jim Ruman, Western Regional Director, Correctional Medical Services
- 1998-1999      Idaho State Correctional Institution: Clinician  
Help facilitate Sex Offender and Cognitive Self Change groups. Assigned the Mental Health Unit, suicide watch, and the infirmary.
- Supervisor: Ed Burns, M.S.

## Webb Psychological Clinic and Institute Nampa, Idaho

- 1997-1999      Service Extender:  
Providing individual, group, and family therapy along with conducting psychological evaluations.
- Supervisor: Paula Nordstrom, Ph.D.

## Southern Louisiana Internship Consortium Baton Rouge, LA

- 1996-1997      LSU Student Mental Health Center:  
Full time, one year internship counseling LSU students including individual therapy, crisis intervention, group therapy, couples counseling, and psychological assessments.
- Internship Coordinator: Cathy Castille, Ph.D.
- 1996            East Louisiana State Hospital:  
Cedar View admissions unit for chronically mentally ill patients. A three month, 8 hour/week assessment rotation.
- Supervisor: John Pickering, Ph.D.

- 1996-1997 Feliciana Forensic Facility:  
Admissions unit for patients who are found "Not competent to stand trial." A three month, 8 hour/week assessment rotation.  
  
Supervisor: David Hale, Ph.D.
- 1997 Feliciana Forensic Facility:  
Intermediate Treatment Unit (ITU) for patients who are found Not Guilty By Reason Of Insanity or not competent to stand trial. A three month, 8 hour/week treatment rotation.  
  
Supervisor: Peggy Smith, Ph.D.
- 1997 East Louisiana State Hospital:  
Dorthea Dix Behavior Treatment Program (BTP). Token economy behavior management program. A three month, 8 hour/week treatment rotation.  
  
Supervisor: Joseph Comaty, Ph.D.

Utah State University Logan, Utah

- 1993-1996 Bear River Community Mental Health Services, Inc.:  
  
Therapist (20 hours/week, over 3,000 hours):  
Assessment and treatment of outpatient clients involving a variety of ages and problems. Conducted psychodiagnosis, individual, couple, family, and group psychotherapy as well as crisis intervention. Maintained a caseload of both acute and chronic patients and completed full psychological assessments.  
  
Supervisor: Leland "Skip" Winger, Ph.D.
- 1993-1996 Adult Probation and Parole Group: (300 direct hours)  
The group was a court ordered therapy group that focused on impulse control, responsibility issues, and making better choices in order to decrease chances of re-offending.  
  
Co-Therapist: Noel Gill, Ph.D.
- 1993-1996 Testing Examiner and Consultant:  
Administered the WISC-III (50) to children in resource classes and consulted with teachers in the Malad School District, Malad, Idaho.  
  
Supervisor: Noel Gill, Ph.D.

- 1993-1994      Self-esteem Group: (100 direct service hours)  
 Focused on building and maintaining self-esteem through cognitive-behavioral interventions, role plays, and personal discovery.  
  
 Supervisor: Leland "Skip" Winger, Ph.D.
- 1994-1995      HIV/AIDS Support Group: (100 direct service hours)  
 Voluntarily led group that provided support and group counseling to those who were diagnosed HIV positive and those who were affected by someone being diagnosed HIV positive.
- 1990-1993      PRACTICUM PLACEMENTS:  
 All practicum placements were 10 hours/week, for 30 weeks (300 hours).
- 1992-1993      Bear River Community Mental Health Services, Inc.:  
 Assessment, treatment, and crisis intervention of adults, adolescents, and couples in the community.  
  
 Supervisor: Leland "Skip" Winger, Ph.D.
- 1991-1992      Psychology Department Community Clinic:  
 Assessment and treatment of adults, adolescents, and couples in the community and on campus.  
  
 Supervisor: Jay R. Skidmore, Ph.D.
- 1990-1991      Center for Person's with Disabilities (CPD):  
 Assessment of learning disabilities and ADHD in children and adults.  
  
 Supervisor: Phyllis Cole, Ph.D.
- 1990-1992      Psychology Department Community Clinic (400 hours):  
 Assessment and treatment of adults, adolescents, and couples.  
  
 Supervisors:    Damian McShane, Ph.D.  
                       David Stein, Ph.D.  
                       Susan Crowley, Ph.D.
- 1987-1989      Eclipse Crisis Intervention Center Mankato, Minn.  
 Volunteer member of staff (200 direct phone hours):  
 Provided telephone and individual crisis intervention and referral services.  
  
 Supervisor: Brenda Johnson

## TEACHING EXPERIENCE

## Utah State University Logan, Utah

- 1990-1995      Instructor:  
Instructor for Introductory to Psychology through Utah State University Extension centers. Includes all the duties that pertain to instructing a class. (12 classes)
- Supervisor: Tamara Ferguson, Ph.D.
- 1989-1993      Teaching Assistant:  
Lecture, advise, instruct labs, and record grades for Introductory to Psychology (9 quarters) and Educational Psychology class (3 quarters)
- Supervisor: Tamara Ferguson, Ph.D.
- 1992              Top Ranked Professor:  
Awarded by the Associated Students of Utah State University Council

## LEADERSHIP EXPERIENCE

## Mankato State University Mankato, Minn.

- 1988              Who's Who in American Colleges and Universities
- 1988-1989      Psychological Students Association:  
President: Organize and lead a Speaker Bureau, Research Colloquium and Peer Advising.
- Special Projects Coordinator: Setup special projects for the entire association.
- Supervisor: Howard Levine, Ph.D.

## SCHOLARLY ACTIVITIES

### Publications:

- Houlihan, D., Jesse, V. C., Levine, H., & Sombke, C. (1991). A survey of rewards for use with teenage children. Child and Family Behavior Therapy, 13, 1-12.
- Houlihan, D., Jesse, V. C., Levine, H., & Sombke, C. (1989). A reward survey for use with high school students. Mankato Statement: The Journal of College of Education. Fall, 10-18.

### Professional Paper and Poster Presentations:

- Sombke, C. (1994). A predictive factor for PTSD in rape victims: Lack of Control. Paper presented at the Rocky Mountain Psychological Association, Las Vegas, Nevada.
- Sombke, C. & Stein, D., (1991). PTSD and its relation to the rape experience. Paper presented at the Western Psychological Association Conference, San Francisco, California.
- Sombke, C. & McCarty, S., (1989). Validating reinforcement surveys for use with specific populations. Symposium, invited address at Minnesota Association of Behavior Analysis Conference, Mankato, Minnesota.
- Sombke, C. & McCarty, S., (1989). A reinforcement survey for use with high school students. Paper presented at the Minnesota Undergraduate Psychology Conference, College of St. Thomas, St. Paul, Minnesota.
- Sombke, C. (1989). Self-esteem and partner's attractiveness on jealousy. Paper presented at the Minnesota Undergraduate Psychology Conference, College of St. Thomas, St. Paul, Minnesota.
- Sombke, C. (1988). Shoplifting among college students. Poster presented at the Minnesota Undergraduate Psychology Conference, Bethel, Minnesota.

## MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

- |           |  |
|-----------|--|
| 1996-1997 | Baton Rouge Area Society of Psychologists                |
| 1988-1998 | American Psychological Association: Student Member       |
| 1993      | Rocky Mountain Psychological Association: Student Member |

1991	Western Psychological Association: Student Member
1989-1990	Minnesota Association of Behavior Analysis: Student Member

#### ASSESSMENTS ADMINISTERED AND INTERPRETED

50	Achenbach Child Behavior Checklist
95	Beck Depression Inventory
50	Bender-Gestalt
2	California Psychological Inventory
7	Conner's Continuous Performance Test
6	Developmental Test of Visual Motor Integration
2	Edwards Personal Preference Schedule
5	Georgia Court Competency Exam
20	Graham-Kendal Memory for Designs Test
1	Hare Psychopathy Checklist
85	House, tree, person exercise
3	Kaufman Test of Educational Achievement
4	Matching For Familiar Picture Test
80	Minnesota Multiphasic Personality Inventory-II
7	Minnesota Multiphasic Personality Inventory-A
2	Peabody Individual Achievement Test
12	Piers Harris Children's Self Concept Scale
10	Rorschach (Exner)
70	Sentence Completion Test
50	Shipley's Institute of Living Scale
5	Slosson Intelligence Test
10	Stait-Trait Anxiety Inventory
5	Strong Interest Inventory
5	Structured Interview of Reported Symptoms (SIRS)
2	Vineland Adaptive Behavior Scale
55	Wechsler Adult Intelligence Scale-Revised
10	Wechsler Intelligence Scale for Children-Revised
55	Wechsler Intelligence Scale for Children III
2	Wide Range Achievement Test-3 (WRAT-3)
5	Woodcock Johnson Revised Achievement Inventory

#### CLINICAL INTERVIEWS

150	Clinical Intake Interviews
110	Clinical Diagnostic Interviews and Reports

## TOTAL THERAPY EXPERIENCE

3,237	Direct Service Hours
2,843	Indirect Service Hours
800	Supervision Hours
<hr/>	
6,870	Total Therapy Hours

## REFERENCES

Tamara Ferguson, Ph.D. (Dissertation Chair)  
 Utah State University  
 Associate Professor  
 Logan, Utah, 84322-2810  
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Jim Ruman  
 Manager of Correctional Medical Services Western Prisons Region  
 Boise, ID 83706  
 208-338-8877

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 Idaho State Correctional Institute  
 Clinical Supervisor  
 Boise, Idaho  
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