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### THE RELATIONSHIP OF IDENTITY STATUS, PERCEIVED PARENTAL EXPLANATORY STYLE, AND SEX TO YOUNG ADULT ATTRIBUTIONAL STYLE AND ATTRIBUTIONS FOR FAILURE

By

Carla Marie Monestere

### A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

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# DOCTOR OF PHILOSOPHY

Department of Psychology

### ABSTRACT

# THE RELATIONSHIP OF IDENTITY STATUS, PERCEIVED PARENTAL EXPLANATORY STYLE, AND SEX TO YOUNG ADULT ATTRIBUTIONAL STYLE AND ATTRIBUTIONS FOR FAILURE

By

Carla Marie Monestere

This research placed attributional theory within a broader framework by examining its relationships to developmental, familial, and societal factors. First, the research examined sex differences and the constancy of attributional style (AS) across content areas. It also reviewed the relationship of AS to identity status (ID) and sex differences therein. Another focus was sex differences in the relationship of young adult attributional style (YAS) to perceived maternal and paternal attributional styles. Finally, it examined the relationship of these factors to attributions for and mood after failure.

There were 278 men, 494 women, and one unknown person in Phase I. These participants completed questionnaires addressing demographics, AS, perceived parental attributional style, depressed mood, and life stressors. Seventy-three volunteers from Phase I then did Phase II which entailed completing one of three sets of anagrams (of varying degrees of difficulty), making attributions for failure, and reporting on mood.

There was support for domain specific attributional diatheses and sex differences therein. YAS scores for interpersonal events were significantly (p < .05) lower than scores for achievement events. Men's internality attributions for achievement events were significantly more external than the corresponding women's attributions. YAS and ID were unrelated. There were significant positive relationships between YAS and perceived paternal and maternal attributions for both achievement and interpersonal events. When young adult attributions were regressed on the corresponding parental attributions, perceptions of father generally accounted for more variance than perceived maternal attributions. In a structural equation model of Phase I data, there were more significant paths from perceived paternal attributions (as opposed to perceived maternal ones) to young adult attributions. Compared to men's, women's overall attributions were related to more diverse perceptions of parental attributions. There were fewer total paths from perceived parental attributions to men's overall attributions, but the number of paths from perceptions of mothers and fathers was more equal. In Phase II, only perceived maternal generality attributions for achievement events predicted attributions for failure.

The study revealed domain specific attributional differences and sex differences that were consistent with socialization and indicate that societal factors may relate to YAS. YAS and ID were not related. The data suggested that young adults utilize parents as models and develop similar attributional styles. Findings also suggested that males and females incorporate perceptions of parents differently. Contrary to hypotheses, only perceptions of maternal attributional style predicted young adult attributions for failure. This finding may reflect a developmentally appropriate connection to parents.

Findings suggest the importance of attending to sex differences, attributional domains, and societal norms when studying AS. Results also point to the role of parents in development of YAS and raise the possibility of developmental changes in whether an individual's AS (or perceptions of parents) will predict failure attributions.

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# **KEY TO ABBREVIATIONS**

ANOVA	Analysis of Variance
AS	attributional style
ASQ	Attributional Styles Questionnaire
BDI	Beck Depression Inventory
CFI	Comparative Fit Index
DACL	Depression Adjective Checklist
EASQ	Expanded Attributional Styles Questionnaire
EOMEIS	Extended Objective Measure of Ego Identity Status
GFI	Goodness of Fit Index
ID	identity status
ID-ID	ideological identity status
IP-ID	interpersonal identity status
LES	Life Experiences Survey
MANOVA	Multivariate Analyses of Variance
NFI	Normed Fit Index
NNFI	Non-Normed Fit Index
PAQ	Particular Attribution Questionnaire
PEM	Performance Evaluation Measure
PMAS-ACH	perceived maternal attributional style for achievement events
PMAS-INP	perceived maternal attributional style for interpersonal events
PPAS-ACH	perceived paternal attributional style for achievement events
PPAS-INP	perceived paternal attributional style for interpersonal events
PPASQ	Perceived Parental Attributional Style Questionnaire
SEM	Structural Equation Modeling
SES	socioeconomic status
VAS	Visual Analog Scale

.

YA	young adult
YAS	young adult attributional style
YAS-ACH	young adult attributional style for achievement
YAS-INP	young adult attributional style for interpersonal events

### Chapter One

Human beings have asked, "Why me?" for thousands of years. For example, one hears it in the Book of Job as Job faces one form of adversity after another. Confronting adversity and failure is part of the human experience, yet some individuals are crushed by it while others overcome and flourish. What permits a person to persevere and respond constructively to failures and challenges?

Many theories have addressed the manner in which people respond to adversity (Lazarus, 1991, 1993; Rotter, 1966; Abramson, Metalsky, & Alloy, 1989; Abramson, Seligman, & Teasdale, 1978). The reformulated theory of learned helplessness (Abramson et al., 1978) has stimulated much research about people's responses to negative events. This model is based on the theory of learned helplessness (Seligman, 1975) which stems from animal research. This theory argued that organisms learn to give up in situations where they cannot control the outcome. Abramson et al. (1978) added an attributional component to the model when the theory did not adequately account for human behavior. They argued that when a person does not control an outcome, the individual asks "Why?" and makes attributions about three causal dimensions internality/externality (Where is the cause?), stability/instability (How enduring is the cause?), and globality/specificity (How widespread is the impact of the cause?). Abramson et al. hypothesized that an internal, stable, and global attributional style produces cognitive, emotional, and motivational deficits that make a person vulnerable to depression when stressors occur. Studies have shown relationships between attributional style and depression (Peterson & Seligman, 1984), and health (Peterson, Seligman, & Valliant, 1988), and a person's response to success and failure (Metalsky, Halberstadt, & Abramson, 1987). Studies of success and failure situations have found relationships between attributions and the duration (Metalsky et al., 1987) and the severity of depressed mood (Follette & Jacobson, 1987).

Although Abramson et al.'s (1978) model and much subsequent research testing it

focused on adults, it was a logical step to examine attributional style and its relationship to mood and behavior in children (Kaslow, Rehm, & Siegel, 1984; Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984; Ward, Friedlander, & Silverman, 1987). Given the limited scope of learned helplessness theory (Abramson et al., 1978; Seligman, 1975) and the relevance of attributional style to functioning in adults and children, it would be good to articulate further the relationship of attributional style to development, e.g. identity status (Marcia, 1966) and to familial influences, e.g. perceptions of parents. Understanding the relationship of developmental and familial factors to attributional style is important because attributional style can affect a young adult's ability to respond effectively to failure and thereby influence the trajectory of the individual's life. Additionally, given the relationship between attributional style and depression, and the reality that depression is a significant mental health concern in the U.S., understanding more about what factors are related to attributional style could be important for improving prevention and treatment efforts.

This research was an effort to begin to put attributional theory within a broader conceptual framework by exploring its relationship to developmental and familial factors. More specifically, it examined the relationship of attributional style to identity status and sex differences therein. Identity status (Marcia, 1966) is an indicator of young adult development. It is a measure of a young adult's exploration of and commitment to an adult role and a set of beliefs in interpersonal and ideological realms. The study also examined the relationship of attributional style to perceptions of parents and sex differences in these relationships. Perceptions of parents may also be important given that parents serve as models and teachers as children grow. Young adults rely on their parents in many ways. It is possible that young adults' perceptions of their parents' explanatory styles might relate to their own attributional styles. The research also studied the constancy of attributional style by exploring whether individuals exhibit domain specific attributional diatheses. For example, do individuals demonstrate different attributional

styles when responding to interpersonal events as compared to achievement events (both of which are subject to strong sociocultural beliefs)? This study investigated sex differences in attributional style for interpersonal events and for achievement/work events. Additionally, the study examined the relationship of attributional style, perceived parental attributional style, identity status, and sex to attributions for failure and subsequent mood.

The present research used an existing data set and therefore the sample, methods, and measures were pre-set. The study focused on constructs assessed in the original project.

### Chapter Two: Literature Review

### Theories of Causality

Kelley's (1967) covariation theory, Rotter's (1966) locus of control model, Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum's (1971) model of causal ascriptions, and Abramson et al.'s (1978) reformulated theory of learned helplessness addressed how people explain events. In Kelley's (1967) model, people confronted by ambiguity or a challenge to their assumptions will logically evaluate covariation along three dimensions: distinctiveness, consistency over time, and consensus, and then make causal attributions. People may attribute causality to the self, to others, or to the environment. Attributions provide guidelines for future actions. According to Rotter (1966), stable individual differences determine the nature of a person's causal inferences. Rotter argued that people differ in their expectations about their ability to control positive and negative reinforcements. Individuals who believe that they can control the occurrence of reinforcers are said to have an internal locus of control. In contrast, people with an external locus of control perceive something outside of themselves as controlling the reinforcements they receive. These models incorporate an internal/external dimension and can be applied to a variety of settings, but they merely allude to how attributions are connected to mood. The covariation theory also requires a very logical analysis that is in reality not error free (Crocker, 1981). In addition, by postulating an internal trait, Rotter's theory neglects environmental factors.

Weiner et al. (1971) proposed a model of causal ascriptions for achievement behavior. In this model, people ascribe the outcome of achievement events to ability or effort (internal factors) or to task difficulty or luck (external factors). They argued that ascriptions to internal causes generate more intense positive and negative affective reactions than ascriptions to external sources (Weiner, Heckhausen, Meyer, & Cook, 1972). Internal attributions for failure and external attributions for success might generate negative moods. Later versions of the theory added attributions about stability and

controllability. Attributions about stability are hypothesized to determine expectations for the future whereas controllability and locus of control (internality/externality) are construed as determining emotional response. Expectations and mood determine future performance. Weiner, Russell, & Lerman (1979) further articulated the relationship of outcome, attributions, and affect. They argued that the objective outcome (success or failure) produces positive or negative affects independently of ascriptions, which also engender affect. This model, like those mentioned previously has an internal/external dimension, but differs in that it specifies the relationship of causal ascriptions to mood and performance. This theory, however, does not address attributions about the specificity of causes. It is also specific to achievement behavior.

Seligman's (1975) conceptualization of depression, the theory of learned helplessness, included an attributional component (Abramson et al., 1978). In its original formulation (Seligman, 1975), the theory asserted that when an organism cannot control an event (outcomes are independent of actions) deficits in motivation, cognition, and emotion occur. Therefore, when a person cannot control a situation, theory predicts that the person will give up and become depressed. This theory does not explain when helplessness will or will not generalize across situations, why negative events do not always cause a depression, or how the loss of self-esteem frequently associated with depression occurs (Peterson & Seligman, 1984). The major change in the reformulated theory of learned helplessness (Abramson et al., 1978) was the inclusion of an attributional framework; attributions about the causes of events were viewed as altering expectations and thereby affecting mood. If a person fails to control an outcome, s/he asks why it has occurred. The answer to this question determines the generality and the chronicity of the person's response as well as the event's impact on the individual's selfesteem. The reformulation proposed that people make causal attributions along three orthogonal dimensions: internality vs. externality (e.g. Is the cause something that is within me or in the situation?), stability vs. transience (e.g. Is the cause something that is

constant or temporary?), and globality vs. specificity (e.g. How pervasive is the causal factor? Does it apply to one situation or to a variety?). Individuals who attribute negative events to internal reasons are expected to suffer a loss of self-esteem. Individuals who attribute negative events to a persistent cause are expected to remain depressed longer. If one believes that a pervasive factor has caused a negative event, one is apt to show helplessness deficits in a variety of settings. Therefore, individuals who attribute causality to internal, stable, and global factors are most susceptible to becoming depressed when confronted with negative life events; in effect, a diathesis-stress model was proposed. In a subsequent reformulation, Abramson, Alloy, & Metalsky (1986) argued that depressive reactions are "...more likely to occur, to be more intense, and to last longer when negative life events are attributed to stable and global causes..." (Metalsky et al., 1987, p. 386) as opposed to unstable, specific causes. The internality/externality dimension is treated as influencing self-esteem, but is not the predisposing factor (diathesis) for depression. Later research is consistent with this perspective. Joiner and Rudd (1996) showed that specificity and stability load on the same factor (attributional generality) and that internality loads on a separate factor that pertains to the individual's external focus.

Abramson et al. (1989) developed the theory of hopelessness depression to respond to criticisms (Coyne & Gotlib, 1983) of the reformulated theory of learned helplessness (Abramson et al., 1978). In this model, hopelessness is construed as the proximal and sufficient cause of what they call hopelessness depression. The path to hopelessness depression begins either with the occurrence of a negative event or with the nonoccurrence of a positive event. The model then posits that three diatheses can interact with the event and contribute to the development of depression. The first diathesis is attributing the event to internal, stable, global causes and attaching great importance to the event. The second diathesis is inferring negative consequences based on the event. The third diathesis is inferring negative characteristics about the self after a negative

event occurs.

In contrast to the reformulated theory of learned helplessness (Abramson et al., 1978), this model (Abramson et al., 1989) treats attributional style as a distal cause that can influence a person's attributions for a particular event. Attributional style is a diathesis that only functions in the presence of a negative life event. Abramson et al. (1989) also argued that a diathesis stress model implies that a person will be vulnerable to a particular stressor if his/her attributional style for that type of event is depressogenic (internal, stable, and global); there is a match between the stressor and the attributional vulnerability. Thus, one can speak of domain specific attributional diathesis; for example, a college student explains achievement, but not interpersonal, events using internal, stable, and global causes.

Hopelessness theory is significant in several ways. First, it attempts to put attributional style in a broader conceptual framework. Second, it changes the role of attributional style in understanding depression and points to the possibility that other factors may influence it and the way it relates to mood. Third, hopelessness theory suggests that any negative event (controlled or not) can serve as a trigger. Fourth, it highlights the possibility that individuals may have content specific attributional style vulnerabilities. Even so, the model does not emphasize the role or relationship of developmental factors to explanatory processes.

In contrast to the other models the reformulated theory of learned helplessness posits a chronic attributional style reflecting past experience and reinforcements. Like Weiner et al.'s model (1979), it links cognition to mood. However, only the reformulated theory of learned helplessness addresses motivation and self-esteem. In addition, the reformulated theory of learned helplessness does not require rational causal thinking at all times and is not limited to explaining one realm of behavior.

Although constructed to explain depression, the reformulated theory of learned helplessness has also been used to examine attributions about and emotional responses to

failure (Follette & Jacobson, 1987; Metalsky et al., 1987). Metalsky et al. (1987) tested the diathesis-stress and causal mediational components of the reformulated theory using a sample of college students who had taken a midterm exam. For students who failed the exam, a regression revealed that the averages of their combined scores on the specificity and stability dimensions of the Attributional Style Questionnaire (the generality score) predicted the duration of their depressed mood in a manner consistent with the reformulated theory. Mood immediately after the test, however, was solely a function of test outcome. Although this finding is consistent with Weiner et al.'s (1979) assertions, it may mean that people require time to decide what caused the failure and readjust mood accordingly. Metalsky et al. also found that particular attributions made to address a specific failure mediate the effect of attributional style on the duration of depressed mood. Follette & Jacobson (1987) conducted a similar study using college students. Although they found no relationship between attributional style (operationalized as the average of the internality, specificity, and stability scores) and depression immediately after receiving test grades, the interaction of specific attributions about failing the exam with expectations about performance did predict immediate depression. Additionally, in a study of undergraduates receiving inaccurate failure feedback about their performance on a general ability test, Houston (1995) found that generality scores (the average of stability and globality items) for achievement events were predictive of change in measured anxiety, but not in depression. These results are consistent with the idea that attributional style can act as a diathesis for negative mood. Houston (1995) did not find support for causal mediation.

Researchers have begun to examine attributional style within a broader context. Studies have demonstrated that a variety of factors including affect (Baumgardner & Arkin, 1988; Brown, 1984), reinforcement contingencies (Weiner et al., 1971), selfefficacy (Houston, 1995), self-esteem (Metalsky, Joiner, Hardin, & Abramson, 1993) and expectations (House, 1976) can alter the nature of a person's causal attributions. Other

researchers have started examining children's and adolescents' causal attributions (Boggiano, 1998; Dixon & Ahrens, 1992; Dweck, 1975; Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2000; Nelson & Cooper, 1997). Even so, the relationship of developmental and familial factors to adult functioning has been insufficiently studied. Many studies have equated adults of all ages; psychosocial or developmental factors are assumed to have no bearing on causal attributions. In effect, young adults seeking a role in the world and closely tied to their parents are considered the same as elderly persons who may be reflecting on their lives in a quest for meaning. Although a few studies have examined sex differences (Handal, Gist, Wiener, 1987; Johnson, 1992; Whitley, Michael, & Tremont, 1991), many studies have not; in effect these studies assumed that the differences in socialization of women and men do not alter attributional style.

In summary, Abramson et al.'s (1978) model posited that people explain events by making attributions along three dimensions - internality/externality, specificity, and globality. A later reformulation (Abramson et al., 1986) argued that specificity and stability are critical for determining whether or not a person becomes depressed and that internality influences self-esteem. Another model (Abramson et al., 1989) intended to address the shortcomings of Abramson et al.'s (1978) reformulated theory suggested that other factors can interact with attributional style and that the lack of control is not essential. This model also suggested that individuals may exhibit domain specific attributional vulnerabilities. For example, an individual may make internal, stable and global attributions for negative events in his/her personal life, but he/she may make external, unstable, and specific attributions for negative events at work. The reformulated theory of learned helplessness is particularly useful because it may be applied to many situations, reflects past experience, addresses motivation and mood, does not require constant logical thought, and considers the environment. Studies have found that mood, expectations, and reinforcements can alter attributions (Baumgardner & Arkin, 1988; House, 1976; Weiner et al., 1971). However, limited work has examined if or how

developmental or familial factors relate to causal attributions in adults.

### Attributional Style for Achievement and Interpersonal Related Events: Relationship to

### <u>Sex</u>

The reformulated theory of learned helplessness (Abramson et al., 1978) proposed that individuals who regularly attribute negative events to internal, stable and global causes are vulnerable to depression. Much research using this theory assumes that attributional style is consistent across different types of situations (e.g. achievement vs. interpersonal). However, the theory itself did not address this point.

The theory of hopelessness depression (Abramson et al., 1989), a revision of the reformulated theory of learned helplessness, suggested that attributional style may differ across domains and therefore a person may exhibit a specific vulnerability. Houston (1995) was consistent with the notion of domain specific attributional diatheses. Using Metalsky et al.'s (1987) attributional style questionnaire, Houston (1995) found that attributional style for achievement events is more strongly related to emotional response after failing an intellectual task than attributional style for interpersonal events is. Using the Attributional Styles Questionnaire (Seligman, Abramson, Semmel, & von Baeyer, 1979), Berndt, Berndt, and Kaiser (1982) assessed differences in attributions based on content (achievement and affiliation) and sex. They found little support for differences based on either dimension. However, the results of this study must be considered tentative as the sample was small and the Attributional Styles Questionnaire has modest reliability. Some researchers evaluating the reformulated theory of learned helplessness also appear to have considered the concept of a specific attributional vulnerability. For example, Peterson, Colvin, and Lin (1992) reported on two studies. One study used a version of the Attributional Styles Questionnaire focused solely on academic events when examining the relationship of attributional style to helplessness in students grappling with academic challenges and disappointments.

Commonly used measures of attributional style (Peterson & Villanova, 1988; Seligman et al., 1979; Metalsky et al., 1987) focus primarily on two domains, achievement events and interpersonal events. For example, Peterson and Villanova's (1988) Expanded Attributional Style Questionnaire (which is used in this data set) asks individuals to make attributions for 24 negative life events. Of these items, 7 are focused on achievement events and 10 are focused on interpersonal events. Thus far, a review of the literature has revealed no studies that used the Expanded Attributional Styles Questionnaire (Peterson & Villanova, 1988) to examine the possibility of a domain specific attributional vulnerability/diathesis.

The existence of societal processes and structures that steer men and women toward different roles suggests that there will be sex differences in domain specific attributional style. Citing the work of Robert V. Wells, Alice Clark, Talcott Parsons, Ruth Bloch and others, Chodorow (1978) argued that the shift from an agrarian society to an industrial economy in the US changed the division of labor to one in which women became primarily responsible for childcare, emotional labor, and the household, and men became primarily responsible for public matters and achieving in the paid labor force. Chodorow asserted that this division of labor is related to the structure of the family, the behavior of parents, and the psychological development of children. More specifically, she argued that these factors give girls an experience of closeness and connection and boys an experience of distance (in relationship to the mother) that predisposes them to engage in interpersonal or affective roles and extrafamilial and more impersonal activities respectively.

Despite laws ensuring equal opportunity for women in employment, data suggest that the division Chodorow (1978) described still exists even though the gap may be narrowing. Data suggest that the rate of women's participation in the paid labor force has been increasing since 1960 and almost equals the rate for men in some age groups, but in 1999 the participation rate for men was still higher in every age group and in each marital

status category (U.S. Bureau of Labor Statistics Bulletins 2217 & 2340 and unpublished data reported in the U.S. Census Bureau, 2000, Table 651, p. 408). For the civilian, noninstitutional labor force (over age 16 years), 74.7% of men were in the labor force as compared to 60% of women (U.S. Bureau of Labor Statistics Bulletin 2307 and Employment and Earnings (January issues) cited in U.S. Census Bureau, 2000, Table 645, p. 404). In 1990, which is closer to the time of data collection, 76.4 % of men and 57.5% of women were in the labor force (U.S. Bureau of Labor Statistics Bulletin 2307 and Employment and Earnings (January issues) cited in U.S. Census Bureau, 2000, Table 645, p. 404).) Additionally, some data (U.S. Bureau of Labor Statistics, Employment and Earnings (January issues), and unpublished data cited in the U.S. Census Bureau, 2000, Table 669, p. 416-418) suggest that women are encouraged to pursue fields that are related to caring, nurturing, and supporting others. In 1999, for the U.S. as a whole, 60.4% of those in service occupations were women, 9.0% of those in precision production, crafts, or repair positions were women, 24.1% of operators, fabricators, and laborers were women, 63.8% of technical, sales, and administrative support personnel were women, and 49.5% of those in managerial and professional specialties were women. The difference is even more obvious when considering more detailed data. For example, in 1999, 10.6% of engineers were women, but 85.7% of health assessing and treating professionals (e.g. nurses, dietitians, and speech therapists) were women.

Traditional sex role stereotypes, "...consensual beliefs about the differing characteristics of men and women in our society..." (Rosenkrantz, Vogel, Bee, Broverman, and Broverman, 1968, p. 287) are consistent with the aforementioned division of labor. For example, Rosenkrantz et al. reported that at least 75% of the men and 75% of the women in their sample ( $\underline{n} = 154$ ) agreed that men are competitive, logical, confident, ambitious, skilled at business, make decisions easily, act as leaders, and know the ways of the world. In contrast, at least 75% of the men and 75% of the men and 75% of the world. In contrast, at least 75% of the men and 75% of the men and 75% of the world. In contrast, at least 75% of the men and 75% of

express tender feelings, and are talkative. Similarly, based on a combination of interview data ( $\underline{n} = 20$ ) and extant literature and research, Komarovsky (1950) argued that parents treat boys and girls differently to prepare them for roles inside and outside the home respectively. She asserted that males are encouraged to be competitive, independent, and dominant whereas girls are relatively sheltered and encouraged to attend to kinship responsibilities. Several studies also suggest that men and women share these beliefs (Broverman, Broverman, Clarkson, Rosenkrantz, & Vogel, 1970; Kitay, 1940; Fernberger, 1948; Rosenkrantz et al., 1968).

Given our societal structure and the messages associated with sex roles, it seems likely that males and females might develop attributional styles that help them to meet societal roles and obligations. Thus, males may be more likely to develop an attributional style which allows them to persist after experiencing negative work or achievement related events and females may be more likely to develop an attributional style which allows them to persist after experiencing negative relational/affective events.

Research on sex differences in attributional style has shown conflicting and complex results. Using a sample comprised of adolescents, young adults, and middleaged persons, Johnston and Page (1991) found that men's responses to the Attributional Style Questionnaire (Abramson et al., 1978) were significantly more internal, stable and global than were women's responses. Other studies have found that scores on the causal dimensions do not differ by sex (Berndt et al., 1982; Handal et al., 1987; Johnson, 1992; Whitley et al., 1991). However, studies have also suggested that the relationship of attributional style to depression differs for men and women (Handal et al., 1987; Johnson, 1992). These latter studies point to the importance of examining the relationship of attributional style to mood, and to other indicators of functioning, separately for men and women even when there are no sex differences on the causal dimensions.

In summary, although much work has assumed that attributional style will be consistent across content domains, the reformulated theory of learned helplessness is

ambiguous about this point. Measures used to assess attributional style focus primarily on two domains – achievement and interpersonal matters. Some studies have begun to examine whether there are content specific attributional diatheses. Other studies have begun to examine sex differences in attributional style. However, these studies have not addressed the possibility that these content specific attributional diatheses may differ based on sex.

### Attributional Style and Perceptions of Parental Attributional Style

The reformulated theory of learned helplessness (Abramson et al., 1978) did not clearly articulate how attributional style develops or how attributional style relates to developmental factors. Researchers, however, have applied the construct of attributional style to children and adolescents. For example, Dixon and Ahrens (1992) found that an attributional style-stress interaction helps to account for depression in children. Lewinsohn et al. (2000) found, in a study of adolescents, that a "positive attributional style" was associated with remaining nondepressed after recovering from major depression. Further, some theoretical work and research has begun to address the acquisition of attributional style (Haines, Metalsky, Cardamone, & Joiner, 1999; Kaslow, Rehm, Pollock, Siegel, 1988; Seligman et al., 1984). Haines et al. (1999) argued that the experiences that an individual has in childhood (e.g. feedback from significant adults) can contribute to the development of a pessimistic world view and be reflected in attributional style. The research on the role of parents in the development of attributional style is conflicting. Kaslow et al. (1988) found no relationship between children's attributional style and parental attributional style/cognitive distortions. Seligman et al. (1984), however, found that children's attributional styles were related to those of their mothers, but not their fathers.

While the aforementioned literature suggests that a parent's behavior could affect a child's attributional style and thus contribute to the development of an adult's

attributional style, psychoanalytic theory (Erikson, 1963) pointed to the importance of parents and the young adult's perceptions of them for young adult development. The tasks of young adulthood include becoming more independent of parents and selecting a role in the world (Erikson, 1963). Young adults' perceptions of their parents are related to the development of autonomy, their psychological health, and their involvement in interpersonal relationships (Frank, Pirsch, & Wright, 1991; Frank, Pirsch, Wright, Jacobson, & Pedigo, 1990). It seems possible that perceptions of parents may also affect young adults' causal attributions. Monestere and Thornton (1993, 1994) reported that young adult attributional style is positively correlated with the combined perceptions of maternal and paternal attributional style and with the perceptions of each parent's attributional style individually. The magnitude of the relationship of young adult attributional style to perceived parental attributional style differs based on parental marital status (Monestere & Thornton, 1994) and on identity status (Monestere & Thornton, 1993).

A young adult's perceptions of parental attributional styles may serve as a model of how parents explain events as well as a model of how to explain events in general. People might refer to these percepts or schemas when they are unsure of how to explain an event. And, when faced with a particular type of event (e.g. achievement, interpersonal), young adults may consider their parents' styles of explaining events within the same domain/content area. Use of these percepts would be especially important in young adulthood because young adults confront many new experiences, beliefs, and choices. Given the frequency of these novel experiences, perceptions of parental attributional style might greatly influence a young adult's attributional style, coping mechanisms, and choice of roles and beliefs, with significant implications for later life.

It is hypothesized that there will be sex differences in the relationship of young adult attributional styles to perceived parental attributional style. It is argued that three

factors might affect the magnitude of the aforementioned relationship. First, the availability of the model (mother/father) when the individual was growing up could affect the relationship of young adult attributional style to perceived parental attributional style. Bandura (1977) argued that the number and type of opportunities a person has to observe a model will affect observational learning. Thus, the more opportunities the individual had to observe the parent explain or address specific kinds of situations, the more likely it is that the individual will learn about a model's beliefs and ways of handling various situations. Data from the sample used in this study suggest that the young adults had more contact with and opportunities to learn from their mothers. More specifically, 73% of the participants had married parents and given cultural norms it seems likely that they spent more time with their mothers. Data from the participant background questionnaire and other data from the US government are consistent with this assertion. More specifically, for the sample as a whole, mothers did not start working until the child was an average of 7.29 years old (SD = 4.44). The data also indicate that the most common time for mothers from every marital status to resume full-time employment was when the child started elementary school. Additionally, for the largest group of participants (those with married parents), nearly 45% of the mothers were employed only part-time or not at all (29.8% part-time, 14.1% never). Other than occupation, no data were gathered about paternal employment, an omission suggesting the strength of the assumption that fathers work full-time. Data from the US government also suggest that children are likely to spend more time with mothers than with fathers. Government data suggest that nearly all married men are employed. In 1990, more than 96% of married men aged 25-44 years old were employed in contrast to 69-74% of married women in the same age category (U.S. Bureau of Labor Statistics Bulletins 2217 & 2340 and unpublished data reported in the U.S. Census Bureau, 2000, Table 651, p. 408).

Second, what a parent symbolizes or represents (roles / beliefs / expectations) to

the child might also affect magnitude of the relationship of young adult attributional style to perceived parental attributional style. Parsons and Bales (1955) asserted that families play a key role in shaping children into members of society. This book argued that women and men fill different roles in society and different functions within the family. More specifically it argued that men perform instrumental functions in the world and at home and that women function primarily at home and perform expressive functions within the family. Thus, men assume agentic roles and focus on accomplishing goals. Women, in contrast, primarily address the emotional and relational needs of the family. Similarly, Chodorow (1978) argued that as the primary caretaker of children, mothers give children experiences of closeness and nuturance whereas fathers demonstrate competence in the world outside the family and give children an experience of independence. Although societal changes have narrowed the differences between men's and women's societal roles, labor statistics and the sex role stereotypes noted earlier suggest that these traditional roles could affect the relationship of young adult attributional style to perceived parental attributional style. Thus it seems likely that young adults may perceive their mothers as representing nurturance and the social realm and be more likely to consider how their mothers would explain interpersonal events. Repeated consideration could lead young adults to explain interpersonal events in a manner similar to their mothers' styles. It also seems likely that fathers may represent agency and achievement and that young adults may be more apt to consider how a father might explain achievement events and thereby develop a similar attributional style for achievement events.

The third factor posited to affect the magnitude of the relationship of young adult attributional style to perceived parental attributional style is sameness. Kagan (1958, 1971) argued that children want to be competent and powerful like their parents and come to identify with them, perceiving themselves as especially similar to the same sex parent. He said that children identify with a model when they believe that they share

physical or psychological qualities with the model and when they vicariously experience feelings that are appropriate to the model's experiences. Kagan asserted that children desire the positive features of the model as well as the benefits resulting from them. As a result, he thought that children take on the behaviors and the attitudes of the model. Kagan asserted that while children can perceive similarities on their own, others also highlight similarities for them. He said that children are reinforced by others for imitating the parent and to some extent are also reinforced by their own behavior.

Mischel (1970) also extensively reviewed the research pertaining to sex typing and socialization, concluding that social learning processes and reinforcement play an important role in the development of sex role identity. He noted that parents are important models of sex role behavior and of behavior in general. His review also suggested that individuals pay more attention to and recall more about models of the same sex.

In summary, the reformulated theory of learned helplessness (Abramson et al., 1978) does not specify how attributional style is developed. Researchers have begun to examine attributional style in children and work is being done to ascertain what factors, e.g. parents, might play a role in the development of an individual's attributional style. It is possible that young adult attributional style is related to young adults' perceptions of their parents' explanatory styles. More specifically, it is argued that young adults may consider how parents explain events in general (as well as particular types of events) incorporate this information into their own attributional style for similar events. Young adults' perceptions of parental attributional style may also influence their causal attributions for particular failure events. It is proposed that three factors (availability, symbolism, sameness) will affect the magnitude of the relationship of young adult attributional style to perceived parental attributional style.

### **Identity Status**

Erikson (1963) asserted that adolescents and young adults must define the role they want to assume in the adult world they are entering; he described this as achieving an identity. In selecting a role, young adults must decide what they believe and like in ideological (political, religious, work) and interpersonal (friendship, love) realms. As part of this process, Erikson thought that young adults integrate perceptions of parents and parental beliefs and perceptions of themselves and their own beliefs, with societal messages and roles.

Marcia (1966) proposed that young adults' resolutions of this process vary along two orthogonal dimensions: exploration/crisis and commitment. The exploration/crisis dimension assesses how actively young adults explore or select roles and beliefs. Young adults who actively engage in this process are described as being in crisis. The commitment dimension refers to how firmly or permanently young adults hold their beliefs and their adult roles. Young adults who hold their beliefs strongly and have defined a role are said to have made a commitment. Using these dimensions, he described four resolutions to the identity versus identity confusion stage. These four identity statuses are identity achieved, moratorium, foreclosed, and diffuse. Individuals who have actively explored roles and beliefs and made a commitment to them are termed identity achieved. Individuals in moratorium actively explore beliefs and roles but have not yet made a commitment to them. Adults who have not explored their beliefs and role options, but who have made a commitment are in the foreclosed group. (These adults typically adopt their parents' beliefs and enter roles prescribed by their families.) Adults who have not explored beliefs and role options and who have not made a commitment to a set of beliefs or a role are termed diffuse.

There has been debate in the literature about how well Marcia's (1966) identity status construct captures Erikson's thoughts about identity development (Coté & Levine, 1988a, 1988b; Waterman, 1988). Research has also examined whether and how people

move from one identity status to another and the stability of the identity statuses (Adams & Fitch, 1982; Waterman, 1982; Waterman, Geary, & Waterman, 1974). Several studies indicate that in general, the percentage of individuals in the identity achievement category increases and the percentage of individuals in the diffusion status decreases with age, as one might expect if there is a progression from diffusion to achievement (Adams & Fitch, 1982; Waterman, 1982; Waterman et al., 1974). However, when movement is studied at the level of the individual, there is more variation. This work has prompted researchers and theorists to consider whether the identity statuses might best be construed as a typology rather than stages showing movement toward identity achievement. Despite questions about how to regard identity status, it seems to be a reasonable mechanism for determining whether individuals have explored beliefs and riles and made reflective identity commitments (Waterman, 1988).

Although the early research addressing identity status emphasizes development in the ideological (politics, religion) realm based on all male samples, later research assesses identity development in both the ideological and the interpersonal (sex, friendship) realms and includes both men and women in the samples. The research using identity status to compare identity development in men and women has yielded conflicting results. Assessing identity using a measure focused on ideology, Adams and Fitch (1982) found that men were more likely to be in the identity achieved and moratorium categories than women. In contrast, using a measure of identity status that encompasses both the ideological and interpersonal domains, Grotevant and Adams (1984) found evidence that women were more likely to be identity achieved than men in the ideological and interpersonal domains and on the total identity scale. Although the differences are statistically significant, men's and women's scores differed by only a small amount. In a third study, Bilsker, Schiedel, and Marcia (1988) found no sex differences in overall identity status or within the domains assessed. They reported comparable numbers of men and women in each identity status category. Reviewing

multiple studies, Waterman (1999) found evidence to suggest that women were more likely than men to be in the identity achieved and moratorium categories for the interpersonal domains, but not for work related domains.

Some work has also explored the relative contributions of different domains to identity development in women and men. According to Bilsker et al. (1988), identity status in the ideological realm was the best predictor of men's overall identity development. In contrast, identity status for the interpersonal realm was the best predictor of women's overall identity development. This study reported no sex differences with respect to occupation. Women participants rated interpersonal identity development as more important to their identity than men did.

If an individual explores, he or she must actively analyze beliefs and choices. The person must compare parental, personal, and social beliefs and guidelines. Engaging in this process may have several consequences - increased analytical skills, a more well defined sense of one's own beliefs as well as parental and societal beliefs, and a greater awareness of one's role in the world and what one wants. In addition, the skills associated with active exploration may allow individuals to make more accurate attributions and to avoid inappropriately assigning blame to themselves. Thus, as the level of failure increases, identity achieved and moratorium individuals will be better able to recognize the underlying causes and make accurate attributions than foreclosed and diffusion status individuals, who may be more apt to make attributional errors with increasing frequency.

Exploration also suggests that people will develop beliefs or skills that will allow them to continue exploring even when confronting difficult or challenging situations. An explanatory style that decreases the likelihood of an individual experiencing cognitive, motivational, or affective deficits is an asset. Thus, it seems likely that many individuals who explore have external, unstable, and specific attributional styles for uncontrollable, negative events. A number of studies are consistent with the idea that individuals who explore develop attributes, beliefs, and skills that facilitate exploration and resilience.

According to Grotevant and Adams (1984), individuals in the achievement category were inclined to confront and to engage problems while individuals in the foreclosed and diffuse groups use less effective coping strategies. Marcia (1966) reported that individuals in the identity achieved group perform better on a stressful concept attainment task. Additionally, Marcia (1967) found that persons in the identity achieved and moratorium groups are less vulnerable to self-esteem manipulation when receiving false feedback (positive or negative) on a concept attainment task that they were told was indicative of their intelligence and academic success. Although Marcia's (1966, 1967) studies had relatively small sample sizes (26 and 72 respectively) they suggest that individuals in the achievement and moratorium statuses function better in stressful problem solving situations and may be less vulnerable to negative emotional consequences in response to positive or negative feedback about their performance.

In summary, Erikson (1963) argued that a major task of adolescence and young adulthood is the formation of a cohesive sense of identity. Marcia (1966) developed the construct of identity status to assess young adults' resolutions to Erikson's identity versus role confusion stage. Researchers have used this construct to assess development in men and women and the results have been conflicting. It is also proposed that the analytical skills associated with high identity status enable individuals to make more accurate causal attributions about failure. Furthermore, it is argued that exploration is associated with an optimistic attributional style.

# Attributional Style, Perceptions of Parental Attributional Style, Identity Status and Response to Failure

Although it is often treated as being consistent across content areas, it is proposed that a person's attributional style will differ for interpersonal and achievement events. It is hypothesized that the differences will be consistent with the norms of mainstream US culture with respect to the gender appropriateness and importance of these activities.
More specifically, it is proposed that young adults will develop attributional styles that will allow them to persist in adhering to the normative teachings of the dominant culture. For example, mainstream US culture prioritizes success in the work world (over success in interpersonal relationships) for males (Parsons & Bales, 1955). Thus, males would benefit from an attributional style (an external, unstable, and specific style) that allows them to persist after achievement or work failures and it is hypothesized that men's attributional styles will be more external, unstable, and specific for negative achievement or work events than for interpersonal ones. Conversely, given the importance that society places on women's interpersonal relationships (Parsons & Bales, 1955), it is hypothesized that women will exhibit a more external, unstable, and specific attributional style for uncontrollable negative interpersonal events than for uncontrollable achievement or work events.

It is also proposed that young adults' perceptions of their parents' attributional styles for achievement and interpersonal events will be positively related to their own attributional styles for the same domains. It is argued that when young adults explain an event they will consider the way their parents might explain the event and, through repetition, develop attributional styles similar to their parents'. It is also argued that the magnitude of these relationships will differ based on availability of the model (Bandura, 1977), what the parent represents (Chodorow, 1978; Parsons & Bales, 1955), and the sameness of the young adult and the model (Kagan, 1958, 1971; Michel, 1970).

It is hypothesized that attributional style (Abramson et al., 1978) is related to identity status (Marcia, 1966). More specifically, it is hypothesized that attributional style begins to develop during childhood and can therefore affect a person's approach to the identity versus identity confusion stage (Erikson, 1963). It is proposed that children who routinely attribute negative events to external, unstable, and specific causes will experience fewer cognitive, emotional, and motivational deficits (Abramson et al. 1978) and, as young adults, will be better able to explore roles and beliefs as they are less likely

to become depressed after encountering setbacks. Thus, it is hypothesized that an external, unstable, and specific attributional style for negative events will be associated with the identity statuses that require exploration (achieved and moratorium). Conversely, it is proposed that an internal, stable, and global explanatory style for negative events will be associated with identity statuses not marked by exploration.

It is hypothesized that the magnitude of the relationship between attributional style and identity status will differ based on domain. Given similarity of content, when young adults face choices about beliefs and roles in the ideological domain, it is argued that achievement attributional style will play a greater role than interpersonal attributional style in determining whether and how much they explore. Thus it is hypothesized that achievement attributional style will be more closely related to ideological identity status than to interpersonal identity status. Similarly, given overlapping content, when young adults explore beliefs and roles in the interpersonal domain, it is hypothesized that interpersonal attributional style will play a greater role than achievement attributional style in determining if and how much they explore. Therefore, it is hypothesized that interpersonal attributional style will be more closely related to interpersonal identity status than to ideological identity status.

It is asserted that attributional style, perceptions of parental attributional style, and identity status will be related to young adults' responses to failure and that there will be sex differences. It is hypothesized that each of the aforementioned variables will be directly related to attributions for failure. It is also hypothesized that identity status will moderate the relationship of attributional style and perceived parental attributional style to young adults' attributions for and mood after failure. Compared to attributional style and identity status scores for the interpersonal domain, it is also proposed that attributional style for achievement events and identity status scores for the ideological domain will be more strongly associated with attributions for failure and subsequent mood.

### Chapter Three: Methods

#### Method and Design

The first phase of this research was a correlational study. Questionnaires were used to examine the hypothesized relationships among perceptions of parental attributional styles and a young adult's attributional style and identity status. This research set the stage to evaluate the impact of perceived parental attributional style and young adult attributional style on young adults' attributions after a failure experience. The second phase of this research was an experiment examining the relationship of identity status to attributions about varying degrees of failure. Participants were assigned to a high, intermediate, or low failure condition; the level of failure was manipulated by varying task difficulty. An attempt was made to have equal numbers of men and women in each failure condition and to have equal numbers of individuals from the identity statuses that are high and low in exploration in each failure condition. (Given the limited sample size, however, the failure levels were collapsed; in other words, the high, intermediate, and low failure groups were combined in analyses.)

#### Past Work

Two sets of analyses have been done using this data set. The first examined a) whether identity status moderates the relationship of young adult attributional style (YAS) to perceived parental attributional style for mothers and fathers combined and b) the relationship of identity status and level of failure to attributional style. The second study examined a) whether parental marital status moderated the relationship of YAS to perceived parental attributional style for fathers and mothers separately and b) the relationship of YAS and perceived parental attributional style to attributions for failure. These studies differ from the present one in the following ways. First, the current study is more specific in its examination of the constructs. Previous work addressed overall attributional style and overall identity status as opposed to content-specific domains.

Second, the present study emphasizes the role of sex differences in understanding the relationship of attributional style to perceived parental attributional styles and to identity status. Third, identity status takes a different place in the current model consistent with the idea that attributional style accounts for some of the variation in identity status. Fourth, previous work has not addressed the emotional response to failure and, finally, the analytic approach is different from that used in the past.

## **Participants**

Seven hundred seventy-three individuals (494 females, 278 males, 1 undeclared) participated in Phase I of the study and serve as the sample for the present research. On average, participants were 19.45 years old (SD = 1.22 year) and had attended Michigan State University for 2.01 years (n = 771, <u>SD</u> = 1.03 year). The socioeconomic status scores (SES) for fathers (M = 6.5, SD = 2.14) and mothers (M = 4.89, SD = 3.02) indicate that most participants were from middle class backgrounds. (On Hollingshead's (1957) scale, SES is rated from 1 to 9 where 9 is the highest SES.) Most fathers were technicians, semi or minor professionals, managers, teachers, or owners of small to medium sized businesses and farms. Mothers typically were in clerical or sales positions or were skilled laborers, craftspersons, or owners of small businesses and farms. The mean level of education was 3.62 (SD = 1.29) for fathers and 3.29 (SD = 1.15) for mothers indicating that fathers and mothers typically had some college education. Women and men differed on the following variables: age (t(768) = 5.90, p < .001; mean for men = 19.79 year, mean for women = 19.26 year), father's SES (t (701) = 2.27, p < .024; mean for men = 6.75, mean for women = 6.37), father's education (t (767) = 2.41, p< .016; mean for men = 3.77, mean for women = 3.54 for women). Women and men did not differ with respect to mother's SES or mother's education.

Individuals who completed Phase I and then participated in Phase II (27 males, 46 females) did not differ significantly from individuals who completed only Phase I with

respect to age, class, mother's education, mother's SES, or father's education. The composition of the Phase I and the Phase II samples did not differ with respect to gender  $(\chi^2 = .03020, df = 1, p < .86204)$ . The mean SES score for fathers of Phase II participants (6.96) was significantly greater than that of fathers of Phase I participants (6.45) (t (91.82) = -2.24, p < .03).

The high exploration identity status groups (achievement, moratorium) and low exploration identity status groups (diffusion, foreclosure) participating in Phase II did not differ in terms of age ( $\underline{t}$  (24.19) = -.71,  $\underline{p} < .486$ ), class ( $\underline{t}$  (52) = .26,  $\underline{p} < .792$ ), father's SES ( $\underline{t}$  (48) = -.27,  $\underline{p} < .79$ ), father's education ( $\underline{t}$  (52) = .22,  $\underline{p} < .828$ ), mother's SES ( $\underline{t}$  (49) = .20,  $\underline{p} < .842$ ), or mother's education ( $\underline{t}$  (52) = 1.79,  $\underline{p} < .079$ ).

# **Procedures**

# Session I

Participants completed a packet of questionnaires during a 2 ½ hour group testing session. At the beginning of this session, subjects were given an informed consent sheet for session I, an informed consent sheet describing session II, and a recontact form. They were instructed to complete the recontact form only if they wished to participate in session II. They were also told that submitting the session II informed consent sheet and recontact form did not commit them to participating or guarantee that they would be asked to participate. The questionnaire packet consisted of the Personal and Family Background Questionnaire, the Expanded Attributional Styles Questionnaire (Peterson & Villanova, 1988), the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the Perceived Parental Attributional Style Questionnaire - father form (Monestere, 1993), and the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978). Half of the packets had the questionnaires in this sequence and half had

them in the reverse order.

After the initial session, a researcher scored the BDI, the LES, and the EOMEIS for all persons volunteering for session II. To protect the well being of participants, individuals with scores of 10 or above on the BDI or scores above 13 on the negative change scale of the LES were eliminated. Identity status was also coded to ensure that equal numbers of low and high exploration individuals were assigned to each of the three failure conditions. An effort was made to assign equal numbers of women and men to each failure condition.

## Session II

Research assistants contacted eligible volunteers by phone to schedule session II testing appointments. Scheduling was to continue until 75 men and 75 women completed session II. This goal was not reached because of time constraints. The intermediate failure condition was also eliminated to reduce the time needed to conduct the study and to ensure adequate numbers of participants in the other failure conditions. The research assistants conducting session II did not know participants' names or the contents of their session I questionnaires. During session II, subjects performed an anagram solving task (form a, b, or c) and immediately responded to a visual analog scale measuring satisfied mood. They then received accurate failure feedback about their performance, waited 5 minutes, completed three questionnaires (the BDI, the PAO, and the Performance Evaluation Measure (PEM)). The PEM was done first and the BDI and PAQ were counterbalanced. After completing the questionnaires, participants were debriefed. The Depression Adjective Check List (Lubin, 1965) was administered after the debriefing. Subjects were recontacted by phone approximately 8 hours after the session to address any remaining questions or concerns. Two participants were scheduled at the same time whenever possible, but tested separately. This arrangement allowed the examiner to justify the brief 5-minute waiting period after the experimental task without using

deception.

### <u>Measures</u>

### Session I

The <u>Personal and Family Background Questionnaire</u> requests demographic information including the participant's age, race, occupation, education, religion, family structure, and current living situation as well as parents' occupations and marital status.

The Expanded Attributional Styles Questionnaire (EASQ) (Peterson & Villanova, 1988) assesses attributional style and consists of 24 hypothetical negative events. Respondents are asked to imagine that the event is happening to them, write down one major cause, make causal attributions, and rate how much control they would have in that situation. Respondents make the causal attributions using a seven-point scale for each dimension: internality (7) vs. externality (1), stability (7) vs. instability (1), and globality (7) vs. specificity (1). To score each attributional dimension, the item ratings for the dimension are summed and divided by the number of items (Peterson & Villanova, 1988). A generality score may also be computed by summing the item ratings for the globality and stability dimensions and dividing by the number of items in both scales (Metalsky et al., 1987). Attributional style may also be operationalized as the average of the scores for the three attributional dimensions (Follette & Jacobson, 1987). The three attributional dimensions have adequate internal consistency; coefficient alphas were .66 for internality, .85 for stability, and .88 for globality (Peterson and Villanova, 1988). The EASQ also demonstrated good predictive validity. In a study of 140 college students, Peterson and Villanova (1988) found that scores on the explanatory style dimensions were significantly and positively correlated with attributions for actual bad events. The internality and globality dimensions were the best predictors of internality and globality ratings for actual events (r = .32, p < .001 and r = .36, p < .001 respectively). However, scores on the stability and globality explanatory dimensions predict stability ratings for actual events equally well (r = .18 and r = .18, p < .05 for both).

The <u>Perceived Parental Attributional Style Questionnaire</u> (PPASQ) (Monestere, 1993) is a modification of the EASQ (Peterson & Villanova, 1988) and assesses respondents' perceptions of their parents' explanatory styles. The PPASQ consists of 24 hypothetical negative events. Young adults are asked to imagine that their parents are experiencing each event and write down one major cause. Then they are asked what they think their parents' attributions would be and how much control their parents would experience in each situation. (Participants complete one from the mother's perspective and one from the father's perspective.) The measure is scored in the same manner as the EASQ.

The Beck Depression Inventory (Beck et al., 1961) (BDI) is a 21 item self-report measure that evaluates the presence and severity of depression by assessing depressive symptomatology, such as loss of appetite, sleep disturbances, feelings of sadness, guilt, pessimism, failure, dissatisfaction, or self-hatred. Each symptom is rated on a four point scale from 0 (not at all) to 3 (severe). The sum of the item scores is the total score. Total scores above 10 indicate depression. The BDI has demonstrated solid internal consistency in psychiatric and nonpsychiatric populations. In a meta-analysis, Beck, Steer, & Garbin (1987) reports a mean coefficient alpha for 9 psychiatric samples of .86 and a mean coefficient alpha for 15 nonpsychiatric samples of .81. Test-retest reliability (over different intervals) varies between .48 and .86 for psychiatric samples and between .60 and .90 for nonpsychiatric samples (Beck et al., 1987). Comparisons with DSM-III criteria indicate sufficient content validity (Beck & Steer, 1987). Although it is not intended as a diagnostic tool, the BDI does differentiate certain depressive disorders (Steer, Beck, Brown, Berchick, 1987). Beck et al. (1987) also find evidence of construct validity; BDI scores correlate with hopelessness. In their meta-analysis, Beck et al. (1987) find support for concurrent validity; on average BDI scores correlate .72 with clinical ratings of depression for psychiatric patients and .60 with ratings of nonpsychiatric samples.

The Life Experiences Survey (Sarason et al., 1978) (LES) is a 60-item self-report measure examining life changes that have occurred over a one year period. In addition to reporting which events they have experienced and when (0 to 6 months ago or 7 to 12 months ago), respondents indicate if they viewed events positively or negatively and the impact of the events. Respondents rate the impact on a scale of -3 (extremely negative) to +3 (extremely positive). Three scores can be derived. The negative change score is the sum of the impact ratings for all negative events. The positive change score is the sum of the impact ratings for all positive events. The total change score is the sum of the positive and negative change scores. The LES has moderate test-retest reliability. In two samples ( $\underline{n} = 34, \underline{n} = 58$ ), Sarason et al. (1978) reports the following significant ( $\underline{p} < .001$  for all cases) test-retest correlations over 5- and 6-week intervals: for positive change scores .19 and .53, for negative change scores .56 and .88, and for total change scores .63 and .64. Studies have also found evidence of construct validity. For example, the negative and total change scores are significantly correlated with anxiety, personal maladjustment, and depression (Sarason et al., 1978).

The Extended Objective Measure of Ego Identity Status (EOMEIS) (Grotevant & Adams, 1984) is a standardized measure of adolescent identity development. The measure's 64-items assess whether or not a young adult has clearly defined beliefs in four interpersonal domains (friendship, dating, sex roles, recreation) and four ideological domains (politics, religion, occupation, and philosophical life style) and whether or not these beliefs were achieved through searching and questioning (as opposed to being adopted unquestioningly from one's parents). Each of the eight domains contains eight items. Of the eight items in each domain, there are two items that characterize each of the four identity statuses. Responses to each item are made on a 6-point Likert scale where A = strongly agree and F = strongly disagree. There are three conceptually based sets of scales in the EOMEIS - the ideological, the interpersonal, and the total identity scales. For each identity status, ideological scale scores are obtained by summing the scores of

the items that characterize a given identity status across the four ideological domains (e.g. sum the scores of the two political, two occupational, two religious, and the two life style items pertaining to moratorium). Interpersonal scale scores are derived in the same manner. The total identity scale scores are obtained by summing the ideological and interpersonal scale scores for each identity status. Using two samples ( $\underline{n} = 317$ ,  $\underline{n} = 274$ ), Grotevant and Adams (1984) found that the EOMEIS had adequate internal consistency (coefficient alpha ranged between .37 and .77 for the ideological and interpersonal subscales and .42 to .84 for the total identity scale) and test-retest reliability over a four week interval (.59 to .82 for ideological and interpersonal scales and .63 to .83 for the total identity scale). To establish content validity, 10 graduate student raters familiar with Marcia's identity statuses assigned the items to a status. Mean interrater agreement across all raters on all items was 96.5%. With respect to factorial validity, three separate factor analyses indicated that the EOMEIS makes consistent distinctions among the identity status groups and has two distinct domains (interpersonal & ideological). The EOMEIS also appears to have discriminant validity; correlations with constructs that might account for variability in identity status (e.g. academic achievement, vocabulary, social desirability) were small and accounted for only 6.25% of the variance in identity status.

The classification rules outlined in Adams, Shea, & Fitch (1979) were used to determine participants' identity statuses at the end of the data collection. To determine overall identity status classification, first the sample mean for each of the four identity statuses is computed (e.g. sum of the ideological and interpersonal scale scores for moratorium divided by 16 (the number of items in the scales)). The cutoff for each identity status scale equals one standard deviation above the mean. After establishing the cutoffs for the sample, Adams et al. (1979) recommended the following strategy for classifying individuals. 1) Classify persons to a particular identity status if a) their score on that identity status scale is above the cutoff and b) their scores on the three other identity status scales are below their respective cutoffs. 2) Classify a person as

moratorium if all of their identity status scale scores are below the cutoffs. 3) Classify an individual as being in transition if more than one scale score was above the cutoff. Thus an individual who scores above the cutoffs for diffusion and foreclosure would be called diffusion-foreclosure. Individuals with three or more scores above the respective cutoffs were considered unclassifiable. Grotevant and Adams (1984) used these rules to determine an individual's ideological and interpersonal identity status classifications as well. During data collection for the current study, temporary identity status assignments were made using scale means and cutoffs from another sample of college students (Grotevant & Adams, 1984). This was necessary because the sample means (needed to determine identity status) were not available when individuals were being assigned to the experimental conditions. When data collection was complete, means and cutoffs were determined for the current sample.

This classification system was used in analyses that required ordinal variables. The algorithm outlined on page 43 was developed in order to treat identity status as a continuous variable in the proposed models. This approach of working with identity status in both ways reflected the discussion about the nature of the identity status classifications.

## Session II

For the <u>Anagrams Task</u>, three sets (labeled Forms A, B, and C) of 30 anagrams were used. They differed in the numbers of difficult and easy anagrams. The most difficult set included 6 easy and 24 difficult anagrams. The intermediate set included 11 easy anagrams and 19 difficult anagrams. The easiest set included 15 easy and 15 difficult anagrams. All of the easy anagrams were used in previous research (Feather & Simon, 1971; Zuckerman and Allison, 1976). The difficult anagrams were based on uncommon words that have been used in puzzles (Hunter, 1986). Every anagram could be organized to spell an English word. The anagrams were sequenced so that a greater

proportion of difficult ones were located toward the end of the task. Each anagram consisted of 6 letters and was presented on a 3" x 5" filing card. Participants recorded their responses on an answer sheet. Participants had 30 seconds to work on each anagram initially, but had only 20 seconds per anagram by the last item. The participant was seated at a desk with a cassette player. When played, the audiocassette beeped at specified intervals to signal that the participant should begin the next anagram whether or not she or he had solved the current one. Participants received accurate feedback about their performance after completing this task.

The <u>Visual Analog Scale</u> is a one item, 7-point Likert scale that assesses how satisfied or down the subject feels after completing the anagrams task. It consists of seven equally spaced plus signs running in a horizontal line across an otherwise blank 8" x 11" sheet of paper. The endpoints were labeled 'very satisfied mood' and 'very down mood'.

The <u>Particular Attribution Questionnaire</u> (PAQ) is a 12 item measure exploring the causal attributions that young adults have made about their performance on the anagrams task. It examines the same attributional dimensions explored by the ASQ as well as beliefs about effort, luck, exam difficulty, and ability. (It is a modified version of a measure used in Metalsky et al., 1987. This was entitled the Test Performance Questionnaire.)

The <u>Performance Evaluation Measure</u> consists of two items and evaluates the effect of the experimental intervention. The first item asks the subject to rate how well they performed on a scale of 1 (very badly) to 10 (very well). The second item asks the subject to rate on a scale of 1 (very happy) to 10 (very unhappy) how satisfied they were with their performance.

The <u>Depression Adjective Checklist</u> (DACL) (Lubin 1965, 1967) assesses the individual's current level of depressed affect. Form A consists of 32 nonoverlapping adjectives. Scores above 15 indicate a significant level of depression (Levitt & Lubin,

1975). The DACL (form A) has good internal consistency; the split-half reliability coefficient is .82. The measure also has strong discriminative validity; F-tests revealed significant differences (p < .0005) among normal controls, nondepressed patients, and depressed patients. Patient group means were higher than the control mean and depressed patients had the highest group mean (Lubin, 1965).

## Hypotheses

Based on the reviewed theories, this project tested hypotheses in four sections. Section One tested hypotheses that specified differences between men and women with respect to identity status and attributional style. Section Two proposed hypotheses related to the correlational structure of variables collected specifically between young adult attributional style and ideological and interpersonal identity statuses. Section Three hypothesized relationships between perceived parental attributional style for both interpersonal and achievement events, young adult attributional style for achievement and interpersonal events, and identity status for both the ideological and interpersonal domains. Section Four specified hypotheses regarding the relationships between attributional style, failure attribution, mood, and depression following an anagrams task that was experimentally manipulated to control the level of failure. Each set of hypotheses is followed by a description of the statistical methods that were used to test each hypothesis.

#### Section One Hypotheses

### Identity status.

1.1 In the interpersonal domain, there will be significantly larger numbers of women (as opposed to men) in the identity achieved and the moratorium statuses.

1.2 In the ideological domain, there will be significantly larger numbers of men (as opposed to women) in the identity achieved and moratorium groups.

## Attributional style.

1.3 Women's attributional style scores for interpersonal events will be more significantly external, unstable, and specific (lower) than their attributional style scores for negative

achievement events.

1.4 Men's attributional style scores for achievement events will be significantly more external, unstable, and specific (lower) than their attributional style scores for negative interpersonal events.

1.5 Women will have a significantly more external, unstable, and specific (lower) attributional style than men for negative interpersonal events.

1.6 Men will have a significantly more external, unstable, and specific (lower) attributional style than females for negative achievement events.

#### Section One Analyses

The planned analyses for sedtion one are described below. For hypotheses 1.1 and 1.2, identity statuses will be determined for each individual based on a set of predetermined cutoff scores. Procedures are outlined in Adams et al. (1979). These scores will be converted to a categorical scale: 1 = identity diffusion; 2 = identity foreclosure; 3 = identity moratorium; and 4 = identity achievement. Chi-square analysis will test categories by sex to determine if the number of women and men vary in each category.

Multivariate Analyses of Variance (Stevens, 1992) will be used to test hypotheses 1.3 through 1.6. MANOVA runs univariate analyses of variance with a type I error rate equal to one statistical test. It also allows the pooled variance of all dependent variables to be evaluated as one construct. Two-tailed tests will be used. Both attributional styles (interpersonal and achievement) contain three scales each (internal-external, globalspecific, stable-unstable). These are expected to vary by sex. Thus, two MANOVAs will be run for each attributional style. The three attributional style dimensions will be the dependent variables and sex will be the independent variable, thus comprising a one-way MANOVA with three dependent variables. Differences on the scales between women and men in the hypothesized direction will provide evidence for the hypotheses. Depression, as measured by the Beck Depression Inventory (Beck et al., 1961), will be used as a covariate for the analyses explicated above. Per Cook and Campbell (1979), MANOVAs will also be conducted to test the interaction of the independent variable and

the covariate. This step will ensure that the assumptions underlying the MANOVA analysis are not being violeted and will facilitate interpretation. Analyses will be carried out using SAS (SAS, Inc., 2000)

Section Two Hypotheses

2.1 The mean attributional style scores for individuals in the achievement and moratorium statuses will be significantly more external, unstable, and specific (lower) than the mean scores for persons in the diffusion or foreclosure statuses for both the ideological and interpersonal realms.

2.2 Mean attributional style scores for negative achievement events will be significantly lower external, unstable, and specific) for the achieved and moratorium identity statuses in the ideological domain than for the diffuse and foreclosed groups in the ideological domain.

2.3 Mean attributional style scores for negative interpersonal events will be significantly lower external, unstable, and specific) for the achieved and moratorium identity statuses in the interpersonal domain than for the diffuse and foreclosed groups in the interpersonal domain.

2.4 The correlation between achievement attributional style scores and identity status for the ideological domain will be significantly greater than the correlation between achievement attributional style scores and identity status for the interpersonal domain.

2.5 The correlation between interpersonal attributional style and identity status for the interpersonal domain will be significantly greater than the correlation between interpersonal attributional style and identity status for the achievement domain.

# Section Two Analyses

The following describes the analytic plan for the section two hypotheses.

Multivariate Analyses of Variance will be used to test hypotheses 2.1, 2.2, and 2.3.

Identity will be converted to a categorical scale: 1=identity diffusion; 2 = identity

foreclosure; 3 = identity moratorium; and 4 = identity achievement. This is an ordinal

scale. The three attributional style subscales (internal-external, global-specific, stable-

unstable) will be modeled as dependent variables. Contrasts will test the hypotheses that

the identity scores 3 and 4 will have lower means in the three attributional subscales than

identity levels 1 and 2. Depression, as measured using the BDI (Beck et al., 1961), will

serve as a covariate for the analyses explicated above.

A latent variable model (Loehlin, 1992; Marcoulides & Schumacker, 2001) will be estimated to evaluate hypotheses 2.4 and 2.5. (See Figure 1.) Each subscale of the EASO Young Adult Attributional Style for Achievement (internal-external, globalspecific, stable-unstable) will serve as an indicator for a latent variable called Achievement Attributional Style. The same structure will be applied to create a latent variable called Interpersonal Attributional Style. The scales of the EOMEIS will be reformulated to a continuous scale with low values indicating low levels of identity exploration (i.e. diffusion) and high scores indicating high levels of identity exploration (i.e. achievement). Eight items on each scale of the EOMEIS (achievement and ideological) indicate one of four dimensions of identity status (diffusion, foreclosure, moratorium, and achievement). Scored on a 0 to 5 scale, a weighted sum of the items will be used to order the categories by degree of identity exploration. The algorithm is: X =1(sum (diffusion items)/40) + 2(sum (foreclosure items)/40) + 3 (sum (moratorium)) $\frac{1}{100}$  items)/40) + 4 (sum (achievement items)/40). This will create a scale which has possible values from 0 to 10. Extremely low scores will indicate diffusion and high scores will indicate achievement. A manifest variable called Interpersonal Identity Status will use items from the four interpersonal domains of the EOMEIS. A manifest variable called Ideological Identity Status will use items from the four ideological domains. A maximum likelihood solution will be used to solve the model displayed in Figure 1. The standardized regression coefficients will be analyzed to provide support for the three hypotheses explicated above. Significance for paths will be held at a p < .05 two-tailed test. The residual matrix will be examined for asymptotically standardized values greater than 2.00. This indicates places of poor model fit and modifications can be made to the model to improve fit. Paths between errors in the measurement models will be added to improve fit. Structural model modifications can also be made between the latent variables. Model fit will be determined by observing that the  $C^2/df$  is less than or equal to 2. The Comparative Fit Index (CFI) (Bentler, 1988), Goodness of Fit Index (GFI), Non-

Normed and Normed fit indices (NNFI and NFI, respectively) (Bentler & Bonnet, 1980, 1987) will also be evaluated. A multiple groups model (Bentler, 1995) will be used to evaluate gender between each estimated regression weight. The strength of the paths will be evaluated for each gender group and if the difference between the two weights is significant, two paths will be produced, one for each gender. If they are not statistically significant, they will be modeled as one path. Final models will be interpreted in the discussion. All SEM models will be run using the Mplus Software (Muthen & Muthen, 1998).

# Section Three Hypotheses

3.1 The correlation between men's achievement attributional style and perceived paternal achievement attributional style will be significantly greater than the correlation between men's achievement attributional style and perceived maternal achievement attributional style. The reverse is hypothesized for women.

3.2 For both men and women, the correlation between young adult interpersonal attributional style and perceived maternal interpersonal attributional style will be significantly greater than the correlation between young adult interpersonal attributional style and perceived paternal interpersonal attributional style.

3.3 The relationship of perceived parental interpersonal attributional style to young adult interpersonal attributional style, when both are of the same sex, will be significantly greater than the same relationship when the young adult is of the opposite sex.

3.4 The relationship of perceived parental achievement attributional style to young adult achievement attributional style, when both are of the same sex, will be significantly greater than the same relationship when the young adult is of the opposite sex.

# Section Three Analyses

The planned analyses for section three are outlined below. Four latent variables will be added to the model presented in Figure 1. The Perceived Parental Attributional Style Questionnaire (PPASQ) will assess each of these variables for each parent. Two latent variables for each parent will assess Perceived Parental Attributional Style for Achievement and Interpersonal Events. Three indicators will measure each latent variable. This extended model is presented in Figure 2. A maximum likelihood estimation technique will be used to evaluate each model, and sex differences will be

evaluated by using a multiple-groups modeling approach. This technique will allow paths for each group to be derived if it is found that they are statistically different or of different valences. For paths in which no sex difference is observed, one path will be used to explain the variance between the variables.

## Section Four Hypotheses

For these analyses, only 73 subjects of the original 773 were used. These subjects were administered an anagrams task in which the subject failed at least 50 percent of the time. The hypotheses and analyses examined the extent to which attributions about their failure on the anagrams task are predicted by young adult attributional style and perceived parental attributional style. For these analyses and hypotheses, it was assumed that perceived paternal and maternal achievement attributional style will be more strongly related to attributions for failure than perceived maternal and paternal interpersonal attributional styles. Thus in the following models, only achievement attributional styles are used. Given the conflicting findings about the internality dimensions, in the next hypotheses, only these two constructs (specific-global and stable-unstable) for the perceived parental attributions and the young adult attributions are used to describe achievement attributions.

4.1 Men's scores for internality, globality, and stability for failure on the anagrams task (Particular Attribution Questionnaire) will be significantly lower (more external, specific, and unstable) than women's scores.

4.2 Men's scores on the BDI will be significantly lower after anagrams failure than females' scores will be.

4.3 Achieved and moratorium status individuals will report a significantly more satisfied mood after failing (on the visual analog scale) than individuals in the foreclosed and diffuse groups.

4.4 Identity achieved and moratorium status individuals will exhibit significantly more external, unstable, and specific attributions on the failure task than the diffuse and foreclosed groups will.

4.5 Manifest Variable Multiple Groups Model:

The following hypotheses are depicted in Figure 3. This figure illustrates a set of relationships between variables collected in Sessions I and II, and indicates the relationships between Perceived Parental Attributions, Young Adult Achievement Status, Attributional Response to Failure, Depression and Satisfaction. Ideological Identity Status will be seen as a dichotomous variable grouping diffuse and foreclosure as one group and moratorium and achievement as the other. Relationships between the variables proposed in the model will be evaluated based on Identity Status classification. It is hypothesized that identity achieved and moratorium status individuals will exhibit a more external, unstable, and specific attributional style and diffuse and foreclosed groups to exhibit a more internal, stable, global attributional style.

Path 1: Perceived Paternal Attributional Style for Achievement (PPAS-ACH) will predict young adult Attributional Style for Achievement (YAS-ACH).

Path 2: Perceived Maternal Attributional Style for Achievement (PMAS-ACH) will predict Young Adult Attributional Style for Achievement (YAS-ACH).

Paths 3 & 4: A direct relationship will be observed between both paternal and maternal perceived parental attributional style and Attributional Failure outside of Young Adult Attributional Style for Achievement.

Path 5: Young Adult Style for Achievement will predict Attributional Failure.

Path 6: Increased use of global and stable attributions for failure will lead to an increase in depression scores.

Path 7: Increased use of global and stable attributions for failure will lead to decrease in mood.

Identity interaction with paths 6 and 7 will be shown by little difference observed in the emotional responses of achieved and moratorium persons (ideological domain) to low and high levels of failure. It is hypothesized that the magnitude of the diffuse and foreclosed individuals' responses will increase greatly with increased failure.

### Section Four Analyses

The planned analyses for section four are described in the following paragraphs. Hypothesis 4.1 will be tested with a Multivariate Analysis of Variance procedure. Sex will serve as the independent variable and the attribution subscales (global-specific and stable-unstable scales) as the dependent variables. Gender differences will be observed between mean levels of the dependent variable. Hypothesis 4.2 will be tested using an Analysis of Variance to test the gender difference between Beck Depression Inventory Scores measured after the anagrams task. Using a dichotomized version of the Identity Scale (0 = Diffuse or Foreclosure; 1 = Moratorium or Achieved), the moratorium and achieved group will be expected to have a significantly lower mean on the visual analog scale in an Analysis of Variance testing Hypotheses 4.3. Hypothesis 4.4 will use the same dichotomized version of the Identity Scale to test the means of the global-specific and stable-unstable scores of Young Adult Scales of Attributional Style.

For Hypothesis 4.5, a multiple-groups structural equation model will be run. Manifest variables of Perceived Parental Attributional Style were will be created using weighted sums of the measurement models derived in the first two models. Standardized regression coefficients will be multiplied by the items of the scales and summed. The factor scores will then be used in the structural equation models. Latent variables will not be used in these models because this sample has a much lower n. Reducing the number of variables used in the variance/covariance matrices will allow for these models to be estimated. Making sure that each variable in the model is supported by ten subjects (i.e. n/k ratio $\approx$  10) will insure that the model derived will be stable and generalizable to the larger population.

A maximum likelihood estimation method will be used to estimate all parameters. A multiple group variable will be used to evaluate the need to include a path for each of two levels of identity, (i.e. high and low, 1 and 0, diffusion/foreclosure and moratorium/achieved) between each estimated regression weight. The strength of the paths will be evaluated for each group and, if the difference between the two weights is significant, two paths will be produced, one for each level of identity. If they are not statistically significant, they will be held equal (modeled as one path). Significance for paths will be held at a p < .05 two-tailed test. The residual matrix will be examined for asymptotically standardized values greater than 2.00. This indicates places of poor model fit and modifications can be made to the model to improve fit. Fit functions will be determined by observing that the chi-square degrees of freedom do not exceed two times the value of the model chi-square. CFI, GFI, NNFI and NFI will be evaluated. Final models are interpreted in the discussion.

### **Chapter Four: Results**

### Section 1 Results

1.1 In the interpersonal domain, there will be significantly larger numbers of women (as opposed to men) in the identity achieved and the moratorium statuses.

The chi-square analysis showed that sex and interpersonal identity status were not independent ( $\chi^2(4, \underline{n} = 759) = 12.59, \underline{p} < .01$ ). There were significant main effects for both sex and for interpersonal identity status (Goodman & Kruskal Tau's .003 and .017 respectively and  $\underline{p} < .04$  and  $\underline{p} < .013$  respectively). Contrary to predictions, there was a larger percentage of men than women in the identity achieved category.

1.2 In the ideological domain, there will be significantly larger numbers of men (as opposed to women) in the identity achieved and moratorium groups.

The numbers of men and women in the achieved and moratorium statuses in the ideological domain did not differ significantly. Thus, hypothesis 1.2 is not supported.

A MANOVA with the BDI score as a covariate was used to assess whether mean scores on the three attributional dimensions (internality, stability, globality) differed by attributional domain (achievement, interpersonal). To run this analysis, it was necessary to stack the cases in the data set (thereby doubling the sample size) to create a blocking/grouping variable. The MANOVA revealed a significant main effect for attributional domain ( $\underline{F}(3,837) = 32.71$ ,  $\underline{p} = .001$ ,  $\Lambda = .89$ ) and the BDI covariate was significant ( $\underline{F}(3,837) = 13.63$ ,  $\underline{p} = .000$ ,  $\Lambda = .95$ ). Univariate tests revealed that mean scores for internality and globality for interpersonal events (4.05 and 3.67 respectively) were significantly lower than those for achievement events (4.61 and 3.94 respectively) as hypothesized ( $\underline{F}(1,839) = 92.67$ ,  $\underline{p} = .000$ ;  $\underline{F}(1,839) = 13.88$ ,  $\underline{p} = .000$  respectively). Another MANOVA including the same variables demonstrated that the BDI x attributional domain interaction was not significant. Regressions showed that BDI scores accounted for a significant amount ( $\underline{p} < .05$ ) of the variance in each attributional style

<sup>1.3</sup> Women's attributional style scores for interpersonal events will be significantly more external/unstable/specific (lower) than their attributional style scores for negative achievement events.

dimension in both attributional domains with the exception of internality for achievement events as shown in Table 1.

Atribution	B	<u>SE B</u>	β	<u>t</u>	p
Interpersonal Domai	in				
<sup>I</sup> Internality <sup>1</sup>	.01	.01	.10	2.08	.0374
Stability <sup>2</sup>	.02	.01	.20	4.14	.0000
Globality <sup>3</sup>	.04	.01	.25	5.35	.0000
Achievement Doma	in				
Internality <sup>4</sup>	.01	.01	.05	.97	.3340
Stability <sup>5</sup>	.02	.01	.15	3.17	.0016
Globality <sup>6</sup>	.02	.01	.15	3.17	.0016
1. $\underline{F}(1,423) = 4.36, \underline{p} = .$ 2. $\underline{F}(1,420) = 17.16, \underline{p} = .$ 3. $\underline{F}(1,420) = 28.61, \underline{p} = .$	$\begin{array}{l} 0374,  \underline{R}^2 = .10\\ .0000,  \underline{R}^2 = .04\\ .0000,  \underline{R}^2 = .25 \end{array}$	4. <u>F(1,428)</u> 5. <u>F(1,428)</u> 6. <u>F(1,428)</u>	= 0.94, p = .3340 = 10.07, p = .001 = 10.05, p = .001	$\begin{array}{l} 0, \ \underline{R}^2 = .05 \\ 16, \ \underline{R}^2 = .15 \\ 16, \ \underline{R}^2 = .15 \end{array}$	

 Table 1

 Regression of Women's Attributions on BDI Scores by Attributional Domain

Note: With the exception of p values, figures are rounded to two decimal places.

Dependent t-tests were also run to examine whether women's attributions for internality, stability, and globality differed across attributional domain (interpersonal, achievement). Means for all three attributional dimensions in the interpersonal domain were significantly (p < .05) lower than the corresponding value in the achievement domain (See Table 2). Thus, both sets of analyses provide support for hypothesis 1.3.

Sex	Attributional Domain					
Women	Achievement (SD)	Interpersonal (SD)				
Internality	$4.63_{a}(0.88)$	$4.05_{\rm b}$ (0.78)				
Stability	$4.23_{a}(0.87)$	$4.13_{\rm b}$ (0.79)				
Globality	$3.96_{a}(1.11)$	$3.68_{b}(1.04)$				
Men						
Internality	4.43 <sub>a</sub> (0.97)	4.06 <sub>b</sub> (0.81)				
Stability	4.17 <sup>a</sup> (0.90)	$4.16_{a}(0.78)$				
Globality	$4.05_{a}(1.02)$	$3.77_{\rm b}(0.88)$				

 Table 2

 Mean Attribution Scores by Sex and Attributional Domain

Note. Means in the same row having different subscripts differ at p < .05 using a t-test.

1.4 Men's attributional style scores for achievement events will be significantly more external, unstable, specific (lower) than their attributional style scores for negative interpersonal events.

A MANOVA with BDI score as a covariate was used to assess whether mean scores on the three attributional dimensions (internality, stability, globality) differed by attributional domain (achievement, interpersonal). To run this analysis, it was necessary to stack the cases in the data set (thereby doubling the sample size) to create a blocking/grouping variable. There was a significant main effect for attributional domain  $(\underline{F}(3,451) = 9.56, \underline{p} < .001, \Lambda = .94)$  and the BDI covariate was significant ( $\underline{F}(3,451) =$  $3.20, \underline{p} = .023, \Lambda = .98$ ). Univariate tests revealed that mean scores for internality and globality for interpersonal events (4.07 and 3.75 respectively) were significantly lower than those for achievement events (4.43 and 4.03 respectively) ( $\underline{F}(1,453) = 18.46, \underline{p} =$  $.000; \underline{F}(1,453) = 9.93, \underline{p} = .002$  respectively). A separate MANOVA showed that the BDI x attributional domain was not significant. Regressions revealed no significant relationship between BDI score and any attributional dimension in the achievement domain. Regressions showed a significant relationship of BDI to men's attributions for internality and globality, but not stability, in the interpersonal domain (See Table 3).

Dependent T-tests were also run to examine whether men's attributions for internality, stability, and globality differed across attributional domain (interpersonal, achievement). Men's internality and globality scores for interpersonal events were significantly (p < .05) lower than the corresponding score for achievement events. Stability scores did not differ across domains (See Table 2). Thus, there is not support for hypothesis 1.4.

1.5 Women will have a significantly more external/unstable/specific attributional style than men for negative interpersonal events.

A MANOVA with BDI scores as a covariate was used to assess whether mean scores on the three attributional dimensions (internality, stability, globality) differed by sex. The main effect was not significant although the BDI covariate was significant (<u>F</u>(3, 628) = 12.24, <u>p</u> = .000,  $\Lambda$  = .94). A separate MANOVA using the same variables showed

that the BDI x sex was not significant. Regressions conducted separately by sex showed that BDI scores accounted for a significant (p < .05) amount of variation in each of the three attributional dimensions with one exception, men's attributions for stability (See Tables 1 and 3). Thus, hypothesis 1.5 is not supported.

1.6 Men will have a significantly more external/unstable/specific attributional style than females for negative achievement events.

A MANOVA with BDI scores as a covariate was used to assess whether mean attributional style scores for achievement events (internality, stability, globality) differed by sex. There was a significant main effect for sex ( $\underline{F}(3, 660) = 3.26, p < .02, \Lambda = .98$ ) and the BDI covariate was significant ( $\underline{F}(3, 660) = 4.39, p = .005, \Lambda = .98$ ). Univariate test results showed that men's mean score (4.43) for internality was significantly lower than women's (4.61) ( $\underline{F}(1, 662) = 4.98, p < .03$ ). A separate MANOVA using the same variables found that the BDI x sex was not significant. BDI scores did not account for variation in men's attributions for achievement events; all regressions were not significant. BDI did account for significant variation in women's attributions for stability and globality in the achievement domain (see Tables 1 and 3). Therefore there is some support for hypothesis 1.6.

Table 3

Attribution	B	<u>SE B</u>	β	t	p	
Interpersonal Dom	ain					
Internality <sup>1</sup>	.02	.01	.16	2.39	.0177	
Stability <sup>2</sup>	.01	.01	.11	1.64	.1032	
Globality <sup>3</sup>	.02	.01	.14	2.16	.0321	
Achievement Dom	ain					
Internality <sup>4</sup>	.01	.01	.08	1.22	.2242	
Stability <sup>5</sup>	.00	.01	.03	0.43	.6644	
Globality <sup>6</sup>	.01	.01	.08	1.21	.2271	
1 F(1210) = 571 n =	= 0177 P <sup>2</sup>	= 16.4 F(1)	233) = 1	40 n = 22/	$12 P^2 = 08$	
$1. \underline{1}(1,219) = 3.71, \underline{p} = 2.68, \underline{p} =$	$= .1032. R^2$	= .10 4. F(1)	(.233) = 1	.19, p = .22	$\frac{R}{R^2} = .03$	
$3. \overline{F}(1,219) = 4.65, \overline{p} =$	$\overline{R}^2$ .0321, $\overline{R}^2$	= .14 6. <u>F</u> (1	(,233) = 1	.47, <u>p</u> = .22	71, $\overline{\mathbf{R}}^2 = .08$	

Regression of Men's Attributions on BDI Scores by Attributional Domain

Note: With the exception of p values, figures are rounded to two decimal places.

## Section 2 Results

2.1 The mean attributional style scores for individuals in the achievement and moratorium statuses will be significantly more external, unstable, and specific (lower) than the mean scores for persons in the diffusion or foreclosure statuses for both the ideological and interpersonal realms.

For hypothesis 2.1, two MANOVAs with BDI score serving as a covariate in each were used to examine whether attributions (internality, stability, and globality based on the full EASQ) differed by identity status (treated as a 4 level ordinal variable). The first MANOVA did not find a significant main effect for ideological identity status, but the BDI covariate was significant ( $\underline{F}(3, 648) = 8.45$ ,  $\underline{p} = .000$ ,  $\Lambda = .96$ ). A MANOVA conducted to examine the BDI score x ideological identity status interaction found that it was not significant. Regressions indicated that BDI scores accounted for a significant amount of the variance in each attributional dimension using items from the entire EASQ ( $\underline{F}(3,682) = 9.45$ ,  $\underline{p} < .0001$ ,  $\Lambda = .96$ ).

The second MANOVA which used interpersonal identity status as an independent variable found no significant main effect. The covariate (BDI score) was significant (<u>F</u>(3, 645) = 8.39, <u>p</u> = .000,  $\Lambda$  = .96). Another MANOVA showed that the BDI x interpersonal identity status was not significant. Regressions showed that the BDI score accounted for a significant amount of variance in the three overall attributional style dimensions (<u>F</u>(3, 682) = 9.45, <u>p</u> < .0001,  $\Lambda$  = .96). Therefore, hypothesis 2.1 is not supported.

2.2 Mean attributional style scores for negative achievement events will be significantly lower (external, unstable, specific) for the achieved and moratorium identity statuses in the ideological domain than for the diffuse and foreclosed groups in the ideological domain.

To test hypothesis 2.2, a MANOVA was done in which attributions for internality, stability, and globality in the achievement domain were dependent variables, ideological identity status was the independent variable, and BDI score was the covariate. There was not a significant main effect for ideological identity status, but the BDI covariate was significant ( $\underline{F}(3,629) = 3.51$ ,  $\underline{p} = .01$ ,  $\Lambda = .98$ ). A MANOVA examining the BDI x ideological identity status interaction showed that it was not significant. Regressions demonstrated that the BDI accounted for significant variation in some

attributions for achievement events (see Table 4). Hypothesis 2.2 is not supported.

2.3 Mean attributional style scores for negative interpersonal events will be significantly lower (external, unstable, specific) for the achieved and moratorium identity statuses in the interpersonal domain than for the diffuse and foreclosed groups in the interpersonal domain.

Attribution	B	<u>SE B</u>	<u>t</u>	p	
Interpersonal Domain			·····		
Internality <sup>1</sup>	.01	.00	3.12	.0019	
Stability <sup>2</sup>	.02	.00	4.25	<.0001	
Globality <sup>3</sup>	.03	.00	5.36	<.0001	
Achievement Domain					
Internality <sup>4</sup>	.01	.00	1.77	.0764	
Stability <sup>5</sup>	.01	.01	2.83	.0049	
Globality <sup>6</sup>	.02	.01	3.16	.0017	
1. $\underline{F}(1, 631) = 9.75, \underline{p} = .001$ 2. $\underline{F}(1, 631) = 18.06, \underline{p} = <.03, \underline{F}(1, 631) = 28.75, \underline{p} = <.03$	$9, \underline{R}^2 = .0001, \underline{R}^2 = $	01 4. <u>F</u> = .03 5. <u>F</u> = .04 6. <u>F</u>	(1,663) = 3.15 (1,663) = 7.99 (1,663) = 9.99	, <u>p</u> = .0764, <u>R</u> <sup>2</sup> = .01 9, <u>p</u> = .0049, <u>R</u> <sup>2</sup> = .01 6, <u>p</u> = .0017, <u>R</u> <sup>2</sup> = .02	

Regression of Young	Adult Attributions of	n BDI Scores by	Attributional Domain

Table 4

Note: With the exception of p values, figures are rounded to two decimal places.

To test hypothesis 2.3, a MANOVA was conducted using internality, stability, and globality scores for the interpersonal domain as dependent variables, interpersonal identity status as the independent variable, and BDI score as the covariate. The main effect was not significant, but the covariate was ( $\underline{F}(3,595) = 10.34$ ,  $\underline{p} = .000$ ,  $\Lambda = .95$ ). A MANOVA done to investigate the BDI score x interpersonal identity status term revealed that it was not significant. Regressions showed that BDI score had a direct effect on all three attributional style dimensions ( $\underline{F}(3, 629) = 11.72$ ,  $\underline{p} < .0001$ ,  $\Lambda = .95$ ) (see Table 4). Hypothesis 2.3 is not supported.

2.4 The correlation between achievement attributional style scores and identity status for the ideological domain will be significantly greater than the correlation between achievement attributional style scores and identity status for the interpersonal domain.

2.5 The correlation between interpersonal attributional style and identity status for the interpersonal domain will be significantly greater than the correlation between interpersonal attributional style and identity status for the ideological domain.

Although a latent variable model was planned to evaluate hypotheses 2.4 and 2.5 (Figure 1), it was not possible to analyze the model for two reasons. First, the algorithm originally proposed to create a continuous identity status variable with the items of the EOMEIS by weighting the responses with an ordinal scale was ineffective in producing a scale where high values represented greater exploration during identity development. Instead, the participants' responses dictated the overall level of the score. For example, if someone responded with high values on all foreclosure (status 2) items, the overall score could be higher than someone who scored achievement (status 4) items highly (relative to their own responses for other statuses) but in absolute values lower than the first person. It was decided that it was best to treat identity status as an ordinal scale moving from diffusion to achievement and to use the Adams et al. (1979) scoring guidelines. Second, it was not possible to create the hypothesized achievement and interpersonal attributional style factors. More specifically, the intercorrelations between attributional style dimensions across the proposed attributional domains (e.g. the correlation of internality for achievement and for internality for interpersonal events) were much greater than any common variance among the two proposed attributional domains. The placement of residual covariances between the individual style pairs was not sufficient to produce an adequate solution. Therefore, regression equations were used to examine the relationships outlined in hypotheses 2.4 and 2.5. Independent variables entered simultaneously into all equations. The confidence intervals (95%) were examined to see if the regressions differed significantly from each other. Ideological identity status and interpersonal identity status were regressed separately onto internality, stability, and globality attribution scores for the achievement domain (see Table 5).

Neither regression was significant. Ideological identity status and interpersonal identity status were then regressed separately on internality, stability, and globality scores for the interpersonal domain of attributional style (see Table 6). Only the regression of interpersonal identity status on attributions for the interpersonal domain was significant

$$(\underline{\mathbf{R}}^2 = .013, \underline{\mathbf{F}}(3, 657) = 2.93, \underline{\mathbf{p}} < .03).$$

Table 5

<u>Regression of Ideological and Interpersonal Identity Status on Young Adult Attributions</u> for Achievement

Attribution	B	SE	<u>Β</u> β	t	p	
Ideological Identi	ty Status					
Internality	01	.03	-0.01	-0.22	.82	
Stability	.01	.04	0.01	0.25	.80	
Globality	01	.03	-0.01	-0.27	.78	
Interpersonal Ider	ntity Status					
Internality	.00	.03	.00	.11	.91	
Stability	.05	.04	.05	1.14	.25	
Globality	02	.03	03	-0.74	.46	

Note: Figures are rounded to two decimal places.

# Table 6

<u>Regression of Ideological and Interpersonal Identity Status on Young Adult Attributions</u> for Interpersonal Events

Attribution	<u>B</u>	<u>SE B</u>	β	<u>t</u>	p	
Ideological Identity St	tatus					
Internality	00	.05	-0.00	-0.05	.96	
Stability	.09	.05	0.09	1.95	.05	
Globality	07	.04	-0.09	-1.99	.05	
Interpersonal Identity	Status					
Internality	10	.04	09	-2.30	.02	
Stability	.05	.04	.05	1.11	.27	
Globality	05	.04	06	-1.37	.17	

Note: Figures are rounded to two decimal places.

There was no support for hypothesis 2.4; since the regressions were not significant, the regression coefficients are essentially zero and do not differ from each other. There was support for hypothesis 2.5. Given that the regression of interpersonal identity status on the attributions for interpersonal events was significant and the regression of ideological identity status on the same variables was not, one can infer that the regression coefficients from the first equation are significantly greater than those of the second (which are effectively zero).

## Section 3 Results

Since achievement and interpersonal attributional style factors were not created, the planned structural equation modeling (Figure 2) was not done and regressions were performed to examine hypotheses 3.1 - 3.4. Independent variables entered the regression equations simultaneously.

3.1 The correlation between men's achievement attributional style and perceived paternal achievement attributional style will be significantly greater than the correlation between men's achievement attributional style and perceived maternal achievement attributional style. The reverse is hypothesized for women.

3.2 For both men and women, the correlation between young adult interpersonal attributional style and perceived maternal interpersonal attributional style will be significantly greater than the correlation between young adult interpersonal attributional style and perceived paternal interpersonal attributional style.

To test hypothesis 3.1, young adult scores on each attributional dimension (internality, stability, and globality) for the achievement domain were regressed separately on perceived maternal and perceived paternal scores for the same dimension and domain. Separate analyses were done for males and females. For example, men's scores for globality in the achievement domain were regressed onto perceived paternal and perceived maternal globality scores for the achievement domain. To test hypothesis 3.2, the aforementioned steps were repeated for the interpersonal domain. Each regression conducted to test 3.1 and 3.2 was significant at the .0001 level (Table 7).

Examination of the regression coefficients and their confidence intervals (95%) revealed little support for hypothesis 3.1 (Table 8). For men, in the achievement attributional domain, only the regression coefficient for perceived paternal attributions for globality was significantly (p < .05) greater than the corresponding coefficient for perceived maternal attributions for globality. For women in the achievement domain, the regression coefficients for perceived paternal attributional style were significantly (p < .05)

.05) greater than those for perceived maternal attributional style for both stability and

globality. There were no other significant differences.

Table 7

There was no support for hypothesis 3.2. The regression coefficients for

A 11			 
Attribution	<u>R</u> <sup>2</sup>	<u>F</u>	
Achievement Domain	1		· · · · · · · · · · · · · · · · · · ·
Men			
internality	.09	13.34	
stability	.34	62.97	
globality	.37	73.19	
Women			
internality	.10	22.90	
stability	.28	83.29	
globality	.40	141.89	
Interpersonal Domain	l		
Men			
internality	.09	10.82	
stability	.34	59.71	
globality	.35	62.68	
Women			
internality	.11	24.29	
stability	.31	90.51	
globality	.32	89.10	

Summary of Regressions of Young Adult Attributions on Perceived Paternal and Maternal Attributions by Sex and by Attributional Domain

Note: All figures rounded to two decimal places. All models significant at p < .0001.

perceptions of fathers' attributions were consistently larger than those for perceptions of mothers' attributions. For women, the differences between the coefficients were significant (p < .05) on each attributional dimension. For men, only the regression coefficient for perceptions of paternal attributions for globality was significantly (p < .05) greater than the corresponding maternal regression coefficient (see Table 8).

3.3 The relationship of perceived parental interpersonal attributional to young adult interpersonal attributional style when both are of the same sex will be significantly greater than the same relationship when the young adult is of the opposite sex.

3.4 The relationship of perceived parental achievement attributional style to young adult achievement attributional style when both are of the same sex will be significantly greater than the same relationship when the young adult is of the opposite sex.

Regressions were used to evaluate hypotheses 3.3. and 3.4. Young adult

attributions (internality, stability, and globality) for each attributional domain

(achievement and interpersonal) were regressed individually on perceived maternal

attribution scores for the same attributional dimension and the same attributional domain.

Attribution	al				••••••••••••••••••••••••••••••••••••••
Dimension	Predictor	B	<u>SE B</u>	β	
Achievement I	Domain				
Men	_				
internality	paternal	.16	.06	.18	
	maternal	.19	.06	.19	
stability	naternal	28	06	30	
submity	maternal	33	.00	35	
	maternar		.00		
globality	paternal*	.55	.06	.56	
0	maternal	.07	.06	.08	
Women					
internality	paternal	.17	.04	.22	
-	maternal	.16	.04	.18	
stability	paternal*	.36	.04	.40	
	maternal	.18	.04	.19	
globality	naternal*	43	04	45	
giooanty	maternal	26	.04	26	
	maternar	.20		.20	
Interpersonal D	Domain				
Men					
internality	paternal	.16	.06	.18	
•	maternal	.15	.06	.17	
stability	paternal	.30	.06	.35	
	maternal	.28	.06	.31	
globality	paternal*	.45	.06	.51	
	maternal	.11	.06	.12	
Women			0.4	24	
internality	paternal	.22	.04	.26	
	maternal	.12	.04	.14	
stability	naternal*	37	.05	.40	
Suomy	maternal	20	05	22	
	114001141	.20	.05		
globality	naternal*	.41	.05	.39	
Biocamy	maternal	.26	.05	.25	

Table 8Overview by Sex and Attributional Domain of Regression Coefficients from RegressingYoung Adult Attributions onto Perceived Parental Attributions

\* <u>p</u> < .05

Note: All numbers rounded to 2 decimal places

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This was done separately for men and for women. The procedure was then repeated using perceived paternal attribution scores as the predictor.

Each regression testing hypotheses 3.3 and 3.4 was significant at least at p < .0003 indicating that perceived maternal and perceived paternal attributional styles for achievement and perceived maternal and perceived paternal attributional styles for interpersonal events accounted for significant amounts of variation in young adult attributional style for achievement events and for interpersonal events respectively. Examination of the confidence intervals (95%) for the regression coefficients reveals little support for 3.3 and 3.4. There was one significant regression supporting 3.4. When women's globality scores for achievement events were regressed on perceived maternal attributions for globality in the achievement domain, the regression coefficient was significantly greater than the corresponding regression coefficient for men (Tables 9 and 10).

Table 9

Attributional	Μ	ales	Fer	nales	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	
Dimension	<u>B</u>	<u>SE B</u>	<u>B</u>	<u>SE B</u>		
Perceived Paternal						
Internality	.20	.05	.24	.04	n.s.	
Stability	.46	.05	.48	.04	n.s.	
Globality	.52	.05	.55	.04	n.s.	
Perceived Maternal						
Internality	.23	.06	.18	.04	n.s.	
Stability	.45	.05	.38	.04	n.s.	
Globality	.41	.05	.48	.04	n.s.	

Sex differences in the relationship of young adult attributions to perceived parental attributions in the interpersonal domain

Note: Numbers rounded to two decimal places

# Section Four Results

4.1 Men's scores for internality, globality, and stability for failure on the anagrams task (particular attribution questionnaire) will be significantly lower (more external, specific, unstable) than women's scores.

An ANOVA as opposed to the planned MANOVA was used to test this

hypothesis. Given the limited number of items comprising the internality (1 item),

stability (2 items), and globality (3 items) scales on the PAQ, the scales were combined to enhance the reliability of this outcome measure. This created a composite measure of attributional style for failure on the anagrams task. The overall attributional style score from the PAQ served as the dependent variable and sex was the independent variable.

The ANOVA revealed no sex differences and revealed no support for hypothesis 4.1.

4.2 Men's scores on the BDI will be significantly lower after anagrams failure than female's scores will be.

The ANOVA was performed with post-failure BDI score as the dependent

variable and sex as the independent variable. The main effect was not significant.

Therefore, hypothesis 4.2 is not supported.

4.3 Achieved and moratorium status individuals for the ideological domain will report a significantly more satisfied mood after failing (on the visual analog scale) than individuals in the foreclosed and diffuse groups for the ideological domain.

Attributional	М	ales	Females		
Dimension	<u>B</u>	<u>SE B</u>	<u>B</u>	<u>SE B</u>	
Paternal					
Internality	.24	.05	.20	.04	n.s.
Stability	.49	.05	.43	.04	<b>n.s</b> .
Globality	.60	.05	.56	.04	n.s.
Maternal					
Internality	.24	.06	.21	.04	n.s.
Stability	.46	.05	.38	.04	n.s.
Globality	.38	.05	.52	.04	<u>p</u> < .05

 Sex differences in the relationship of young adult attributions to perceived parental attributions in the achievement domain

Note: Numbers rounded to two decimal places

An ANOVA was used to test hypothesis 4.3. Satisfied mood (VAS) was the dependent variable. A dichotomized version of the ideological identity status scale was the independent variable. Results were not significant and thus hypothesis 4.3 is not supported.

4.4 Identity achieved and moratorium status (ideological domain) individuals will exhibit significantly more external, unstable, and specific attributions on the failure task than the diffuse and foreclosed groups (ideological domain) will.

An ANOVA using PAQ score as the dependent variable and ideological identity status as the independent variable. Identity status was treated as a dichotomous variable. The main effect was not significant. Therefore, there is no support for hypothesis 4.4.

# SEM Analysis for Phase 1

When the first of the models proposed in Chapter 3 were run, it was apparent that several issues prevented the models from converging. One was that the interpersonal and achievement distinctions among the attributional styles were not distinct sources of variance in the models. Instead, the similarities between globality, stability and internality overwhelmed the common variance across the achievement and interpersonal domains. The second reason these models did not run was that the relationship between identity status and attributional styles (regardless of ideological/interpersonal or internal/stable/global dimensions respectively) was essentially random, making any of these models impossible to derive. Thus, the solution was to find models in which relationships could be modeled reliably and where SEM would provide a different and unique way of displaying the results that the other analysis presented so far would have missed. Therefore, young adult attributional styles were regressed on perceived parental attributional styles within the three dimensions of internality, stability, and globality. The model was run saturated within each attributional style dimension and the non-significant paths were deleted and the model was refined.

The first group of subjects, 278 men and 494 women, were selected for inclusion in the models. Missing data were not allowed in the model estimation procedures, thus 232 men were included in the first model and 372 women were included in the second model. A maximum likelihood solution in SAS (SAS Institute Inc. 1999) was used to finalize the models and all paths not achieving significance were eliminated. Figure 4

shows the general hypothesized model run first for each sex and Figures 5 and 6 were the final models based on significance. In this analysis, the overall young adult attributional styles (based on all 24 EASQ items thus collapsing achievement and interpersonal domains with other types of events) were regressed on the attributional styles of each perceived parent while keeping the achievement and interpersonal domains separate. In this way, the makeup of overall young adult attributional style would be predicted by the perceptions of the domain-specific styles of each parent. Interpersonal and Ideological Identity status were regressed on the young adult attributional styles.

An initial run of the model presented in Figure 4 revealed that the Identity Status scores were not significantly related to any of the variables they were being regressed upon. Thus, these variables were eliminated. The models were pared down by eliminating paths that were not significant on the basis of high residual pairs in the residual matrix. Paths, which were initially eliminated, were replaced when other paths were removed when warranted by the residual matrix. The chi-square test, the NFI, NNFI and the CFI were examined to show model fit and thus, the process was complete when adding or removing paths resulted in no significant change to these fit functions.

The model for the men (Figure 5) included only one path that was not significant, mother's achievement global attributional style to young adults global attributional style. This was needed in order to improve model fit. Even though the path itself is not significant, it still models enough variances as to reduce high values in the residual matrix. Covariances were established between the error terms of young adult (YA) internality and YA stability, and YA stability and YA globality. The model fit indices revealed a good to excellent fit ( $\chi^2 = 53.56$ , df = 27, p = .0017; CFI = .9828, GFI = .9689, NNFI = .9421 and NFI = .9673). The chi-square was significant even though the chisquare value was no greater than two times its degrees of freedom. This is usually the case with model with larger sample sizes. The other fit indices should be near 1.00 and most of these were very close.

Standardized parameter estimates are included on each path. The unstandardized parameter coefficients, standard errors and t values are included in Table 11. The final model for men indicated that YA internality was predicted by perceptions of mother's interpersonal internality and perceptions of father's achievement internality. YA stability was predicted by perceptions of father's interpersonal stability and perceptions of father's achievement stability and YA Globality was predicted by perceptions of father's interpersonal globality.

Path	Parameter Estimate	Standard Error	<u>t</u> value
Perceived Paternal Achievement Internality -> YA Internal AS	.0982	.0401	2.45
Perceived Maternal Interpersonal Internality -> YA Internal AS	.1477	.0515	2.87
Perceived Paternal Interpersonal Stability -> YA Stability AS	.3107	.0421	7.38
Perceived Maternal Achievement Stability -> YA Stability AS	.2512	.0395	6.35
Perceived Paternal Achievement Globality -> YA Global AS	.3107	.0552	5.63
Perceived Paternal Interpersonal Globality -> YA Global AS	.2607	.0540	4.83
Perceived Maternal Achievement Globality -> YA Global AS	.0528	.1476	1.11

 Table 11

 Unstandardized Parameter Estimates for the Men's Model

The model for the women (Figure 6) did not include any paths that were not significant. An additional path was added from the disturbance terms of YA internality and YA globality in addition to the same two covariances included in the men's model. The same process was used to derive this model from the larger one and the fit functions indicated a good to excellent fit ( $\chi^2 = 56.56$ , df = 27, p = .0007; CFI = .9898, GFI = .9807, NNFI = .9605 and NFI = .9812). The unstandardized parameter coefficients, standard errors and p values are included in Table 12.

The final model indicated that women's internality was predicted by perceptions of father's interpersonal internal attributional style (AS) and perceptions of father's
achievement internal AS, women's YA stability was determined by perceptions of father's interpersonal stability, perceptions of father's achievement stability and perceptions of mother's interpersonal stability. Women's globality was determined by perceptions of both parents' attributions for both attributional domains (achievement, interpersonal) for globality.

Path	Parameter	Standard	<u>t</u>
	Estimate	Error	value
Perceived Paternal Achievement Internality -> YA Internal AS	.0927	.0339	2.73
Perceived Paternal Interpersonal Internality -> YA Internal AS	.0836	.0397	2.12
Perceived Paternal Achievement Stability -> YA Stability AS	.2289	.0405	5.65
Perceived Paternal Interpersonal Stability -> YA Stability AS	.1639	.0487	3.37
Perceived Maternal Interpersonal Stability -> YA Stability AS	.1268	.0374	3.39
Perceived Paternal Achievement Globality -> YA Global AS	.2382	.0406	5.87
Perceived Paternal Interpersonal Globality -> YA Global AS	.1486	.0464	3.20
Perceived Maternal Achievement Globality -> YA Global AS	.1846	.0421	4.38
Perceived Maternal Interpersonal Globality -> YA Global AS	.0981	.0467	2.10

 Table 12

 Unstandardized Parameter Estimates for the Women's Model

### SEM Phase II Analysis

A structural equation model was used to examine the relationship of perceived parental and young adult generality scores for achievement events to attributions for and emotions after failure. Scores on the DACL were substituted for the BDI scores. There were two reasons for this. First, some work (Metalsky et al., 1987; Weiner et al., 1979) suggests that the impact of an attribution can be time delayed and that initial reaction is based solely on the positive or negative nature of the event. The DACL was administered later in the protocol. Second, there was greater variation in the DACL scores than in the BDI scores. The BDI asks for mood over a two week period so it was probably not sensitive enough for the intended purpose and the DACL, which asks about immediate mood, would be better able to capture the respondent's emotional state. One further modification was made to the planned analyses. Identity status was omitted, as previous analyses showed it was not related to young adult or perceived parental attributional styles.

The initial model run was performed on 27 men and 47 women. Since missing data were not allowed in this analysis, the analysis was only performed on 67 subjects, 24 men and 43 women. The initial model run is proposed in Figure 7. The model was run with all variables included even if no paths were significant to them. This was done because both a theoretical and an experimental design were involved here and the order of placement of the variables was time-dependent. The final model is shown in Figure 8. This model was run with SAS and modified with high residual values and chi-square tests. The model converged with a maximum likelihood solution and its fit indices appeared to suggest a good fit ( $\chi^2 = 13.96$ , df = 7, p = .0519; CFI = .9042, GFI = .9427, NNFI=.7946 and NFI = .8407). Only four paths were significant: a) Perceived Paternal Generality (stability + globality) and Young Adult Generality, a) Perceived Maternal Generality (stability + globality) and Young Adult Generality, c) Perceived Maternal's Generality to Young Adult failure attributions and d) Failure attribution to scores of satisfaction versus down mood as measured by the visual analog scale. Standardized coefficients are shown in Figure 8, the unstandardized parameter estimates standard errors and t values are shown in Table 13.

 Table 13

 Unstandardized parameter estimates for phase II final model

Path	Parameter Estimate	Standard Error	<u>t</u> value
Perceived Paternal Generality -> YA Generality	.6118	.1249	4.90
Perceived Maternal Generality -> YA Generality	.1782	.1202	1.48
Failure Attribution - Visual Analog Scale	.0671	.0289	2.32
Failure Attribution -> Depression Score	.0619	.0861	0.72
YA Generality - Failure Attribution	.7338	1.19	0.62
Perceived Paternal Generality - Failure Attribution	-1.7556	1.4104	-1.24
Perceived Maternal Generality - Failure Attribution	2.4635	1.1817	2.084

#### **Chapter Five: Discussion**

The reformulated theory of learned helplessness (Abramson et al., 1978) does not specify whether or how causal attributions relate to developmental, familial, or sociocultural factors. The present study begins to put the reformulated theory of learned helplessness in a broader conceptual framework. In this research we examined the relationship of attributional style to identity status (Marcia, 1966), the constancy of attributional style across content areas, and the possible effects of societally assigned roles and cultural norms on attributional style. In addition, the relationships of young adult attributional style to perceptions of maternal and paternal attributional style were reviewed to clarify further the role of family factors. Finally, the relationship of perceived parental and young adult attributional styles to young adult attributions for, and mood after, failing an anagram task were studied. The results suggest that attributional style is not related to the formation of identity status and raise the question of how attributional style might relate to other aspects of development. The findings suggest the importance of understanding young adults' perceptions of parents and the relationship of these perceptions to young adult response to failure. Additionally, the results suggest the value of attending to differences in explanatory style based on content area and of articulating the relationship of societal roles and norms to an individual's causal reasoning.

### Attributional Style and Identity Status

There was no support for the hypothesis that young adult explanatory style might hinder or facilitate identity exploration and development. Young adults' attributions for negative events did not differ on any attributional dimension based on identity status. This was true even when considering attributions and identity statuses with similar content, e.g. attributions for interpersonal events and interpersonal identity status that were hypothesized to be more closely related. Thus, it appears that a depressogenic

attributional style (internal, stable, global attributions for negative events) does not limit identity exploration and that a more optimistic style (Seligman, 1990) (external, unstable, specific attributions for negative events) does not directly facilitate exploration. Therefore, it seems that attributional style does not account for the tendency of individuals in the achievement and moratorium identity statuses to confront problems actively and effectively (Grotevant & Adams, 1984), to perform better on stressful tasks (Marcia, 1966), and to be less vulnerable to self-esteem manipulation (Marcia, 1967). Some data did support the hypothesis that similarity of content could alter the magnitude of the relationship of attributional style for a particular domain (achievement, interpersonal) to identity status (ideological, interpersonal). The relationship of attributional style for interpersonal events to interpersonal identity status was significantly greater than the relationship of interpersonal attributional style to ideological identity status. However, it is important not to overstate this finding as attributions for interpersonal events accounted for only a small portion (1.3%) of the variance in interpersonal identity status.

The failure to find a direct relationship between attributional style and identity status raises the question of how attributional style might relate to other aspects of young adult development, if at all. Given the documented relationship of attributional style to depression (Peterson & Seligman, 1984) and the consistent finding that Beck Depression Inventory scores had a significant effect on identity status in this sample, it seemed possible that depression might mediate the relationship of attributional style to identity status. Correlations were run to assess whether mediation was likely. The failure to find a significant relationship between BDI scores and identity status suggested that depression does not mediate the relationship of attributional style to identity status for any attributional domain (overall, achievement, interpersonal) or identity status (ideological, interpersonal). It may be more fruitful for researchers interested in studying attributional style within a developmental framework to consider other aspects of development.

However, it is possible that another measure of identity development might find a relationship to attributional style, especially given the debate over the nature of identity status (Coté & Levine, 1988a, 1988b; Waterman, 1988). The apparent lack of relationship between causal attributions and identity status also suggests that young adults grappling solely with identity concerns would derive little direct benefit from therapeutic interventions geared toward modifying attributional style

### Societal Roles and Norms: Relationship to Attributional Domain and Sex Differences

The findings support the hypothesis that attributional style is embedded in and related to the societal context in which a person lives and the cultural norms to which the individual has been exposed. Through societally assigned roles and cultural norms (Chodorow, 1978; Parsons & Bales, 1955) and stereotypes (Rosenkrantz et al., 1968), mainstream U.S. society gives different messages about achievement and interpersonal events to men and women. As predicted, these differences are reflected in young adult explanatory styles for each attributional domain as well as in sex differences in attributional style. As hypothesized, based on societal roles and norms for women and interpersonal matters, women's attributions for interpersonal events were more external, unstable, and specific than their attributions for achievement events. And, as predicted based on the norms and roles that society ascribes to men with respect to work, men's internality attributions for achievement events were significantly more optimistic than women's. Hence, there is support both for the hypothesis that women and men explain negative events in a manner that facilitates fulfilling societally defined roles and norms, and for the hypothesis that societal factors are related to sex differences in attributional style.

Two findings appear to challenge this interpretation of the relationship of attributions to societal roles and norms. First, men and women both make significantly more optimistic attributions for interpersonal events than for achievement events.

Second, men's and women's attributions for interpersonal events do not differ. Although these findings initially appear to contradict the socialization hypothesis, they may mean that interpersonal relations are so central to society that both sexes learn to explain them in similar ways. They may also mean that there are larger differences with respect to societal norms and roles for achievement for men and women. Additionally, this pattern of results could imply that there is an evolutionary benefit for both sexes to explain interpersonal events in a more optimistic manner. For example, it might provide an evolutionary advantage for individuals living in family units or in larger communities to approach interpersonal situations with a mind-set that helps them to view problems as temporary and fixable.

Although the sex differences noted above are based on only the achievement and interpersonal items, they appear to contradict Johnston and Page's (1991) findings showing that men's attributions were more depressogenic than women's, and other work finding no sex differences (Berndt et al., 1982; Handal et al., 1987; Johnson, 1992; Whitley et al, 1991). The finding of sex differences in attributional style for achievement events and the differences in both sexes' attributional styles for achievement and interpersonal events suggest that it is important to consider attributional domain when examining the ways men and women explain events. Thus it might be good for researchers to clarify the nature of the relationship of societal factors to attributional style.

The findings are generally consistent with Chodorow's (1978) arguments and with Rosenkrantz et al.'s (1968) work on stereotypes as well as with data about the labor market. They suggest that societally defined norms, roles, and stereotypes are affecting cognition in a manner not usually considered. The findings also raise the question of whether large scale societal changes, social programs, or political movements change the way people think beyond the specific issues involved. The results of the present study pertaining to sex differences and to attributional domains also suggest that it is important

for attributional theorists and researchers to take societal roles and norms, the existence of attributional domains, and sex differences into consideration. It appears that what one might consider a distal influence on attributional style could have a measurable impact. Furthermore, these findings indicate that it would be useful for clinicians to consider clients' cultural roles and norms (especially if they differ from the mainstream) and their relationship to clients' attributional style. It may also be beneficial for clinicians to attend to the ways that a client's attributional style does and does not fit the culturally normative pattern. For example, one might consider intervening differently with a woman whose attributions for negative achievement events are more external, specific, and unstable than her attributions for interpersonal events (the opposite of the normative pattern in this sample) or with a man who makes internal, stable, and global attributions about achievement matters (an atypical pattern in this sample).

### **Attributional Style and Family Factors**

Young adult attributions are related to perceptions of parental attributions as hypothesized. This is true both when considering overall young adult attributional style (based on the entire Expanded Attributional Style Questionnaire (Peterson & Villanova, 1988)) and when considering more specific attributional domains (achievement, interpersonal) for both the young adults and their perceptions of their parents. This result is consistent with the hypothesis that young adults will use parents as models when trying to explain events, especially novel ones, and thereby develop a similar attributional style. This outcome is also consistent with earlier work examining overall attributional style using these data (Monestere & Thornton, 1993, 1994). Additionally, the present findings are congruent with writings (Haines et al., 1999) and research (Seligman et al., 1984) that suggest a relationship between parental behavior, parental attributions, and children's attributional styles.

Although perceptions of mothers' and fathers' attributions are related positively

to both men's and women's attributions, the pattern of relationships differs for men and women. Women's attributions are informed by a more diverse set of factors when considering both the sex of the perceived parent and the attributional domain. For example, women's attributions about the stability of events were related to perceptions of both mother's and father's attributions about stability for interpersonal events and perceptions of father's stability attributions for the achievement domain. In contrast, men's attributions on the stability dimension were related to perceived paternal attributions for interpersonal events and perceived maternal attributions for achievement events on the same dimension. Looking across all three attributional dimensions, men's attributions appear to draw more equally from perceptions of mother and father.

Perceptions of father's attributions have a more pervasive effect on young adult attributions than perceptions of mother's attributions. In general, when young adult attributions were regressed on perceptions of both parents' scores for the same dimension and domain, perceptions of father's attributions accounted for significantly greater amounts of variance than perceived maternal attributions. With one exception (internality for achievement events), women's scores followed this pattern on all dimensions in both attributional domains. This finding contradicted hypotheses. For men, perceived paternal attributions only accounted for significantly more variance than perceived maternal attributions on the globality dimension for both attributional domains. Another indication of the pervasive relationship of perceived paternal attributions to young adult attributions comes from the structural equation modeling of the Phase I data. This analysis examined the relationship of perceived maternal and paternal attributions for each attributional dimension and domain to overall attributions (collapsing achievement, interpersonal, and other event types) for the young adults. There are 10 significant paths linking perceptions of paternal attributions to young adult attributions but only 5 significant paths linking perceptions of mother's attributions to young adult attributions. Perceived paternal attributions appear to have the most pervasive impact on women's overall attributions;

perceived paternal attributions for each attributional dimension and both attributional domains are significantly related to women's overall attributions.

It was hypothesized that three factors might influence the magnitude of the relationship between young adult attributional style and perceptions of parental attributional style: availability (Bandura, 1977), symbolism (Chodorow, 1978; Parsons & Bales, 1955), and sameness (Kagan, 1958). In formulating hypotheses about the magnitude of the relationships between young adult attributions and perceptions of parental attributions for both attributional domains, each of these factors was given equal weight. For example, it was predicted that, because of sameness and symbolism, the relationship of women's attributions for interpersonal events to perceptions of maternal attributions for interpersonal events would be significantly greater than the same relationship using perceived paternal attributional style. There was little support for these hypotheses because they are rooted in the assumption that each factor would account for an equal amount of variation in young adult attributional style. When considering all three attributional dimensions in both attributional domains for both sexes, symbolism (or what a parent represents) appears to be the predominant factor influencing the relationship of young adults' self-reported attributional styles to their conscious description of parental explanatory styles. From the pattern of perceived paternal attributions accounting for significant variance in both women's and men's overall attributions and their attributions for achievement and interpersonal events, one can infer that symbolism is the organizing principle. More specifically, perceptions of paternal attributions for achievement events most consistently account for a significant amount of variance in young adult overall attributions on all three dimensions. A father's agentic role may also explain the finding that perceived paternal attributional style for interpersonal events accounts for a significant amount of variation in women's overall attributional style and in women's attributions for interpersonal events. Chodorow (1978) has linked the father's agentic role to his helping female children separate from the

mother and, in this way, the daughter may become more aware of how her father explains interpersonal events. If sameness governed the relationship of perceived parental attributions to young adult attributions, then perceptions of maternal attributions would best account for women's attributions, and perceptions of paternal attributions would best account for men's attributions. Instead, perceptions of father's attributions are most frequently related to women's attributions and a balanced mix of perceived paternal and maternal attributions are related to men's attributions. If observational learning and availability were the primary factors accounting for the relationship of young adult attributions to perceptions of parental attributions, the pattern of results would show that perceived maternal attributions best account for young adult attributions.

Although previous work (Monestere & Thornton, 1993, 1994) demonstrated a relationship between perceived parental and young adult overall attributional styles, the present work demonstrates the importance of attending to the sex of the perceived parent and of the young adult, the attributional domain (achievement, interpersonal), and larger familial and societal factors (e.g. men's agentic role in and out of the home). This work is consistent with the notion that cognitive models are important and can play a role in understanding young adult attributional style. The results also indicate that societal norms may be related to young adult attributional style through parents' performance of social roles. These findings suggest that it will be important for researchers studying the development of attributional style to evaluate the possible roles of parents and of the children's perceptions of them. Furthermore, the results suggest that women and men may incorporate perceptions of parental attributional styles in different ways. It appears that males draw more evenly upon perceptions of fathers and mothers and that women draw more on perceptions of paternal than maternal attributional style. Additionally, women's attributions have more relationships to perceived parental attributions (e.g. based on parental sex, attributional dimension, and attributional domain). Perhaps women, socialized to be aware of others' thoughts and feelings (Chodorow, 1978;

Parsons & Bales, 1955), are better able to incorporate more perceptions of parental attributional style. The findings also suggest that therapists working to modify young adults' attributions may benefit from asking not only about how their parents would perceive clients' situations, but also about each parent individually and how she/he has responded in similar achievement or interpersonal situations. The pervasive impact of perceptions of fathers' attributions suggests the importance of attending to symbolism and to societal factors that determine what is valued and how relationships are structured, as they may ultimately impact young adult thinking.

# Relationship of Young Adult and Perceived Parental Attributions to Attributions for and Mood after Failure

One focus of the study was to clarify the relationship of young adult attributional style and perceived parental attributional style to young adults' attributions for failure and their subsequent mood. Another focus was to clarify whether attributional domain and identity status are related to attributions for and mood after failure. It was hypothesized that young adult's attributions for failure would mediate the relationship of young adult attributional style to mood post failure. It was also argued that perceptions of parental attributional style would be related to young adult attributions for failure directly, and indirectly through young adult attributional style. It was proposed that attributional style for achievement events would be related to attributions for failure. It was also proposed that identity status would moderate the relationship of attributional style and perceived parental attributional style to young adults' attributions for failure. It was also proposed that identity status would moderate the relationship of attributional style and perceived parental attributional style to young adults' attributions for failure. It was also proposed that identity status would moderate the relationship of attributional style and perceived parental attributional style to young adults' attributions for failure.

There was support for an SEM model examining the aforementioned relationships utilizing perceived parental and young adult generality (stability + globality) scores for achievement events. The results are consistent with current hypotheses, with Houston's

(1995) work, and with Abramson et al.'s (1989) hypothesis that domain specific attributional diatheses are more useful in understanding attributions for events and subsequent mood.

Perceptions of both parents were hypothesized to relate to young adult attributional style and to young adult attributions for failure. Both maternal and paternal generality scores for achievement events were related to young adult generality attributions for achievement events (in Phase II). However, only perceived maternal attributions for generality predicted young adult attributions for failure on the anagrams task. Young adult attributions for failure (a score based on internality, stability, and globality attributions) were, as hypothesized, positively related to scores on the visual analog scale after failure indicating that more internal, stable, and global attributions were associated with a down mood. Contrary to hypotheses, young adult failure attributions did not mediate the relationship of young adult generality for achievement to depressed mood post failure and did not support the causal mediation component of learned helplessness theory (Abramson, et al., 1978). The lack of mediation contradicts Metalsky et al.'s (1987) study that found mediation, but is consistent with Houston (1995) who did not. The failure to find mediation must be interpreted cautiously as there may not have been sufficient power to find an effect.

These findings point to the potential importance of perceptions of parents for understanding the emotional responses of young adults in failure situations. The pattern of results suggests that young adults' self-reported attributional styles reflect their perceptions of both fathers' and mothers' attributions, but it is young adults' perceptions of how their mothers would explain achievement events that predicts their attributions for actual failure and thereby subsequent mood. This finding might reflect the greater availability of the mother as a model and it suggests that interventions to help children develop optimistic explanatory styles might be strengthened by incorporating a component addressing the primary caregiver's attributional style. It also points to a gap

between young adults' self-reported attributional style using hypothetical situations and what they think and do in reality. This discrepancy raises the question of why young adults' own attributional styles do not predict their behavior. It is possible that there was inadequate power for the analysis to find an effect given the sample size. It is also possible that young adults in the sample are still separating and individuating from parents and thus perceived maternal attributional style accounted for their attributions after failing.

The discrepancy between the young adults' attributional styles and their actual attributions for failure suggests that it may be important to observe individuals in multiple situations that they are then asked to explain. This might help to clarify whether young adults' self-reported attributional styles reflect the way they interpret situations as they happen. It may also help to clarify the extent to which attributional style is a diathesis for depression.

It is important to note that many findings were not significant. Given the large sample size in Phase I and the moderate reliability of the measures, it is unlikely that the lack of findings was due to measurement difficulties. However, it is possible that the limited sample size and the moderate reliability of the measures in Phase II, could account for nonsignificant paths.

There are a number of limitations to consider when interpreting the results of this research. First, there is the question of whether having only a small portion of the individuals from Phase I complete Phase II limits the ability to generalize the results to the larger sample and to other similar young adults. Several factors indicate that one can generalize from the Phase II findings. Analyses suggest that the Phase II sample is representative of the Phase I group; the groups did not differ on nearly all demographic features. Additionally, the smaller sample appears to be due to factors that seem unlikely to produce a sample that is atypical for college students. The exclusionary criteria instituted to protect students eliminated some volunteers. The original design called for

25 individuals from the achievement or moratorium identity statuses and 25 individuals from the diffusion or foreclosure identity statuses to be in each failure condition. Additionally, each failure condition was to have nearly even numbers of men and women. This meant that once a category in a cell (e.g. women in the achievement or moratorium statuses) was filled, some volunteers could not be asked to participate. Furthermore, the first phase of the research was worth many research credits which meant that many Phase I participants completed their research participation requirement and did not need to volunteer for Phase II. The second limitation is the reliance on perceptions of parental attributions. There is a clear need to do research using actual parental attributions. However, the present approach is a viable first step and uses a methodology (asking young adults to report on their parents and their experiences growing up) that is common in developmental literature. A third limitation on the generalizability of the findings reflects the passage of time. The data set is 10 years old and it is possible that cultural norms and societal roles could be shifting somewhat and limit the applicability of the findings. Finally, the use of college students limited the developmental variation and range of depression exhibited in the sample.

In summary, the present study questions the assumption that attributional theory can be studied without considering broader contextual factors. The study suggests that young adult explanatory style is related to perceptions of parental attributional style and that the attributional domain affects the relationship. The study has identified sex differences in attributional style and in the relationship of young adult attributional style to perceived parental attributional style. The research suggests that societal roles and norms affect young adult attributional style. Additionally, the study suggests that perceptions of parental attributional style, especially perceptions of mothers, may play an important role in understanding young adult response to failure.

Future work needs to investigate the relationship of actual parental attributional style to young adult attributional style and to young adults' perceptions of parental

attributional styles and how these relationships change over time. Studying the relationship of actual parental attributional style to young adults' perceptions of parental attributional style will clarify the ways in which young adults' perceptions or mental models do and do not correspond to parents' self-described attributional style. Furthermore, it may clarify the value of perceptions, as opposed to actual parental attributional style, for predicting young adult attributional style. Examining these relationships over time as well as attributions for actual events may help determine whether there is a developmental shift from interpreting events based on perceptions of what one believes a parent would think to explaining events based on one's own thoughts about causality.

Given the limited sample size in Phase II, it will be important for future work to examine the relationship of young adult attributional style and perceived parental attributional style to young adult attributions for actual failures. This future research could examine sex differences and it could also examine developmental changes in what predicts an individual's attributions for events. In this way, researchers could come to understand what predicts response to failure and improve interventions designed to help individuals cope with failure.

Future work might also attempt to clarify the relationship of attributional style to societal norms and roles. More specifically, it might be fruitful to examine this relationship by measureing the young adult's adherence to traditional sex roles instead of using sex differences. It might also be beneficial to evaluate the extent to which the dominant social norms were represented in the individual's environment while growing up. Articulating these relationships could enhance our understanding of the ways that societies shape individuals.

## APPENDIX A

## Managing Missing Identity Status Data

The classification rules outlined in Adams et al. (1979) were used to determine individual's identity statuses. Cases with missing data were handled in the following manner.

- Cases missing total scores on more than one of the four identity status scales within a realm (ideological, interpersonal) were omitted from analyses. Remaining cases were treated in the manner described in step three.
- Cases missing scores on one identity status scale in each realm (ideological, interpersonal) were allowed to remain and were considered in step three.
- 3) For each remaining case, the 8 items comprising the one scale from a realm that could not be totaled were examined. Cases in which the scale was missing more than one item were omitted from the analyses. For the remaining cases, the mean of the 7 answered items was computed and substituted for the missing item. Scale scores were then recomputed and the individual's identity status was determined.







Hypothesis: A and B should be larger than either C or D.

- Key: I/E Internal / External
  - S/U Stable / Unstable
  - G/S Global / Specific
  - ACH Achievement Attributional Style
  - INP Interpersonal Attributional Style
  - ID-ID Ideological Identity Status
  - IP-ID Interpersonal Identity Status

# Figure 1

Latent variable multiple groups model showing relationships among attributional styles and identity statuses varying by sex



Figure 2

Latent variable multiple groups model showing relationships among perceived parental attributional styles, young adult attributional styles and identity statuses by sex







Hypothesized model of the relationships of perceived domain specific parental attributions to overall young adult attributions and identity statuses, run separately for men and women



Figure 5 Final model for men's overall attributional styles and domain-specific perceived parental attributional styles



Figure 6 Final model for women's overall attributional styles and domain-specific perceived parental attributional styles





Model testing failure attribution as predicted by young adult and perceived parental generality attributions for achievement events



Figure 8

Final model testing failure attributions as predicted by young adult and perceived parental generality attributions for the achievement events

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