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Relationships Among Attributional Style, Behavioral Problems, And Gender In Learning Disabled Vs. Non-Learning Disabled Adolescents

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RELATIONSHIPS AMONG ATTRIBUTIONAL STYLE, BEHAVIORAL PROBLEMS, AND GENDER IN LEARNING DISABLED VS. NON-LEARNING DISABLED ADOLESCENTS.

BY

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Chapter I
INTRODUCTION

Overview

The difficulties experienced by learning disabled youth have been investigated in a multitude of areas that can be subsumed under a broad variable called psychosocial adjustment. There is empirical evidence that learning disabled children differ from non-learning disabled children in many of these domains, including self-concept, social competence, behavior problems, locus of control and attributional style (Cadieux, 1996; Durrant, 1993; Merrell, 1991; Tur-Kaspa, Weisel, & Segev, 1998). Students with learning disabilities have had self-reported higher depressive symptomatology, a more dysfunctional attitude, and were rated by themselves and their teachers as less socially competent than non-learning disabled students (Dalley, Bolocofsky, Alcorn, & Baker, 1992). They are at greater risk for developing psychological adjustment problems (Michaels & Lewandowski, 1990) that are often categorized in the research as internalizing and externalizing problem behaviors (Achenbach, 1991).

Initially categorized as internalizing and externalizing syndromes by Achenbach in 1966, these two groupings of behaviors were previously labeled in the research as Personal Problem versus Conduct Problem (Peterson, 1991), Inhibition versus Aggression (Miller, 1976) and Overcontrolled versus Undercontrolled (Achenbach & Edelbrock, 1978). Many studies have used Achenbach’s categorization of behaviors to
measure psychological adjustment (Crijnen, Achenbach, & Verhulst, 1997; Huselid & Cooper, 1994; Keenan & Shaw, 1997; Leadbeater, Blatt, & Quinlan, 1995). Using self or parent/teacher report measures, researchers have found internalizing problems to be related to social rejection in girls (Bell-Dolan, Foster, & Smith, 1995); cognitive distortions (Leung & Wong, 1998); and attributional style and gender (Gladstone, Kaslow, Seeley, & Lewinsohn, 1997). Externalizing problems have been associated with conduct disordered youth (Wilson & Marcotte, 1996); attributions for achievement (Durrant, 1993); and cultural factors and gender (Crijnen, Achenbach, & Verhulst, 1997). Historically, males tend to have more externalizing problem behaviors, such as aggression, acting out, and rebelliousness, while females are more affected by internalizing problems such as withdrawal, somatic complaints, and anxiety (Achenbach, 1993). These results were replicated in cross-cultural studies, despite the differences in cultural sex roles, suggesting these gender patterns may be culturally universal (Berry, Portina, Segall, & Dasen, 1992).

In the learning disabled population, the manifestation of internalizing and externalizing problems have been linked to clinical referrals (Symons, Greene, & Symons, 1995); risk and resilience (Spekman, Goldberg, & Herman, 1993); academic functioning (Tsatsanis, Fuerst, & Rourke, 1997); and incongruence of parent and child report (Rowe & Kandel, 1997). Parents tended to overidentify externalizing problems and underidentify internalizing problems in their children.

A possible moderator of these internalizing and externalizing problems of adjustment is attributional style, which is a pattern of assigning internal or external, stable or unstable, and global or specific causes to positive and negative events (Cole &
Turner, 1993; Garber & Hilsman, 1992; Hammen, 1990). Attributional style has been studied with regard to its correlation to various measures of distress, such as anxiety, self-concept, somatic complaints and achievement (Luten, Ralph, & Mineka, 1997; Metalsky, Halberstadt, & Abramson, 1987; Nathawat, Singh, & Singh, 1997). It may be the most widely researched cognitive component of depression (De Moss, Millich, & DeMers, 1993) and predictor of future risk for depression (Bruder-Mattson & Hovanitz, 1990).

Attributional styles have been characterized as two opposing composite patterns of responses to events: positive style, also known as adaptive or optimistic; and negative style, also known as maladaptive or pessimistic. In non-learning disabled children and adolescents, a positive attributional style was shown to moderate stressful events (Panak & Garber, 1992) while other researchers did not find evidence for such an effect (Cole & Turner; Hammen, 1990).

Nonetheless, there is agreement that attributional style is related to both internalizing and externalizing problems in children (Durrant, 1993; Tarnowski & Nay, 1989). In non-learning disabled adolescents, their internalizing problems were shown to be associated with cognitive distortions similar to those found in negative attributional styles (Leung & Wong, 1998). In learning disabled children and adolescents, those who exhibited externalizing problems reflected negative attributional styles as well by externalizing blame for their failures to others (Durrant, Cunningham, & Voelker, 1990).

However, not all children with learning disabilities develop negative attributional styles and helpless beliefs (Durrant, 1993; Kistner, Osborne, & LeVerrier, 1988). Some of these children can explain their failures using a positive attributional
style that is similar to the attributional style of non-learning disabled students. Unfortunately, relationships between the mediating presence of positive attributional styles and any internalizing and externalizing problem behaviors were not explored in these studies.

In fact, most studies that examine learning disabled youth focus on preadolescent populations and either collapse their analysis across gender or confine the study to learning disabled males (Welmeyer, 1993). Therefore, information concerning how the attributional styles of learning disabled adolescents are associated with their internalizing and externalizing problems is limited. Information with regard to gender influences in this population is also sparse. Despite these limitations, the implications of gender should be considered for the identification of externalizing and internalizing problems in boys and girls from early to late adolescence (Kavanagh & Hops, 1994). During adolescence in the general population, patterns shift with regard to the rates of internalizing and externalizing problems, with girls having more internalizing problems than boys (Angold & Rutter, 1992; Offord, Boyle, Szatmari, Rae-Grant, Links, Cadman, Byles, Crawford, Blum, Byron, Thomas, & Woodward, 1987). Girls' early problem behavior, through socialization and sex-role expectations, becomes more internalized, which is more difficult for parents and teachers to identify (Keenan & Shaw, 1997). The earlier maturation and development of empathy in girls may contribute to the tendency to internalize their problems rather than endure the guilt of how their externalizing behaviors may adversely affect others (Zahn-Waxler, Cole, & Barrett, 1991).
In spite of these patterns of development, some girls manifest mostly externalizing problem behaviors. Girls who were difficult as infants and who were expected to become as competent, empathic and verbal as their females peers may be at higher risk for externalizing problems if they do not “measure up” to those standards (Keenan & Shaw, 1997). Specifically, a female who develops in the context of a frustrated caregiver may begin to act out from their own frustration.

In the case of learning disabled females, it might be hypothesized that because of their well-documented difficulties in these areas, they may be more at risk for developing externalizing problems. Kratovil and Bailey (1986) described a “double jeopardy” for females who were dealing with stereotypical gender associations as well as the equally handicapping experience of being labeled as having a disability. These risk factors often resulted in maladaptive perceptions that become more difficult to refute as the female child develops and can impact achievement, employment, and interpersonal relations.

Significance of the Study

Heath and Wiener (1996) state that learning disabled children experience pervasive academic failures beginning early in their school careers which often result in their doubting their abilities and subsequently lessening their achievement efforts. They tend to generalize from specific areas of academic difficulty to more general dimensions of self-concept. This contrasts a long-held view that a learning disability is specific in its nature and contained in its severity (Heyman, 1990). The belief, that they lack the ability to overcome difficulties, is reinforced, often resulting in learned helplessness and a
negative attributional style. It is within the theoretical framework of the reformulated attribution theory of learned helplessness that this study is designed. This theory provides a basis for the investigation of the relationships among attributional style, psychological adjustment, and gender within a population of learning disabled adolescents.

The original theory of learned helplessness, developed by Martin Seligman (1972), was redesigned in 1978 by Abramson, Seligman, and Teasdale and became known as the reformulated attribution theory of learned helplessness. When a person habitually explains negative events as internal to themselves, stable in time, and global in effect, their expectations of lack of control produce feelings of helplessness. The failure of underachieving students to develop adaptive cognitions has been partially correlated to their negative attributional styles (Carr, Borkowski, & Maxwell, 1991).

A negative or “depressogenic” attributional style is characterized by responses that attribute internal, stable, and global causes to negative events and external, unstable and specific causes to positive events (Dalley et al., 1992). This style has been associated with both self-reported and clinical depression in children and adolescents. A meta-analytic review of 27 such studies also found the association to remain stable across gender, age and sample type (Joiner & Wagner, 1995). For the purposes of this study, attributional style will not be examined as it relates to depression but rather to internalizing and externalizing problem behaviors which may contain depressive features.

A study by Bruder-Mattson and Hovannis (1990) strongly suggested that research on attributional styles should analyze all data separately by gender because correlations were more significant for women. Gender differences in attributional style are
hypothesized to be linked to social learning factors such as sex role stereotypes and
differential evaluation feedback from parents and teachers (Tsatsanis, 1996). For
example, males are not encouraged to foster interpersonal sensitivity, which may result in
detachment that may give rise to aggression. Females are encouraged to put the needs
of others before their own which may lead to a blunting of their affect and a turning of
their aggression inward (Tsatsanis, 1996). These influences of social learning are often
reinforced by the symbolic modeling of not only the parents but of that which the media
provides (Bandura, 1982).

Several studies have documented a female attributional style that is similar to that
observed in depressed people (Abramson & Andrews, 1982). Research with non-learning
disabled females suggests that females tend to attribute negative events to internal, stable,
and global causes, while males tend to attribute negative events to external, unstable, and
specific causes (Gladstone et al., 1997). Given the inordinate proportion of studies that
use only male subjects or fail to examine boys and girls separately, it is difficult to
generalize these findings with confidence to individuals in general (Doyel & Paludi,
1991). To date, with the exception of a few studies linking attribution to depression, little
research has been done to examine adolescent learning disabled females with regard to
the relationships between attributional style and internalizing and externalizing problem
behaviors. Therefore, any formulations of hypotheses must be based upon existing
gender studies that examine these variables in populations of non-learning disabled
adolescent females or younger learning disabled females.

This study is intended to contribute to the existing body of knowledge in this area.
It will attempt to identify which attributional factors are related most strongly to
psychological adjustment in learning disabled adolescent females. Specifically, the study will investigate relationships between attributional style and internalizing and externalizing problem behaviors and note if differences exist between the learning disabled females and either their male counterparts or their non-learning disabled counterparts of both genders. This information would be relevant to clinicians, teachers, and counselors who work with learning disabled adolescents and who may attempt to draw inferences about their psychological adjustment based upon their learning disabled status, their gender, and their attributional style. Thus, interventions that are based on an attributional framework can be considered as effective choices for clinicians when working with learning disabled adolescents. Additionally, determinations can be made as to whether these interventions should differ with regard to the gender of the adolescent.

Given that learning disabled females have had less positive outcomes upon graduation than their male counterparts, despite the lack of differences in capability or learning opportunities (Lichtenstein, 1992), variables must be identified that account for these discrepancies. Attributional style should be explored as a possible inroad to understanding the behaviors of learning disabled adolescents, especially females. Tailored interventions regarding the changing of a learned helplessness attributional style could then be included as a powerful intervention strategy for improving psychosocial adjustment. It is hoped that adaptive psychological outcomes will follow.
Statement of the Problem

The purpose of the study is to investigate the existence of relationships among self-reported composite negative and positive attribution styles and self-reported scores of internalizing and externalizing problems in learning disabled versus non-learning disabled adolescents. The demographic aspect of gender will also be investigated in relation to both attributional style and internalizing/externalizing problem behaviors in learning disabled adolescent females.

Research Questions

1. Is there a significant relationship between negative attributional style and internalizing and externalizing problem behavior in learning disabled adolescents?

2. Is there a significant difference between learning disabled (LD) females' and non-learning disabled (NLD) females' and learning disabled (LD) males' attributional styles?

3. Is there a significant difference between learning disabled (LD) females' and non-learning disabled (NLD) females' externalizing problem behaviors?

4. Is there a significant difference between learning disabled (LD) females' and non-learning disabled (NLD) males' externalizing problem behaviors?

Hypotheses

The specific hypotheses are listed below:
Hypothesis 1. It is hypothesized that there will be a statistically significant relationship between negative attributional style and the severity of internalizing and externalizing problem behaviors in learning disabled adolescents.

Hypothesis 2. It is hypothesized that there will be a statistically significant difference in the attributional style of learning disabled female adolescents when compared to non-learning disabled females and learning disabled males.

Hypothesis 3. It is hypothesized that there will be a statistically significant difference in severity of externalizing problems exhibited by learning disabled female adolescents when compared with non-learning disabled female adolescents.

Hypothesis 4. It is hypothesized that there will be a statistically significant difference in severity of externalizing problems exhibited by learning disabled female adolescents when compared with non-learning disabled male adolescents.

Definition of Terms

The term "learning disabled" is defined in the U.S. Public Law 94-142, the Education For All Handicapped Children Act of 1975 as follows:

Children with specific learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual impairments, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor
handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage. (p. 32)

For purposes of this study, learning disabled adolescents will be defined as those adolescents who have been classified as “Specific Learning Disabled” as defined by the New Jersey Administrative Code, Title 6A, Education, Chapter 14, Special Education, 1998, which states:

“Specific learning disability” corresponds to “perceptually impaired” and means a disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term does not apply to students who have learning problems that are primarily the result of visual, hearing, or motor disabilities, general cognitive deficits, emotional disturbance, or environmental, cultural, or economic disadvantage.

Students must have attained a minimum sixth grade reading level ability and fall within the average range of intelligence. The term “learning disabled” will be condensed to “LD” for the convenience of the reader throughout this paper.

**Internalizing Problems**

Internalizing problems are characterized conceptually as those behaviors which are more internal to an individual’s emotional experience. These behaviors include self-reported or observed descriptors such as “withdrawn”, “anxious”, “depressed”, and/or
"having somatic complaints". They have been characterized as "overcontrolled"
(Achenbach & Edelbrock, 1991)

Internalizing problems will be defined operationally as t-scores on one of the broad-band scales designated as the internalizing subscale of the Child Behavior Checklist-Youth Self-Report Form (YSR) (Achenbach & Edelbrock, 1983). Higher scores on the scale would indicate poorer functioning for that variable.

Externalizing Problems

Externalizing problems are characterized conceptually as those behaviors which are more overt and observable in an individual. These behaviors include self-reported or observed descriptors such as "disruptive", "delinquent", and/or "aggressive". They have been characterized as "undercontrolled" (Achenbach & Edelbrock, 1991).

Externalizing problems will be defined operationally as t-scores on the second broad-band scales designated as the externalizing subscale of the Child Behavior Checklist-Youth Self-Report Form (YSR) (Achenbach & Edelbrock, 1991). Higher scores on the scale would indicate poorer functioning for that variable.

Attributional Style

Attributional style is defined as the dispositional tendency to explain positive and negative events and behaviors. Some attributional styles are "depressogenic" in that they resemble the styles of depressed persons and constitute a risk factor for developing depression in the future. Attributions are subsumed within three causal dimensions: internality, stability, and globality (Feather, 1982). In this study, attributional style will be defined operationally by scores on two subscales of the Attributional Style
Questionnaire (ASQ) (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) measuring Composite Negative Attributional Style (CoNeg) and Composite Positive Attributional Style (CoPos). These scores are reported to be the “most valid and reliable in the prediction of depression and other outcomes” (M.E.P. Seligman, personal correspondence, July 7, 1998).

The Composite Positive (CoPos) attributional score consists of the number of internal, stable, and global attributions made for positive or successful events.

The Composite Negative (CoNeg) attributional score consists of the number of internal, stable, and global attributions made for negative or unsuccessful outcomes.

Limitations

The present study will focus on learning disabled adolescents in a public, non-college bound setting, which would limit the generalizability to other adolescents in other settings. External validity of these findings will be limited to learning disabled adolescents with a minimum sixth grade reading level who are enrolled in a non-college bound public high school setting in middle class suburban communities in central and southern New Jersey.

Generalizability will be limited with regard to students of different cultures and ethnic groups because empirical data will not be explored using these variables. Students who participate will be volunteers, which may eliminate other participants whose inclusion might alter the findings.

All variables will be based upon self-report instruments, which would be subject to student bias. They may present a more adaptive impression of themselves than exists
in actuality. Accuracy of their reports may be questionable because they may not wish to disclose fully any problems they may be experiencing or they may lack the self-awareness to identify their problems.

This study is a correlational one in which attributional style, gender, and the presence of a learning disability are to be viewed as associated demographic and psychological variables which covary with internalizing and externalizing problems and are not meant to be predictors or causal influences. Only relationships among the variables will be investigated.
Chapter II

REVIEW OF RELATED LITERATURE

Introduction

Existing studies designed to investigate attributional style in adolescents focus mainly upon achievement-based outcomes when the population studied is learning disabled. Attributional style has been used as a method of understanding the motivation of learning disabled adolescents to achieve. In recent years, studies dealing with the attributional style of learning disabled youth have focused on non-academic outcome variables such as depression, stress, and social competence. Limitations of the scope of these studies have included the restriction of the population to non-adolescents, the exclusion of either internalizing or externalizing symptoms as outcomes, and the failure to examine gender differences in the learning disabled sample. Therefore, no studies exist, to this author's knowledge, that examine the impact of gender as it relates to attributional style and internalizing and externalizing symptoms in a population of learning disabled adolescents.

The review of the literature in the present study will be organized in the following manner: (a) attributional style research, (b) attributional style and internalizing and externalizing symptoms, (c) attributional style and learning disabled youth, (d) attributional style and gender, (e) internalizing and externalizing symptoms and learning
disabled youth (f) internalizing and externalizing symptoms and gender, (g) research integrating internalizing/externalizing symptoms, attributional style, learning disabled youth, and gender.

Attributional Style

"An attribution is the inference that an observer makes about the causes of behavior, either his own or another person’s" (Bar-Tal, 1978, p. 259)." The individual patterns of assigning causes to positive and negative events comprises a person’s attributional style (Abramson, Seligman, & Teasdale, 1978). These explanatory dimensions can be grouped into the following categories: internal/external; stable/unstable; and specific/global. If causal attributions are stable and global, symptoms of helplessness are likely to result. Learned helplessness is the expectation that an individual’s failures will persist despite that individual’s efforts (Seligman, 1972).

The original theory of learned helplessness was first described by animal learning researchers at the University of Pennsylvania (Overmier & Seligman, 1967; Seligman, Maier, & Greer, 1968). They observed that animals, who learned that their responses were independent of reinforcement, began to show deficits in learning and inability to execute escape behaviors from escapable situations. These deficits were conceptualized by the researchers as an expectation of future uncontrollability and seen as a manifestation of learned helplessness (Seligman, 1972). The learned helplessness theory was subsequently expanded to explain the behavior of human subjects when repeatedly exposed to situations independent of reinforcement. The individual then learns to expect
failure in future situations and ceases trying to affect the outcome, despite his possessing the power to do so (Klein, Fencil-Morse, & Seligman, 1975).

The theory of learned helplessness was reformulated in 1978 (Abramson et al.) to include the identification of an attributional style for explaining causes of the behavior of self and others as well as causes for positive and negative events. Attributing internal attributions for failure was seen as being associated with diminished self-esteem. However, maladaptive attributions are not seen as the cause of these deficits but rather as a risk factor.

What remains at the core of both the original and reformulated theory of learned helplessness is a belief that no personal action will affect the outcome of any future situation. The identification of an attributional style is part of the reformulated theory that has been the basis for attribution research in recent years. According to Abramson et al. (1978), the individual patterns of assigning causes to positive and negative events comprises a person’s attributional style.

A depressive or negative attributional style is connoted by a tendency to explain negative events as internal, stable, and global. Accompanying statements that correspond to these causes are, “It’s my fault”, “It’s always going to be this way” and “It will affect everything I do”. The definition of a positive attributional style was more elusive.

In recent years, the originator of the theory of learned helplessness formulated a new theory called “learned optimism” that seemed to correlate to a positive attributional style. Martin Seligman (1991) proposed that people’s negative attributional styles could be changed to a more optimistic, adaptive style by means of attributional retraining. This concept offers methods of assistance for persons who have maladaptive beliefs about
their abilities and environment. It is particularly relevant for the learning disabled population if they use this attributional style.

Attributional Style Research

Attributional style has been used as both a dependent and independent variable in research with a variety of populations. Although often used as a predictor of academic achievement, attributional style also has been linked with non-academic outcomes. Among college students, it has been seen as a moderator of stress and illness among college students (Dykema, Bergbower, & Peterson, 1995); a predictor of self-esteem (Tennnen, Herzberger, & Nelson, 1987); and a factor in anxiety and affect (Luten, Ralph, & Mineka, 1997). Other research with this population as well in children and adolescents has shown attributional style to be linked most frequently with depression.

Meta-analytic reviews of studies dealing with attribution style in children and adolescents used the hopelessness/helplessness theory for depression and attribution to demonstrate that attributional style is associated with both self-reported and clinical depression (Joiner & Wagner, 1995; Sweeney, Anderson, & Bailey, 1986). Age and gender did not appear to have any effect on the findings.

The established link between attributional style and depression provides support for the current study’s hypotheses concerning the correlation between attributional style and internalizing and externalizing problem behaviors. Although depression commonly is recognized as an internalizing problem, when it occurs in an adolescent population, it often manifests in externalizing, acting out, behaviors. Therefore, research that examines
connections between attributional style and internalizing and externalizing behaviors will be reviewed in the following section.

Attributional Style and Internalizing/Externalizing Symptoms

Negative attributional styles may be related to problem behaviors among learning disabled youth (Huntington & Bender, 1993). However, the research done linking attributions to internalizing and externalizing problem behaviors has been confined, for the most part, to non-learning disabled populations. Therefore, a review of two representative studies will be presented to support the hypotheses of the current study in light of the fact that no previous research has used learning disabled adolescents. Further support for the hypotheses will be outlined in later sections that explore the variables of attributional style and internalizing/externalizing symptoms as they relate to the learning disabled population and to gender.

A possible correlation between attributional style and internalizing/externalizing symptoms was explored in a study by Robinson, Garber, and Hilsman (1995). They hypothesized that a positive attributional style as well as global self-worth would have moderating effects on depressive symptoms, externalizing symptoms, and stress in adolescents. Using a sample of 381 sixth grade non-learning disabled adolescents, they administered measures of attributional style, perceived self-worth, depressive symptoms and externalizing problem behaviors. After their entry to seventh grade, these same adolescents again completed measures of depressive and externalizing symptoms as well as measures of negative life events and school hassles. Those adolescents having low self-worth and negative attributional styles reported higher levels of depressive symptoms
under stress than adolescents who had a more positive attributional style. Adolescents who had high self-esteem and negative attributional styles did show interactive effects with their stress levels. Specifically, for these students, positive attributional style was shown to moderate and lessen stress while negative attributional style was linked with persistent stress. For the total group, attributional style was not found to be a significant predictor of externalizing behaviors. However, the authors proposed that the limitation of the study’s power to find an effect for attributional style for externalizing behaviors may be related to the low internal consistency reliability of the Children’s Attributional Style Questionnaire (CASQ) (coefficient alpha=.43). Additionally, the measures of stress used were based upon the transition to junior high school, which may not be as universally stressful as proposed, or, in the case of a learning disabled population, perhaps even more stressful than anticipated.

Other correlations between attributional style and internalizing/externalizing behaviors will be explored within the following sections. Each of these variables will be reviewed with regard to learning disabled youth and gender.

Attributional Style and Learning Disabled Adolescents

Attributional style, as measured by standardized instruments as well as by researcher-generated instruments, has been studied as a possible mediator for stressful events and failures, and as a predictor for depression, anxiety, and impaired achievement. The literature reflects that students with learning disabilities, who may continue to experience fewer academic successes than their non-learning disabled counterparts, are at particular risk for developing maladaptive attributional styles. Adolescents with learning
disabilities exhibit a more external locus of control than non-learning disabled adolescents (Rojewski, 1996).

The attribution patterns of learning disabled adolescents were examined in a 1982 study by Tollefson, Tracy, Johnson, Buening, Farmer, and Barke. As with most studies dealing with this population, the dependent variable was academic performance. The sample consisted of 35 learning disabled adolescents in grades 7-9 (10 females and 25 males) from a junior high school in the midwest. A control group of 99 students (57 females and 42 males) in the same grades who had not been classified as learning disabled were also selected. Both groups were representative of the socio-economic and racial make-up of the community. The main research question concerned the learning disabled adolescents' use of effort attributions to explain their academic successes and failures.

All students were administered measures of self-esteem and attributions for academic achievement. The self-esteem and general attribution scores of the learning disabled and non-learning disabled students were compared using t-tests for independent groups. No significant differences were found on either the self-esteem scores or the mean number of internal or external attributions given by both groups of students. There were, however, differences in the learning disabled students' general attribution responses. Specifically, learning disabled students as a group did not have internal attributions for their successes but assigned internal attributions to their failures. Although this pattern only partially represents a negative attributional style, the accuracy of that representation is questionable. The authors concede that during their school experience, learning disabled adolescents may have learned to give socially acceptable
responses to explain their successes as, "if you try, you will succeed". However, when asked to explain their personal failures, they are not consistent with the previous explanation. Their attributions for failure are seen as out of their control and due to lack of ability. The study findings, therefore, seem to support the presence of learned helplessness that has remained stable over time despite the lack of external reinforcement.

A similar study by Jacobsen, Lowery, and DuCette (1985) compared the attributional styles of learning disabled children (ages 9-17) with those of non-learning disabled children. Weiner's (1979,1980) model of achievement motivation was used as the theoretical basis for the study's hypotheses that centered on learning disabled children displaying maladaptive attributional patterns about their successes and failures. Subjects were given a standardized interview, developed by the researchers, in which they were asked to assign attributions for academic and non-academic situations. Results supported the Tollefson study in that both groups displayed a positive attributional style when explaining their successes, but only the learning disabled group showed more internalization of their failures. They cited lack of effort or ability to explain their failures, which contrasted with the non-learning disabled students' explanations that externalized the causes. Unfortunately, not only did the learning disabled students internalize their failures, but, by virtue of their disability, they experience more failure to internalize than their non-learning disabled counterparts. The authors speculated that this would have a negative impact on their affect and self-esteem, but no measures were explored in that regard.

The overall findings of the study, however, did contrast with previous studies that reported learning disabled students did not tend to internalize their successes. They also
acknowledged that the attributional patterns may be somewhat distorted in this population. Their explanation differed from the one offered by Tollefson et al. for the distortion. Uncertainty about why learning disabled students fail or succeed was seen as a reason for caution in interpreting learning disabled students’ self-reported attributions.

Because the gender ratio between the groups of learning disabled and non-learning disabled students was unequal, with males making up most of the learning disabled sample, the authors declined to make any gender comparisons.

More recently, Durrant (1993) examined attributions for achievement in behavioral subgroups of children with learning disabilities. She hypothesized that there would be differences in attributions based upon membership in behavioral subgroups. Although the sample studied were latency age children and not adolescents, the findings supported the findings of the Jacobsen et al. study that not all learning disabled children develop maladaptive attributional styles but they are more pessimistic about their control over outcomes than non-learning disabled children.

Attributional Style and Gender

Gender differences in attributional style were examined in a 1985 study involving learning disabled females. Licht, Kistner, Ozkaragov, Shapiro, and Clausen (1985) examined the attributions of learning disabled children and their effect upon persistence in academic tasks. Although these dependent variables are not pertinent to those contained in the current research study, this particular study is included because of important gender differences noted in the attributional styles of learning disabled children. The learning disabled girls significantly differed from both the LD boys and the
non-learning disabled girls in attributing their failures to internal causes such as lack of ability. If this negative attributional style remains stable over time, as has been shown (Robinson, Garber, & Hilsman, 1995), one would expect to find this pattern in an adolescent population of similar comparison groups.

An adolescent population was used to examine attributional style and gender, but within a population of students with high academic ability. A study by DeMoss, Milich, and DeMers (1993) used a sample of 291 eighth grade and 397 ninth grade students. They completed the Children’s Attributional Style Questionnaire (CASQ) (Seligman et al., 1984) as well as other measures of dependent variables for the other hypotheses of the study. Females were seen to have a more positive attributional style than males, but no differences were noted for their negative attributional style. Correlations were seen for figural creativity and negative attributional style for both genders.

It is difficult to generalize these findings to the current study because of the high level of cognitive ability for the students in the sample. However, other studies that include gender as a factor in attributional style and that also include other variables in the current study, will be reviewed in subsequent sections of this chapter.

Internalizing and Externalizing Symptoms in Learning Disabled Adolescents

Research on learning disabled adolescents has shown this population to exhibit differences in impulsivity and emotional reactions to frustration which can result in pervasive deficits in self-confidence (Whyte, 1983).

A 1997 study by Tsatsanis, Fuerst, and Rourke attempted to examine problem behavior patterns in the learning disabled population. A behavior rating scale was used to
categorize students into seven "subtypes" of behavior. An "internalizing" subtype and an "externalizing" subtype were included. The rationale for subtyping the students was to control for within-group differences with the learning disabled population. The sample of 152 children with learning disabilities, ranging in age from 7-13 years and referred for neuropsychological assessment over a ten year period, were selected on a basis of similar achievement scores, cognitive ability, and no evidence of emotional disturbance.

After being assigned to one of the psychosocial subtypes according to parent rating scales, the following conclusions were drawn. The older children comprised more of the internalizing and externalizing subtypes, which was not a surprising finding given the tendency of children to manifest more of these behaviors as they enter adolescence. Additionally, internalizing subtypes scored higher on verbal measures of intelligence than on performance measures. However, the most significant finding of the study, according to the authors, was the support for the existence of three subtypes out of their original seven that appeared to characterize learning disabled children: Normal, Externalizing, and Internalizing. This lends support to the current study's use of internalizing and externalizing behaviors as meaningful dependent variables for learning disabled youth.

A study that examined the problem behaviors of adolescents was done in 1996 by Wilson and Marcotte. Although all subjects were not classified as learning disabled (74%), they were all chosen for their diagnosis of attention deficit disorder (ADD). A control group of adolescents were included. All 85 subjects completed the YSR and their parents completed the accompanying Child Behavior Checklist (CBCL), (Achenbach & Edelbrock, 1983), as well as a psychiatric symptom checklist and an adaptive behavior scale. Parental reports showed the greatest differences between groups differences on
both the internalizing and externalizing problem scales, with ADD students exhibiting more severe problem behaviors. The YSR self-report had ADD students reporting more externalizing and total problem behaviors than the clinical controls. The authors concluded that these students, many of whom are learning disabled, are at greater risk for the development of psychological problems during adolescence. However, the longitudinal design of the study, which evaluated subjects between ages 6 and 12, and later when between ages 14 to 18, may not have controlled for maturation effects as the time lapsed between evaluation of subjects. Nevertheless, there seems sufficient evidence to support the connection between learning disabled youth and specific kinds of problem behaviors.

Internalizing and Externalizing Symptoms and Gender

Historically, learning disabled populations have been more highly populated by males, making it difficult to conduct research on gender differences. Most studies that do deal with females have been behavioral and related to academic achievement.

Gender differences have been recognized as significant in many measures of problem behavior. Specifically, the Youth Self-Report (YSR) and the Teacher Report Form (TRF) which are being used in the current study, provide separate forms for male and female subjects. Cross-culturally, these differences appear to be consistent as well.

Crijnen, Achenbach, and Verhulst compared parent reports of internalizing and externalizing problem behaviors across 12 cultures. A large sample (13, 697) of children and adolescents, aged 6-17 was used. Males obtained higher externalizing and total problem scores than females. Females scored higher on internalizing problem behaviors.
The study offers support for gender differences. However, the wide range of ages in the sample may not allow the findings to be generalized to adolescent populations. Moreover, the use of a parent report as the sole measure of problem behavior may not afford an accurate picture of internalizing problems, which are not easily observed. For the females, their externalizing behaviors may not be expected by parents and therefore may be missed or denied.

A 1985 study by Epstein, Bursuck, and Cullinan examined the internalizing and externalizing behavior problems of learning disabled girls. Terminology used in the study described internalizing behaviors as “personal" and external behaviors as “environmental". Fifty-seven special education teachers in public schools in the midwest completed a behavioral problems checklist for a group of 77 learning disabled females ages 12-18. The teachers also rated the behaviors of 316 learning disabled males (ages 12-18) and 225 younger learning disabled females (ages 6-11). Four factors of behavior were extrapolated from the ratings for comparison among the groups. The Conduct Problem factor accounted for the greatest variance in all three groups. However, although both younger and older learning disabled females showed evidence of a significant Attention Deficit factor, the older females were seen as having more externalizing problems such as temper tantrums and disruptiveness. This finding lends support to one of the current study’s hypotheses concerning the prevalence of externalizing rather than internalizing problem behaviors among learning disabled female adolescents.

Delinquency patterns in both female and male learning disabled adolescents were noted, with the factors of Socialized Delinquency accounting for most of the variance for the males and Aggression Delinquency for the females. It is important to note that these
ratings were solely made by teachers who, arguably, may have held higher standards of behavior for the females and may have rated them more harshly. Other limitations of the study centered on the cross-sectional nature of the comparison groups, as well as the differences in sample size of the adolescent groups (77 females and 316 males). Had the authors included a control group of non-learning disabled students of similar ages, their study may have yielded more generalizable data and strengthened the findings.

The problem behaviors of learning disabled female adolescents were examined, along with their social competence, in a 1989 study by Ritter. Based on the existing research about the problem behaviors of their male learning disabled counterparts, the author expected to see similar behaviors for the females. Using a sample of 51 learning disabled female adolescents, a parent-report measure, the Child Behavior Checklist (CBCL), which is the counterpart to the Youth Self Report (YSR) to be used in the current study, was given to their parents to complete. The scores were then compared with the norming data of the instrument. The mean T-scores of the learning disabled females were one standard deviation or greater than those of the non-learning disabled females in the norming sample. Both internalizing and externalizing problem behaviors were more severe in the learning disabled population.

The behavioral problems of handicapped female adolescents were examined by Cullinan, Schultz, Epstein, and Luebke (1984). Forty-five learning disabled females were compared with equal samples of mentally retarded, behavior disordered and non-handicapped females using teacher ratings of their behaviors. Mildly or moderately handicapped females were seen as having more behavior problems than their non-handicapped counterparts. Relevance of these findings for the current study are
somewhat limited because the main hypothesis and most of the analysis dealt with assessing for differences in categories of exceptionality. However, the prevalence of behavior problems of learning disabled female adolescents does lend support to the current study.

A 1984 study by Epstein, Cullinan, and Nieminen compared the problem behaviors of 150 learning disabled females and 150 non-learning disabled females. They found evidence of one major difference between the groups on the internalizing behavior scale which included anxiety and depression. Although the sample used in the study was one of the largest for research with this population, the age levels ranged from 7-24 years. Thus, further examination of the findings is necessary to see if they remain true for an entirely adolescent population. However, the study is noteworthy in its use of a population of learning disabled females, given the preponderance of studies that are designed solely for learning disabled males.

Gender, Attributional Style and Internalizing Symptoms

Adolescence is a time for girls to meet their developmental requirements. They are at a disadvantage for mastering separation and individuation to become part of the larger world (Keenan & Shaw, 1997). They have a tendency to become dependent and seem to lack confidence in their abilities. Their dependent, passive mode of socialization leads to their overinternalizing their problems and the problems of others (Zahn-Waxler et al., 1991). It is difficult for these females to self-actualize (Block, Gjerde, & Block, 1991). The early onset of puberty has been shown to exacerbate externalizing problem behaviors (Caspi & Moffitt, 1991).
A study was designed by Dalley, Bolocofsky, Alcorn, and Baker (1992) to examine attributional style and depressive symptomatology in adolescents with and without learning disabilities. Additional measures of social competence and dysfunctional attitudes were included. It was hypothesized that there would be a significant relationship among these self-reported measures that would also predict a subgrouping of the learning disabled students as "successful" or "unsuccessful". Subjects were selected from three high schools in Colorado with sample sizes of 107 non-learning disabled students and 42 learning disabled students. A one-factor (learning disabled versus non-learning disabled) multivariate analysis of variance (MANOVA) on the six dependent variables was used. Significant differences between the groups were noted. Specifically, learning disabled adolescents showed higher depressive symptomatology, displayed a more negative attributional style, exhibited a more dysfunctional attitude, and less social competence than the non-learning disabled adolescents. Further differences in attributional style were seen between the "unsuccessful" learning disabled students and the non-learning disabled students. No significant gender effects were noted on any of the comparisons. This finding should be interpreted with caution because of the unequal gender representation in the learning disabled sample. Another limitation for relevance to the current study is the omission of measures of externalizing behaviors for both groups.

Gladstone, Kaslow, Seely, and Lewinsohn (1997) designed a study for the purposes of examining gender differences, attributional style, and internalizing, depressive symptoms among adolescents. The sample consisted of approximately 1700 students from senior high schools in rural and urban Oregon. Subjects were interviewed using the Schedule for Affective Disorders and Schizophrenia (K-SADS) (Orvasche,
1982) and classified into either a depressed group (n=46), remitted group (previously diagnosed, n=290), and a never-depressed group (n=1273). All subjects were also administered the Center for Epidemiologic Studies Depression Scale (CES-D) and the Children's Attributional Style Questionnaire (CASQ).

The results of the study indicated that higher levels of depressive symptoms significantly correlated with a more depressive attributional style in both females and males. Both genders in the depressed group evidenced more maladaptive attributional styles than non-depressed contemporaries. Gender differences were only noted on the dimensional scores. Males reported a more negative attributional style than females on the Total-Stability dimension. Females reported a more negative attributional style than males on the Total-Globality dimension. More internal attributions were made by females for both positive and negative events than males. These are important findings for the general adolescent population and lend support to an exploration of these results when the adolescents are learning disabled.

Conclusions

To this author's knowledge, a specific investigation of attributional style and its relation to severity of internalizing and externalizing problem behaviors among learning disabled adolescents, particularly females, has not yet been done. However, the review of the literature contained in this chapter includes relevant studies that have one or more elements of the current study's design. Attributional style has been related to internalizing and externalizing problem behaviors. Gender has been seen as a factor in attributional style and in problem behaviors. There is also evidence that learning disabled
youth may have differences in attributional style, as well as in their manifestation of internalizing and externalizing problem behaviors. Therefore, there is substantial evidence in the literature to support the investigation of the hypotheses in the current study.
Chapter III

METHODOLOGY

Introduction

The purpose of this chapter is to describe the procedures and methods to be used in this investigation. The chapter begins with a description of the sample, the research setting, and procedures for collecting the data. This section will be followed by a review of the instruments, methods of scoring and data related to their reliability, validity, and norms. The chapter will conclude with a description of the planned data analysis.

Participants

Participants consisted of high school students in grades ten through twelve who are enrolled in a county vocational-technical school in southeastern New Jersey. Both regular education “mainstreamed” students and special education “learning disabled” students comprised the research sample. Participants ranged in age from 15 to 18 years-old. Only students who were fluent in English, had a minimum reading level of grade six, and had not been identified as having a behavior disorder, classified as emotionally disturbed, or having any exceptionality designation other than learning disabled, were eligible for inclusion in the sample. No participants were included who were below the average range of cognitive functioning with respect to their class placements. Specifically, students are
placed in classes that are homogeneously grouped according to intellectual ability. Therefore, only class lists for higher functioning learning disabled homerooms were included as eligible. School administrators, teachers, and child study team members provided to the researcher class lists of students who met these eligibility criteria without identifying which students were learning disabled. From this list, both learning disabled and non-learning disabled students were chosen at random from the eligibility list using a random numbers table. Both groups contained a minimum of fifty students each, but more were selected to allow for attrition in the return of the parent permission forms. It was expected that approximately 70% of the students would be males and 30% would be females, which is a ratio that is consistent with the usual distribution of males and females within vocational schools. However, the researcher was fortunate to discover a larger pool of learning disabled females who were eligible to participate. As a result, equal numbers of males and females for both groups comprised the final sample.

The specific breakdown of the final sample was as follows. One-hundred participants took part in the study, of which 50 were learning disabled and the remaining 50 were non-learning disabled. In each of these groups, there was an equal number of males and females of 25 for each gender, resulting in a total of 50 males and 50 females for the final sample. Participants ranged in age from 15 to 18 years old, with a mean age of 16.88, SD = .87. Mean age for females was 17.08, SD = .75, and a mean age of 16.68 for males, SD = .93. The overall racial makeup of the sample was as follows: 89% Caucasian (n = 89); 6% African-American (n = 6), and 5% Hispanic (n = 5). All participants were administered both survey instruments during regular school hours at a Vocational-Technical High School in southern New Jersey.
Procedure

A letter of intent was sent to the superintendent from the researcher requesting permission to conduct the research (see Appendix A). When permission was obtained (see Appendix B), the parents of students deemed eligible for inclusion in the study were mailed a packet of information (see Appendices C & D) containing a letter explaining the purpose of the study, the request for their son/daughter’s voluntary participation, and the instructions for returning the parent consent form to the researcher. Students whose parents returned the consent forms and who wished to participate were given an assent form (Appendix E) which they were asked to read, complete, and return to the researcher.

Student confidentiality was protected by the assignment of an identifying number for each student. This code number was recorded onto the two survey instruments they completed to ensure confidentiality. The use of a random identifying number was necessary to ascertain gender and group membership (learning disabled and non-learning disabled) when analyzing the data. The surveys were administered instrument during an academic class within two weeks of obtaining all consent forms.

The instruments were administered by classroom teachers to reduce the possibility of experimenter bias. The researcher instructed classroom teachers as to how to administer the instruments. The Attributional Style Questionnaire (ASQ) and the Youth Self-Report (YSR) both were administered during one 40-minute class period. Initially, the ASQ was administered first, followed by the YSR. The next group of students were presented with the YSR first, followed by the ASQ. This sequence was adhered to throughout the study, one presentation to the next. Students had their questions answered
by the researcher and were thanked for their cooperation and their time. Students who
had elected not to participate were provided alternative reading materials for use during
the administration of the surveys. No students were penalized for non-participation. All
materials were scored by the researcher as described in the manuals that correspond to
each instrument.

Maturation was controlled for by using students in all groups who were
reasonably the same in age and grade (high school age adolescents). Measurements for
attributional style and psychosocial adjustment were administered during the same class
period within the same week to all students in the sample.

Instruments


The Youth Self-Report (YSR) is an instrument designed to obtain, within a
standardized format, self ratings from youths aged 11 to 18 years old about their own
competencies and problems. It has been used to measure psychosocial adjustment and
social-emotional development of children and youth. Christenson, Elliott, and Busse
(1992) in a review of the YSR, recognizes that assessing social-emotional development in
a standardized way is fraught with difficulties. However, she recommends the use of the
YSR for such purposes because of the comprehensiveness of the scale and because it
provides companion instruments for ratings by parents and teachers to provide a
multiaxial approach for student assessment.

The scale was developed by Achenbach to take the place of his Child Behavior
Checklist (CBCL) (Achenbach, 1966, 1978, 1991) in those research situations where the
child, rather than the parent, was surveyed. Most of the items from the CBCL were retained or slightly changed and appear in a parallel first-person format.

The first section of the YSR is comprised of seven competency items that are not scored but used to obtain background information and starting points for interviews. These items will not be administered for the purposes of this study. The remaining section is comprised of the Problem Items of the YSR plus 16 socially desirable items not included in the scoring of the problem portion of the profile. These 119 items are rated by the students using a Likert-type scale (0 = Not True, 1 = Somewhat or Sometimes True, 2 = Very True or Often True). Instructions state that the ratings are to be based on the past six-month period. Space is provided at the end of these items for an open-ended response about "anything else that describes your feelings, behaviors, or interests". This information was reviewed by the researcher for statements of risk or concern and would have been referred to the school psychologist for follow-up if necessary. No need was determined. These statements were not considered in the scoring of the Problem and Socially Desirable Items for the purposes of this study. According to the YSR Manual, the structured items take about 15 minutes to complete, but respondents may take more time in writing responses to the unstructured items.

The YSR yields an overall measure of psychosocial adjustment in the form of the Total Problem score. The Problem Scales yield scores on two dimensions of Internalizing and Externalizing behaviors. Subsumed within these broad-band composites are behaviors such as "withdrawn", "somatic", and "depressed" under the Internalizing dimension and "aggressive" and "acting out" under the Externalizing dimension. Because of the separate norms for gender, each respondent's scores can be easily
compared to the normative group. T-scores on the Internalizing and Externalizing subscales range from 15-100, with scores between 19 and 230 designating the clinical range. Higher scores indicate more severe problem behaviors.

**Norms.** The YSR was standardized in 1985-86 using 344 boys and 342 girls aged 11-18 from eight communities in Massachusetts. Adolescents who had received mental health services within the preceding year of the study were not included. The authors controlled for socioeconomic status by using random cluster sampling across residential census tracts. The racial distribution was 81% Caucasian, 17% African-American, and 3% mixed/other. Age distribution and handicap/nonhandicap status are not reported.

Norms are available for groupings by age (6-11 years) and (12-18 years) and by gender. Differences between the effects of race and socioeconomic status were deemed by the authors too small to warrant separate norms.

**Readability.** According to the authors, the YSR is designed to be completed by 11- to 18-year olds who have a mental age of at least 10 years and a minimum of fifth grade reading comprehension skills. If a youth has poor reading skills, the YSR can be administered orally. However, all subjects to be included in this study will have the prerequisites for self-administration so that oral administration will not be necessary.

**Reliability.** Reliability is reported by the authors using test-retest stability. Fifty youths in a general population sample completed the YSR twice at intervals averaging 1 week. Rank order and mean differences were calculated using Pearson correlations and t-tests to determine the reliability of the scale. For a one-week interval, the test-retest reliability is satisfactory (median r = .81) with broad-band (Internalizing, Externalizing)
and total behavior reliabilities falling with the range $r = .83-.87$ with small differences in the means. Better reliabilities were shown for the age group to be used in this study, namely the 15-18 year-olds (median $r = .89$). Stability over eight months using 48 boys and 54 girls yielded very small mean differences and satisfactory broad-band and total behavior reliabilities (range $r = .64-.67$). In the current study, a reliability analysis was conducted for each scale used. For the Internalizing scale, Cronbach’s alpha was found to be .88. For the Externalizing scale, Cronbach’s alpha was found to be .85. These findings are within acceptable ranges of reliability.

Validity. The authors provide evidence for criterion-related validity of both the YSR and its companion instrument, the Teacher Rating Form (TRF). They used referral for professional help for behavioral and social-emotional difficulties as a criterion and found significant differences between referred and nonreferred students (Christenson, Elliott, & Busse, 1992). Separate problem behavior syndromes were derived from statistical analyses of YSR administrations of adolescents referred for mental health services. Orthogonal varimax rotations with loadings greater than or equal to .30 as the criterion for retention on eight principal components were performed and resulted in seven narrow-band syndromes for boys and six narrow band syndromes for girls (Busse & Elliott, cited in Buros, 1992). Concurrent validity is reflected in the lower competence and higher problem scores for these referred adolescents. Discriminant validity is reported for the Problem Scales, but not for the Competence Scales (achievement and socialization), which the authors of the YSR caution, have limited clinical utility.

Other concurrent and construct validity evidence is not provided by the authors of the YSR due to the dearth of relevant self-report measures. However, a study by Gresham
and Elliott (1990) provided evidence of a negative correlation between the YSR’s Problem Scales and prosocial behaviors as measured by the Social Skills Rating System (Gresham & Elliott, 1990).

Correlations between the CBCL and the TRF provide a measure of the YSR’s construct validity. Similar mean correlations are reported between the YSR and each of its counterparts ($r = .41$ for boys, .45 for girls). Inconsistencies in self report compared to adult report occurred with non-referred adolescents and referred girls, with both groups reporting significantly more problems than cited by their parents or teachers.

Content validity is reflected in the YSR’s items being based upon the CBCL items developed to describe problems and competencies that concern parents and mental health workers. These items were derived on earlier research of child/adolescent psychiatric case histories (Achenbach, 1966). The YSR and its companion checklists are highly recommended because of their comprehensiveness and the “conceptual and empirical basis for the checklists” (Christenson, in Buros, 1992, p.165).

**Attributional Style Questionnaire (ASQ):** Peterson, Semmel, vonBayser, Abramson, Metalsky, & Seligman, 1982

The Attributional Style Questionnaire (ASQ) was first developed by Seligman, Abramson, Semmel, and von Bayser in 1979. For the purpose of this research study, the more recent version (1982) as cited above, will be used. Items in the revised study were changed to reflect the experiences and thoughts of adolescents. The ASQ was designed to assess the attributional style of adolescents and adults to positive and negative events (Dalley et al., 1992). It consists of 12 hypothetical situations, half positive and half
negative, which subjects read and then rate the cause of the situation along 7-point scales corresponding to the internality, stability, and globality dimensions. Composite scores of positive and negative attributional styles are created by summing the appropriate items and dividing the sum by the number of items on the composite. Higher scores on each composite scale indicate a more positive or negative attributional style, respectively.

Norms. The ASQ was normed in a population of 130 undergraduate psychology students (50 males, 80 females) at a state university in New York in 1982. Five weeks later, the ASQ was readministered to 100 of these students.

Reliability. Internal consistency reliability of the ASQ was reported in a study using 147 adolescents, both learning disabled and non-learning disabled. The internal consistency reliability for the total test was .80, Composite Positive = .82, and Composite Negative = .72. Correlational approaches were used with various measures of naturally occurring causal explanations and with criterion measures such as depression (Peterson & Seligman, 1984; Seligman et al., 1979). Test-retest correlations over 5 weeks were .70 for the Composite Positive scores and .72 for the Composite Negative scores (Peterson et al., 1982). These correlations are respectably high, as reported by the authors, underscoring the value of the instrument that exhibits better reliability over time than other cognitive measures.

The internal reliability of each of the subscales was estimated to be .75 and .72 for the composite attributional style scales using Cronbach’s (1951) coefficient alpha (Peterson et al., 1982). The internal consistency levels of alpha for the current study are as follows: Composite positive scale = .75; composite negative scale = .61. These seem to be consistent with other reported levels of reliability from previous studies.
Validity. Predictive validity has been demonstrated in studies using the ASQ’s attributional style scores to predict depression in college students (Metalsky, Abramson, Seligman, Semmel, & Peterson, 1982; Metalsky, Halberstadt, & Abramson, 1987). In a cross-lagged design, ASQ scores predicted the development of depression in college students one month later (Golin, Sweeney, & Shaeffer, 1981).

The unrelatedness of the attributional style composites (Positive and Negative, correlation = .02) suggests that each composite measure a distinct construct. Because the individual attributional dimensions of internality, stability, and globality were not distinguished in the norming sample, researchers were encouraged to use only the composite scores which will make for a stronger measurement of the concept.

Design Statistical Analysis

The following statistics were used to test the hypotheses of this study:

**Hypothesis 1.** It is hypothesized that there is a statistically significant relationship between negative attributional style and the severity of internalizing and externalizing problem behaviors in learning disabled adolescents.

To test for hypothesis 1, a canonical correlation examines relationships between internalizing and externalizing T scales on the Youth Self-Report (YSR) and the positive and negative attributional style scores on the Attributional Style Questionnaire (ASQ). The data were screened to ensure that the assumptions for canonical correlation are met.

**Hypothesis 2.** It is hypothesized that there is a statistically significant difference in the attributional style of learning disabled female adolescents when compared to non-learning disabled female adolescents and learning disabled male adolescents.
Hypothesis 2 was examined using a 2 x 2 (gender and learning disabled status) factorial multiple analysis of variance (MANOVA) on the Composite Negative and Composite Positive scores on the ASQ.

**Hypothesis 3.** It is hypothesized that there is a statistically significant difference in the severity of externalizing problems exhibited by learning disabled female adolescents when compared with non-learning disabled female adolescents.

**Hypothesis 4.** It is hypothesized that there is a statistically significant difference in the severity of externalizing problems exhibited by learning disabled female adolescents when compared with non-learning disabled male adolescents.

Hypotheses 3 and 4 were examined using a 2 x 2 (gender and learning disabled status) factorial multiple analysis of variance (MANOVA) on the Internalizing and Externalizing dimensions of the YSR. For analyses on hypotheses 2, 3, and 4, the data will be screened so that the assumptions of MANOVA will be met.

**Power Analysis**

A power level of .80 defined as a high level of power (Fagley, 1985) for a moderate effect size, and an alpha level of .05 are utilized. Because this study uses multivariate statistics, an acceptable level of power has been estimated using a commonly suggested number of subjects times the number of variables. The hypotheses in this study are comprised of four variables (2 independent variables and 2 dependent variables). A ratio of 20 to 1 is suggested in order to perform MANOVA and canonical correlation (Stevens, 1996). Therefore, a minimum of 80 subjects, 40 learning disabled adolescents
and 40 non-learning disabled adolescents would have been sufficient for hypothesis 1. However, the remaining hypotheses included the element of gender, which must be included as a categorial variable. Therefore, those groups needed to contain a minimum of 100 subjects total, with 50 students in each group.
Chapter IV

RESULTS

This chapter reports the results of the statistical analyses derived from the data collected in the study. It includes a presentation of the descriptive statistics on the research variables, the testing of the main hypotheses, and a summary of the results.

Research Variables

The mean scores and standard deviations for each of the variables used in the study are presented in Table 1. For learning disabled and non-learning disabled adolescents, regardless of gender, no between group differences were evident for attributional styles. The largest between group differences were seen on the externalizing problems variable, with learning disabled females having the highest mean. The next largest between group difference was for the internalizing problems variable, with learning disabled females again having the highest mean. The significance of these differences is explored and reported in the following section.

Analysis of Hypotheses

The assumption of normality was examined using a graphical method which suggested that the variables were normally distributed. The use of F tests, which are
### Table 1

**Descriptive Statistics For Learning Disabled and Non-Learning Disabled Adolescents**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>LD Adolescents</th>
<th>NLD Adolescents</th>
<th>Total Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Externalizing Problems</strong></td>
<td>Male</td>
<td>25</td>
<td>61.1</td>
<td>10.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>25</td>
<td>62.2</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
<td>61.7</td>
<td>10.1</td>
</tr>
<tr>
<td><strong>Internalizing Problems</strong></td>
<td>Male</td>
<td>25</td>
<td>56.2</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>25</td>
<td>61.6</td>
<td>8.8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
<td>58.9</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Negative Attributional Style</strong></td>
<td>Male</td>
<td>25</td>
<td>12.9</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>25</td>
<td>12.8</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
<td>12.8</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Positive Attributional Style</strong></td>
<td>Male</td>
<td>25</td>
<td>14.8</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>25</td>
<td>14.5</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
<td>14.6</td>
<td>2.4</td>
</tr>
</tbody>
</table>
considered robust, as well as the equality in group sizes, were seen as lending confidence to the findings.

Hypothesis 1 stated that there would be a statistically significant relationship between negative attributional style and the severity of internalizing and externalizing behaviors in learning disabled adolescents. A canonical correlation did not yield a significant Wilks' Lambda for any of the canonical variable pairs (Table 2). This suggests that no significant relationships were detected between the independent and dependent variables, specifically attributional style and internalizing/externalizing problem behaviors. Therefore, according to results of the data analysis, negative attributional style is not related to the severity of internalizing and externalizing problem behaviors. Thus, hypothesis 1 was not supported.

Table 2

Canonical Correlations for Relating Problem Scales to Attributional Style

<table>
<thead>
<tr>
<th>Function</th>
<th>Canonical Correlation</th>
<th>Wilks’ Lambda</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.264</td>
<td>.923</td>
<td>7.686</td>
<td>4</td>
<td>.104</td>
</tr>
<tr>
<td>2</td>
<td>.086</td>
<td>.993</td>
<td>.714</td>
<td>1</td>
<td>.398</td>
</tr>
</tbody>
</table>

Because the remainder of the hypotheses were analyzed using the same statistical tests, they will be presented together and subsequently discussed separately with regard to
the results. Hypothesis 2 stated that there would be a statistically significant difference in the attributional style of learning disabled female adolescents when compared to non-learning disabled female adolescents and learning disabled male adolescents. Hypothesis 3 and hypothesis 4 stated that learning disabled female adolescents would exhibit a statistically significant difference in the severity of externalizing problem behaviors when compared with non-learning disabled female adolescents (hypothesis 3) and non-learning disabled male adolescents (hypothesis 4).

A multivariate analysis of variance (MANOVA) was used to examine gender and status differences on both attributional styles and both problem behavior scales (see Table 3).

Table 3

**Multivariate Tests, Effect Size and Power for YSR and ASQ Variables by Gender and Learning Status**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hyp. df</th>
<th>Error df</th>
<th>Sig.</th>
<th>Eta Squared</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD/NLD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilks' Lambda</td>
<td>.888</td>
<td>2.931</td>
<td>4.000</td>
<td>93.000</td>
<td>.025</td>
<td>.112</td>
<td>.768</td>
</tr>
<tr>
<td>MALE/FEMALE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilks' Lambda</td>
<td>.898</td>
<td>2.628</td>
<td>4.000</td>
<td>93.000</td>
<td>.039</td>
<td>.102</td>
<td>.715</td>
</tr>
<tr>
<td>LD/NLD and MALE/FEMALE (Interaction of both groups and dependent variables)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilks' Lambda</td>
<td>.983</td>
<td>.399</td>
<td>4.000</td>
<td>93.000</td>
<td>.809</td>
<td>.017</td>
<td>.138</td>
</tr>
</tbody>
</table>
The Wilks’ Lambda was significant for learning status and gender. The observed power for each of these effects was adequate (.768 and .715, respectively) as well as the effect sizes (see Table 3) which afforded a level of confidence in the analysis. However, further analysis was required to determine which of the variables were responsible for the largest variance between the groups.

Univariate F tests were performed for positive and negative attributional style and for internalizing and externalizing problems (see Table 4). Two of the F ratios showed significance, specifically between learning disabled and non-learning disabled adolescents on the externalizing problems variable and between males and females on the internalizing problems variable. Values for the positive attributional style for learning status approached significance when taken with the internalizing problem variable, and values for the negative attributional style approached significance when taken with the externalizing problem variable. However, both values could not be considered as supportive of the hypothesis. No effects were seen for either the problem scale variables or attributional style for the combined effects of gender and learning status. A decision was made to perform a discriminant function analysis on the two effects that were confirmed in the univariate F tests.

In order to examine between group differences when the problem scale variables and the attributional style variables are taken at the same time, a Discriminant function analysis (DFA) was conducted to determine which of these dependent variables contributes greatest to the between groups discrimination. The DFA yielded a significant Wilks’ Lambda for the first and second Discriminant functions (see Table 5).
<table>
<thead>
<tr>
<th>Group</th>
<th>Dependent Variable</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
<th>Eta Squared</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD/NLD</td>
<td>Ext. Problems</td>
<td>778.41</td>
<td>1</td>
<td>778.41</td>
<td>9.15</td>
<td>.003</td>
<td>.09</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Int. Problems</td>
<td>127.69</td>
<td>1</td>
<td>127.69</td>
<td>1.14</td>
<td>.29</td>
<td>.01</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>Neg. Att. Style</td>
<td>4.20</td>
<td>1</td>
<td>4.20</td>
<td>.91</td>
<td>.34</td>
<td>.01</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Pos. Att. Style</td>
<td>15.81</td>
<td>1</td>
<td>15.81</td>
<td>2.91</td>
<td>.09</td>
<td>.03</td>
<td>.39</td>
</tr>
<tr>
<td>Male/Female</td>
<td>Ext. Problems</td>
<td>1.69</td>
<td>1</td>
<td>1.69</td>
<td>.02</td>
<td>.89</td>
<td>.00</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Int. Problems</td>
<td>580.81</td>
<td>1</td>
<td>580.81</td>
<td>5.17</td>
<td>.02</td>
<td>.05</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>Neg. Att. Style</td>
<td>7.74</td>
<td>1</td>
<td>7.74</td>
<td>1.67</td>
<td>.19</td>
<td>.02</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Pos. Att. Style</td>
<td>8.26</td>
<td>1</td>
<td>8.26</td>
<td>1.52</td>
<td>.22</td>
<td>.02</td>
<td>.23</td>
</tr>
<tr>
<td>LD/NLD and</td>
<td>Ext. Problems</td>
<td>44.89</td>
<td>1</td>
<td>44.89</td>
<td>.53</td>
<td>.47</td>
<td>.01</td>
<td>.11</td>
</tr>
<tr>
<td>Male/Female</td>
<td>Int. Problems</td>
<td>8.41</td>
<td>1</td>
<td>8.41</td>
<td>.08</td>
<td>.79</td>
<td>.00</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Neg. Att. Style</td>
<td>4.48</td>
<td>1</td>
<td>4.48</td>
<td>1.67</td>
<td>.20</td>
<td>.01</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Pos. Att. Style</td>
<td>1.30</td>
<td>1</td>
<td>1.30</td>
<td>.24</td>
<td>.63</td>
<td>.00</td>
<td>.08</td>
</tr>
<tr>
<td>Error</td>
<td>Ext. Problems</td>
<td>8166.32</td>
<td>96</td>
<td>85.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Int. Problems</td>
<td>10794.48</td>
<td>96</td>
<td>112.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neg. Att. Style</td>
<td>444.29</td>
<td>96</td>
<td>4.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pos. Att. Style</td>
<td>521.99</td>
<td>96</td>
<td>5.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5

Tests of Discriminant Functions for Both Analyses

<table>
<thead>
<tr>
<th>Test of Function</th>
<th>Canonical Correlation</th>
<th>Wilks' Lambda</th>
<th>Chi-Square</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Status</td>
<td>.318</td>
<td>.899</td>
<td>10.226</td>
<td>4</td>
<td>.037</td>
</tr>
<tr>
<td>Gender</td>
<td>.334</td>
<td>.888</td>
<td>11.370</td>
<td>4</td>
<td>.023</td>
</tr>
</tbody>
</table>

The externalizing problem variable contributes greatest to the between group differences for learning disabled and non-learning disabled adolescents followed by the positive attributional style variable (see Table 6). The internalizing problem variable contributes the greatest to between group differences for males and females, followed by the negative attributional style variable (see Table 7).

Because hypothesis 2 stated that learning disabled female adolescents would have significantly different attributional styles than both non-learning disabled females and learning disabled males, and because no statistically significant differences in attributional style were noted between any of the groups, hypothesis 2 is not supported. Using the MANOVA computed for hypothesis 2, the remaining hypotheses were tested. Specifically, differences were examined between male and female adolescents, both learning disabled and non-learning disabled, on the Internalizing and Externalizing
Table 6

**Discriminant Function Analysis Coefficients for each Variable by Learning Disabled Status**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Standardized Discriminant Function Coefficient</th>
<th>Correlations with the Discriminant Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSR Externalizing T</td>
<td>.921</td>
<td>.868</td>
</tr>
<tr>
<td>YSR Internalizing T</td>
<td>-.196</td>
<td>.299</td>
</tr>
<tr>
<td>ASQ CoNeg Score</td>
<td>-.092</td>
<td>.271</td>
</tr>
<tr>
<td>ASQ CoPos Score</td>
<td>-.480</td>
<td>-.486</td>
</tr>
</tbody>
</table>

Table 7

**Discriminant Function Analysis Coefficients for each Dependent Variable by Gender**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Standardized Discriminant Function Coefficient</th>
<th>Correlations with the Discriminant Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSR Externalizing T</td>
<td>.390</td>
<td>.041</td>
</tr>
<tr>
<td>YSR Internalizing T</td>
<td>-.944</td>
<td>-.688</td>
</tr>
<tr>
<td>ASQ CoNeg Score</td>
<td>.550</td>
<td>.390</td>
</tr>
<tr>
<td>ASQ CoPos Score</td>
<td>-.325</td>
<td>.369</td>
</tr>
</tbody>
</table>
dimensions of the YSR. As stated previously, the Wilks' Lambda was significant (see Table 3) and the Discriminant function analyses delineated differences between the severity of externalizing problem behaviors in learning disabled adolescents when compared to non-learning disabled adolescents. This finding lends partial support to hypotheses 3 and 4, although statistically significant differences for the learning disabled females apart from the aggregate learning disabled group were not detected.

Summary

Based upon the statistical analyses conducted on the collected data, hypothesis 1 was not supported in the current study. No statistically significant differences were detected in the way that negative attributional style relates to the severity of externalizing problem behaviors for either learning disabled or non-learning disabled adolescents. Hypothesis 2 was not supported based upon the absence of a statistically significant difference in the attributional styles of learning disabled females when compared to non-learning disabled females and learning disabled males. Hypothesis 3 and hypothesis 4 were partially supported in that significant differences in externalizing problem behaviors were detected for learning disabled and non-learning disabled adolescents, but not specifically for the learning disabled females. Learning disabled adolescents reported more externalizing problem behaviors than non-learning disabled adolescents. An additional finding was that there was a statistically significant difference on the internalizing problem variable for males and females, with females reporting more internalizing problem behaviors than males, regardless of learning status.
Chapter V
DISCUSSION

This chapter presents conclusions and discussion based upon the analysis of both the descriptive and statistical data relevant to this investigation. Results are discussed in terms of their relevance to the field as well as to current research on the psychological variables contained in the study. It includes an examination of the findings with respect to the original research objectives as well as a discussion of other findings made known during the course of the study. Limitations of the present study are discussed and suggestions for future research are presented.

Putting Results in Perspective

This study was designed to determine if attributional style would predict to self-reported problem behaviors among learning disabled adolescents. The study was also interested in investigating the impact gender and learning status has on attributional style, problem behaviors, or both. The limited amount of research on learning disabled female adolescents makes exploration of gender differences for psychological variables difficult, but necessary. Findings relating to nonacademic self-perceptions of learning disabled children when compared to non-learning disabled children have been contradictory (Heath & Wiener, 1996). There is a discrepancy and in the number of studies using
learning disabled male adolescents as compared to learning disabled female adolescents. The present study attempts to add to the limited amount of research on learning disabled female adolescents, as well as to examine differences in how they, and their male counterparts, perceive positive and negative events. It was expected that these perceptions would relate to problem behaviors which might be alleviated by attribution retraining. The specific hypotheses for the study are described in the following section.

Discussion of Results

The first hypothesis was designed to investigate whether negative attributional style was related to the severity of problem behaviors for learning disabled adolescents. No significant relationships were detected between attributional style (positive and/or negative) and problem behaviors (internalizing and/or externalizing) for the 50 learning disabled and 50 non-learning disabled adolescents who participated in the study. Therefore, negative attributional style did not predict to the severity of self-reported problem behaviors for learning disabled adolescents. Thus, the first hypothesis was not supported. Moreover, the absence of a significant relationship between attributional style and problem behaviors for any of the groups in the study was in direct contrast to existing literature that reported varied connections between these two variables [(Curry & Craighead, 1990; Dykema, Bergbower, & Peterson, 1995; Gotlib, Lewinsohn, Seeley, Rohde, & Rodner, 1993; Lynd-Stevenson, 1996; Panak & Garber, 1992)]. Much of this research uses internalizing behaviors as a correlate to attributional style.

However, other researchers found similar evidence to this study’s finding that attributional style does not relate to problem behaviors (Dalley et al., 1992). Some
researchers report inconsistencies in the correlation of attributional style with other variables because of difficulties with the conceptualization and actual measurement of the concept [(Tennen & Herzberger, 1989; Xenikou, Furnham, & McCarrey, 1997)]. Attributional style is a "developmentally acquired personality characteristic" that can be dichotomized as negative (pessimistic) or positive (optimistic) (Seligman, 1991). Measurement of this characteristic as a composite style by the use of one instrument may be troublesome. Indeed, the instrument itself may provide some explanation for the lack of significance in the correlations. According to the literature, the Attributional Style Questionnaire (ASQ), which was used in the current study, requires close supervision in order of assure proper administration, as subjects seemed to become confused about what was asked of them (Dykema, Bergbower, Doctora, & Peterson, 1996). The teachers who were trained to administer the ASQ for the current study reported that students of both learning status groups had difficulty with the instrument, even with close proctor supervision. For example, several students wrote their reactions to the hypothetical situations that comprise the instrument, rather than their perceived cause of the event. For example, the statement, "You go out on a date and it goes badly" was responded to in several instances with statements like, "I'd just forget her". Although this written statement is not designed as a scorable item, it could not be used to verify with absolute certainty that the correct concept was rated by the student on the ensuing numerical scales. Therefore, the scores on these items may be spurious. Despite these considerations, no correlation between attributional style and problem behaviors was seen for this sample.
The second hypothesis stated that learning disabled females would have more negative attributional styles than both non-learning disabled females and learning disabled males. No statistically significant differences for attributional style were found when comparing the learning disabled females with the other groups. This contrasts with existing studies that characterize the learning disabled population as representative of the “learned helplessness” phenomenon and more likely to develop maladaptive attributional styles (Akande, 1997; and White & Kistner, 1992). It has been frequently asserted that a relationship exists between learning disabled students’ experiences of frustration and negative attributional style (Tsatsanis, Fuerst, & Rourke, 1997). Previous studies have stated that differences in attributional styles for learning disabled subjects may reflect their uncertainty about their own abilities (Jacobsen, Lowery, & Ducette, 1986).

However, in some studies, the learning disabled males were seen as having similar attributional styles to their non-learning disabled counterparts (White et al., 1992). In the current study, both genders reported attributional styles that were similar to the non-learning disabled adolescents.

A possible explanation for the similarities of attributional styles may be the recent school experiences of the sample population used in this study. The learning disabled students are homogeneously grouped for their academic subjects based upon their cognitive abilities. There may be less likelihood of self-defeating comparisons with higher achieving students and more opportunities for academic success in these settings. Additionally, the vocational setting provides tasks and experiences that are more clearly seen by these students as helping them to become valued members of the adult world. They perform these tasks in mixed classes with other non-learning disabled adolescents.
and may begin to see success in a mainstreamed setting where they had previously experienced failure. Learning disabled students’ attributions may become more adaptive and begin to resemble their non-learning disabled counterparts as their internal attributions for success increase. Therefore, their attributional styles may have become more like their non-learning disabled counterparts.

The lack of gender differences in attributional style within the learning disabled population of the sample, which was part of the same hypothesis, adds to the inconsistent findings that exist in the literature. No gender differences for attributional style were found in a recent study using a large sample of college students who were not learning disabled (Hijelle, Belongia, & Nesser, 1996). However, other findings have shown gender differences to exist, with females exhibiting a more depressogenic, negative attributional style (Wehmeyer, 1993; and White, et al., 1992).

In the current study, negative attributional style approached significance when correlated with internalizing problems for the female adolescents, and positive attributional style approached significance when correlated with externalizing problems for the learning disabled adolescents, regardless of gender. These findings, although not statistically significant, are consistent with much of the research conducted using these variables.

Evidence of gender differences were found in attributional style in a 1997 study by Gladstone, Kaslow, Seeley, and Lewinsohn, but only when the dimensions were taken separately, and not on the composite positive and negative scores. The authors of the instrument, however, recommend that the composite scores contain the highest reliability
and validity, which was why the current study used these measures and may explain the reason no gender effects were detected.

The third and fourth hypotheses were designed to investigate differences between learning disabled female adolescents and non-learning disabled female adolescents, as well as non-learning disabled male adolescents on self-reported externalizing problem behaviors. Learning disabled female adolescents did not differ significantly from their non-learning disabled counterparts in reporting externalizing problem behaviors. However, an examination of the group means in the descriptive statistics showed that learning disabled adolescent females to have the highest mean score for externalizing problems out of all the groups.

The research hypotheses regarding these differences were partially supported by the significant finding that learning disabled adolescents, both male and female, reported more externalizing problem behaviors than their non-learning disabled counterparts. This finding lends support to studies that found evidence for learning disabled students to have more externalizing problem behaviors than non-learning disabled students [(Kistner and Gatlin, 1989; Tsatsanis, Fuerst, & Rourke, 1997)] particularly for learning disabled males, as measured by parent report (Michaels & Lewandowski, 1990).

Externalizing problem behaviors are characterized as undercontrolled while internalizing problem behaviors are characterized as overcontrolled (Achenbach, 1991). The impulsivity that is often displayed by the learning disabled population may have contributed to the presence of undercontrolled external problem behaviors. The severity of externalizing problem behaviors seen on some of the learning disabled adolescents’ scores may also be a result of undiagnosed conduct disorder or other undiagnosed
psychopathology that may coexist in some of the adolescents included in the sample. Although no students with classifications that involved an emotional impairment were included in the sample, there was no other screening process for possible pre-existing conditions. Due to the confidentiality of the student records, this screening was not possible. However, when taking the results of this study with results from previously cited research, there is no reason to discard the findings of the current study for this effect. Furthermore, despite the fact that learning disabled adolescents exhibit more externalizing behaviors, including acting out with delinquent features, the research finds no evidence that these adolescents go on to become juvenile delinquents (Lombardo & Lombardo, 1991).

The only significant gender difference found in the current study was seen for severity of internalizing problem behaviors for female adolescents. Female adolescents report more of these behaviors than male adolescents. This finding is consistent with existing research that has consistently shown this to be the case (Achenbach & Edelbrock, 1987; Achenbach, Howell, Quay, & Connors, 1991; Ostrov, Ofer, & Howard, 1988), although none of these populations were learning disabled. Notably, on the YSR, all 22 items on the internalizing problem scale, which include depressed mood, somatic complaints, and aggression turned inward, were reported more frequently by female adolescents. Conversely, male adolescents reported more frequently on 12 of the 19 items on the externalizing problem scale. This scale includes aggression and delinquent behavior (Colten, Gore, & Asetine, 1991; Leadbeater, Blatt, & Quinlan, 1995).

Allgood-Merten, Lewinsohn, and Hops (1990) found internalizing symptoms to be related to low self-esteem, negative body image, lack of masculine attributes, and self-
consciousness. These factors have been linked, historically, to females. Craighead (1991) reported that female adolescents score high on depression and anxiety measures. A study across 12 cultures showed females had higher internalizing scores than males (Crijnen, Achenbach, & Verhulst, 1997). Externalizing behaviors were influenced by cultural standards, which may be extrapolated as a reason to explore the cultural expectations for females in this country. It can be postulated that the tendency for females to exhibit more internalizing problems may be related to what they have learned is acceptable behavior for their gender. Indeed, Winnicott (1975) stated that the “nuisance value” of externalizing behavior gets more attention, which may explain why many females with difficulties are easily overlooked. Differences in socialization of males and females have been proposed as a reason for difficulties in females to express psychological distress (Gjerde, Block, & Block, 1988; Gjerde & Block, 1991; Horowitz & White, 1987). Females are taught to be more responsive to the needs of others and more self-critical. As a result, they learn more blunting of their affect than boys (Kashani, Sherman, Parker, & Reid, 1990). Female learning disabled adolescents, on the other hand, may possess deficits in social skills, such as social problem solving and anger management, and may not learn to blunt their affect and turn their anger inward the way other females may. These circumstances may help to explain the high amount of externalizing problems reported by the learning disabled females. Clinical implications for these findings are discussed in the following section.
Clinical Implications

The most significant findings of the present study concern the severity of self-reported internalizing and externalizing problem behaviors reported by adolescents in the sample. When drawing conclusions about these findings, it is important to remember that although adolescents may show a difference in the amount of internalizing and externalizing behaviors they report, these problem syndromes are not mutually exclusive. Adolescents completing the YSR can report a wide variety of behavioral problems that can simultaneously include aggressive acting out and withdrawn, somatic behaviors. Therefore, for those adolescents, features of both scales may need to be addressed in interventions (Achenbach, 1991; Cohen, Gotlieb, Kerchner, & Wehrspann, 1985; Colten, Gore, & Asetine, 1991).

Consider first, the learning disabled adolescents who reported more externalizing behaviors than their non-learning disabled counterparts. Impairments in behavioral functioning will have ramifications for many of these adolescents into adulthood. Although attributional style was not shown to relate to problem behavior in a statistically significant way, it should not be ruled out as a possible moderator of these troublesome behaviors for the learning disabled adolescents. Often, these adolescents may need to deny their feelings of helplessness and report attributions that they do not truly believe. This denial of feelings may be ego-syntonic and therefore difficult to detect and address. Adolescents can also come to rely on magical thinking to overcome their perceived helplessness in order to maintain an illusion of control (Herman & Lane, 1995). Therapists who work with learning disabled adolescents should remain mindful of these dynamics in order to more accurately assess their cognitions and attributions. In that
way, behavioral changes can follow when attributions and cognitions change (Elliot, 1997).

Professionals who work with learning disabled youth can improve these adolescents’ outlook for the future by providing information about successful adults with learning disabilities. Studies show that these adults were found to persevere in problem-solving and to have displayed a variety of stress-reducing and coping strategies (Hoy, Gregg, Wisenbaker, King, Monglitz & Morehead, 1997). Teachers and counselors working with this population may wish to provide education and retraining based upon these resiliency factors.

The second finding of the current study showed that female adolescents self-reported more internalizing problem behaviors than males. As previously stated, gender differences in socialization can only serve to reinforce stereotypical problem behaviors as well as normalize internalizing behaviors as expected for females. There is an inherent danger in teaching males to give less importance to interpersonal sensibilities than females. This can lead to feelings of detachment and depersonalization, which may foster aggressive behavior (Leadbeater, Blatt, & Quinlan, 1995). Parents, teachers, counselors, and therapists should remain mindful of these gender differences and provide similar socialization experiences and expectations for males and females.

Limitations of the Study

Generalizability of results of this study is limited to adolescents with learning disabilities similar to those selected for this study. Findings cannot be generalized to minority populations who are learning disabled because of the largely Caucasian makeup
of the sample. The participants in this study were all vocational school students who, as contrasted with regular high school students, are considered non-college bound. This would limit the generalizability of the findings to all high school students. It is also important to make the distinction that the term “learning disabled” is not a precise diagnostic category and should limit the interpretation of this study’s findings to the operational definition contained therein.

Another possible limitation of the study is the use of only one instrument to measure the concept of attributional style. The conceptualization issues and actual measurement of the concept of attributional style have been discussed by several investigators. Some suggest using only negative events as a measure of style (Xenikou, Furnham, & McCarrey, 1997). Others suggest using the Children’s Attributional Style Questionnaire (CASQ) instead of the ASQ (Saylor, Finch, & Spirito, & Bennett, 1984) because adolescents sometimes have difficulty with the ASQ (Artzn, Gerisman, & Albersnagel, 1985) even though the test designers recommend it for the adolescent age group (Peterson & Seligman, 1984). As reported earlier in this chapter, the adolescents of both learning status groups had difficulty with the ASQ, even with close supervision during administration. This appears to be a considerable limitation for this study.

In general, other difficulties appear to arise for some adolescents in their ability to assess a cause for the hypothetical statement and in their ability to determine if the cause is due to themselves or others. The ASQ uses hypothetical situations to measure a composite characteristic. Researchers have discussed that participants may show a tendency to respond to hypothetical situations as they would perceive society to respond. The situations may not apply to them personally, and, as such may not be answered in
direct form. The significant findings on the other instrument in the current study, the Youth Self Report (YSR) asks students to answer items as they are true for themselves. This may be telling of the kind of instrument that can be used with confidence with an adolescent population. Specifically, adolescents may be more accurate in their reporting of “here and now” real events and behaviors rather than hypothetical ones which seem to create distance. However, the inherent limitation of a self-report instrument may limit generalizability of the problem scale findings on the YSR as well. Parent and teacher rating scales may be administered in addition to the self-report in order to better control for reporter bias for the adolescents.

Implications for Future Research

Future research might use more than one measure of attributional style to replicate the current study. Researchers have reported success with several other instruments to measure this complex construct. One of the original developers of the instrument (Peterson) has recently developed a new questionnaire for review and possible consideration for future research when measuring this concept (Dykema, Bergbower, Doctora, & Peterson, 1996). As previously stated, attributional style may be a difficult concept to measure especially when considering the dynamics of learning disabled adolescents and their penchant for denying their difficulties. Their attempts to not be seen as different may affect their reporting of how they perceive their successes and failures. This may be an inherent difficulty with using hypothetical situations to assess their real perceptions. Perhaps future research could present attributional ratings to students after they have experienced actual situations of success and failure.
Regardless of the reasons why attributional style was not significantly different for learning disabled females or for learning disabled males, it is apparent that not all learning disabled children develop helpless beliefs (Heath, 1993). A focus of continuing research in this area may be to identify which factors, if any, assist this population to become resilient. If attributional style can be shown to moderate the effects of frequent failures, then it can be considered one of these resiliency factors. Additionally, other factors, such as family dynamics, culture, and socio-economic status may be examined for their contribution to resiliency in this population.

It would be interesting to conduct this study in a regular high school setting where both learning disabled and non-learning disabled adolescents interact in more academically oriented situations than in the vocational setting. One might hypothesize that learning disabled adolescents in a regular high school setting might not exhibit more externalizing problems than their non-learning disabled counterparts as was seen in the current study in the vocational setting, for the following reason. Students who act out and exhibit other externalizing behavior problems are more likely to be asked to find alternative educational settings, often in a vocational-technical school. Therefore, if the findings of the study were replicated in a regular high school, implications for learning disabled youth regarding their problem behaviors would be more generalizable.

More investigation into the causes for gender differences for internalizing problems is called for. Perhaps studies about cultural messages and differences in socialization would lend understanding to this finding. Clearly, there is a need for more research that examines female learning disabled adolescents with regard to their psychological
functioning. With more research, the outlook for this population will undoubtedly improve.
Addendum
The data were analyzed using independent samples t-tests to detect between group differences for learning disabled versus non-learning disabled adolescents and between males and females for all of the adolescents who comprised the sample. Results of this analysis were entirely consistent with results of the MANOVA reported in Chapter IV.

Specifically, there was a statistically significant difference between LD and NLD adolescents on the externalizing problem variable; and there was a statistically significant difference between males and females on the internalizing problem variable.

The statistics are presented in Table 8.

Table 8

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<td>.00</td>
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<td>.35</td>
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<td>Pos. Att. Style</td>
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Appendix
Appendix A

Letter Requesting Permission to Conduct Research
January 7, 1999

Frederick Felice, Ed.D.
Superintendent
Ocean County Vocational-Technical Schools
137 Bey Lea Road
Toms River, NJ 08753

Dear Dr. Felice,

I am a doctoral student in the Seton Hall University Clinical Psychology program as well as an administrator for the East Brunswick Public Schools. As part of my dissertation requirement to complete the Ph.D., I am expected to conduct a research project in the field of psychology. I have chosen the topic, “Relationships among Attributional Style, Behavioral Problems, and Gender in Learning Disabled vs. Non-Learning Disabled Adolescents”. There has been little research to date dealing with learning disabled females in these areas. It is my belief that these students can benefit from attribution retraining in order to learn more successful ways of coping with setbacks while remaining optimistic about their abilities.

In order to conduct this research, a subject pool of approximately 100 students will be required. Fifty non-classified adolescents (mainstream) in grades ten through twelve, and fifty educationally classified adolescents in the same grade levels should comprise the final sample.

I am requesting permission to administer two published surveys: “The Youth Self-Report” and the “Attributional Style Questionnaire” to both groups of students during a pre-arranged class period. I will be responsible for sending an introductory letter to the parents of the students whose children may be involved in the study. It will explain the research project and include an informed consent form for them to return in a stamped, self-addressed envelope. I will provide a brief presentation during class explaining the project to students and be responsible for distributing and collecting the student assent forms. Confidentiality will be maintained throughout the investigation by randomly assigning numbers to each participant’s survey.

All student participation will be voluntary. All students maintain the right to withdraw from the research project at any time during the process. Administration of the two instruments will take approximately 35 minutes in total and should not exceed one class period. Both instruments are paper and pencil surveys and are not known to pose any undue stress or anxiety to students.
If you require additional information regarding this research project, please contact me at (732) 613-6868 or (732) 449-1255. I would be happy to meet with you about the research project at your convenience. I have enclosed a copy of both inventories for your perusal, along with the introductory letter to the parents and the consent forms for participation.

I look forward to your response.

Sincerely,

Janet Cervalli, M.A.
Ph.D. Candidate
Seton Hall University

c: Ms. Maria Corbally, Principal
Appendix B

Permission from Superintendent to Conduct Research
January 19, 1999

Ms. Janet Cervalli
1305 Laurel Avenue
Sea Girt, NJ 08750

Dear Ms. Cervalli:

I am pleased to inform you that you have permission to conduct your Doctoral research project at Ocean County Vocational-Technical Schools.

I wish you success in this undertaking.

Sincerely,

Frederick W. Felice, Ed.D.
Superintendent

cc: Dr. Schoka
Appendix C

Introductory Letter to the Parent/Guardian
January 7, 1999

Frederick Felice, Ed.D.
Superintendent
Ocean County Vocational-Technical Schools
137 Bey Lea Road
Toms River, NJ 08753

1305 Laurel Avenue
Sea Girt, NJ 08750

Dear Dr. Felice,

I am a doctoral student in the Seton Hall University Clinical Psychology program as well as an administrator for the East Brunswick Public Schools. As part of my dissertation requirement to complete the Ph.D., I am expected to conduct a research project in the field of psychology. I have chosen the topic, "Relationships among Attributional Style, Behavioral Problems, and Gender in Learning Disabled vs. Non-Learning Disabled Adolescents". There has been little research to date dealing with learning disabled females in these areas. It is my belief that these students can benefit from attribution retraining in order to learn more successful ways of coping with setbacks while remaining optimistic about their abilities.

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I am requesting permission to administer two published surveys: "The Youth Self-Report" and the "Attributional Style Questionnaire" to both groups of students during a pre-arranged class period. I will be responsible for sending an introductory letter to the parents of the students whose children may be involved in the study. It will explain the research project and include an informed consent form for them to return in a stamped, self-addressed envelope. I will provide a brief presentation during class explaining the project to students and be responsible for distributing and collecting the student assent forms. Confidentiality will be maintained throughout the investigation by randomly assigning numbers to each participant’s survey.

All student participation will be voluntary. All students maintain the right to withdraw from the research project at any time during the process. Administration of the two instruments will take approximately 35 minutes in total and should not exceed one class period. Both instruments are paper and pencil surveys and are not known to pose any undue stress or anxiety to students.
If you require additional information regarding this research project, please contact me at (732) 613-6868 or (732) 449-1255. I would be happy to meet with you about the research project at your convenience. I have enclosed a copy of both inventories for your perusal, along with the introductory letter to the parents and the consent forms for participation.

I look forward to your response.

Sincerely,

Janet Cervalli, M.A.
Ph.D. Candidate
Seton Hall University

c: Ms. Maria Corbally, Principal
Appendix D

Parental Informed Consent Form
Seton Hall University
Department of Professional Psychology and Family Therapy
400 South Orange Avenue
South Orange, NJ 07774

Parental Consent to Participate in Dissertation Research

I. I hereby authorize Janet Cervalli, a doctoral candidate at Seton Hall University, to include my son/daughter in a research study examining attributional styles, gender, and behavior. The purpose of this study is to learn more about attributional style (how a person explains causes of positive and negative events) and how it relates to different kinds of behaviors in adolescents. The study will also examine any differences in males and females as related to these questions. Questionnaires which will be administered are as follows: the Youth Self-Report and the Attributional Style Questionnaire. It will take approximately 30 to 40 minutes to complete both forms.

II. I understand that this research study is designed to gather information on factors related to attributional style, gender and behavior patterns of adolescents. I understand that my son/daughter will be asked to volunteer to participate in this study. By signing the second page of this form, I give my consent for my child to participate.

III. The purpose of this project is to learn more about how the factors of attributional style (as explained in item #1) and gender affect behavioral patterns.

IV. I understand that there are no known discomforts or risks involved in my son/daughter’s participation in this research study. However, if my son/daughter experiences any discomfort as a result of taking the surveys, he/she may seek assistance from the school guidance staff, student assistance counselors, or child study team personnel.

V. I understand that my son/daughter’s name will not appear on any of the measures used and that no coding system will link their answers to this consent form or measures. I understand that all consent forms will be kept in a locked file as part of the project records, in the researcher’s control. I understand that the research findings will be reported only for groups of participants, and that my son/daughter’s answers shall never be separately identified and reported. Their answers will always be protected by confidentiality. All data will be destroyed upon the completion of the study.

VI. I understand that my son/daughter may refuse to participate in, or may choose to withdraw from this research at any time without prejudice.

VII. I understand that if I have any questions or concerns about the study or my part in it, I may write or call the researcher:

Janet Cervalli
1305 Laurel Avenue
Sea Girt, NJ 08750
(732) 449-1255

(over)
VIII. This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973) 275-2974.

I have read the material above, and any questions I asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time. I agree to have my son/daughter participate in this research project if he/she desires to. I also understand that my son/daughter can withdraw from this study at any time without penalty.

Informed Consent

Full Name (Parent/Guardian) ________________________________
(print)____________________________________________________

Signature ________________________________________________

Date Signed __________

This agreement and consent is for only my son/daughter's participation.

Please return this signed page in the envelope provided.
Appendix E

Student Assent Form
Student Assent Form

I agree to participate in a study of the some of the ways I think about positive and negative events and about ways in which I behave. I will write down answers to questions based on thoughts and feelings I have about myself. Both of these surveys (The Youth Self-Report (YSR) and the Attributional Style Questionnaire (ASQ) will take approximately 30-40 minutes to complete. I understand that while my answers will be given to the investigator, Ms. Cervalli, they will be used without my name. All information obtained will be completely confidential. I can withdraw at any time without penalty. Individual results from this study will not be shared with parents or teachers. All data will be destroyed upon completion of the study. In the unlikely event that completing the project’s questionnaires causes me undue stress or anxiety, I can go to the school counselor for assistance.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973) 275-2974.

I have read the material above, and any questions I asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.

Signature of student: ___________________________ Date: ___________________________

Signature of investigator: ___________________________ Date: ___________________________
Appendix F

Youth Self-Report (YSR)
Due to copyright laws, the Youth Self-Report was not included in the final dissertation.
Appendix G

Attributional Style Questionnaire (ASQ)
Due to copyright laws, the Attributional Style Questionnaire was not included in the final dissertation.