

Spring 5-11-2012

Evaluating Learning Disabilities and Learning Difficulties as Risk Factors of Delinquency

Miriam Brooks

The University of Southern Mississippi

Follow this and additional works at: http://aquila.usm.edu/honors_theses

 Part of the [Criminal Law Commons](#)

Recommended Citation

Brooks, Miriam, "Evaluating Learning Disabilities and Learning Difficulties as Risk Factors of Delinquency" (2012). *Honors Theses*. Paper 16.

This Honors College Thesis is brought to you for free and open access by the Honors College at The Aquila Digital Community. It has been accepted for inclusion in Honors Theses by an authorized administrator of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

The University of Southern Mississippi

Evaluating Learning Disabilities and Learning Difficulties as Risk Factors of Delinquency

by

Miriam Y. Brooks

A Thesis

Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of the Requirements for the Degree of
Bachelor of Arts
in the Department of Criminal Justice

May 2012

Approved by

Laura Gullede
Assistant Professor of Criminal Justice

Lisa Nored, Chair
Department of Criminal Justice

David R. Davies, Dean
Honors College

Abstract

This is a study of the relationship between learning disabilities or learning disability indicators and juvenile delinquency. The three main learning disabilities addressed in this study are dyslexia, dyscalculia, and dysgraphia. Delinquency is measured in the categories of drug use, property damage, and violence. This study also evaluates the accuracy of the school failure hypothesis. Participants for this study included 221 high school students ranging in age from 14 to 19 years old. The unit of measurement utilized in this study is a survey composed of 61 questions involving diagnosis of a learning disability, indicators of a learning disability, delinquent behavior, school failure hypothesis, and basic demographic questions.

Results from this study indicated that there was not a significant relationship between diagnosis of a learning disability or indicators of a learning disability and juvenile delinquency. Yet, the results from this study did support the accuracy of the school failure hypothesis. The study also revealed that gender, social economic status, ethnicity, and GPA all had a significant relationship with delinquent behavior. It is important to continue research on this subject to develop more accurate models for deterring juvenile delinquency and for helping adolescents with learning disabilities.

Key Words: learning disabilities, learning disability indicators, juvenile delinquency, and school failure hypothesis.

Acknowledgements

I would like to express a special thank you to my very patient advisor Laura Gullledge for all of her guidance and encouragement with the project. I would not have been able to complete this project without her being there to answer my countless questions. I would like to say thank you to Vanessa Woodward for helping me make sense of things that seemed like another language at the time. I cannot thank her enough for being patient and explaining how to use SPSS and interoperate statistics. I would also like to thank the principal, the faculty, and all of the students at the high school where I conducted my study. They were so friendly and helpful. I appreciate their kindness in allowing me to come into their school. Finally, I would like to say thank you to my family. I do not know what I would have done without all of their help and constant encouragement.

TABLE OF CONTENTS

CHAPTERS

I.	INTRODUCTION.....	1
II.	LITERATURE REVIEW.....	3
	Juvenile Delinquency	
	Learning Disabilities	
	Hypotheses on the “Link”	
	Controversy over the “Link”	
	Conclusion	
III.	METHODS.....	12
	Overview	
	Sample	
	Variables and Unit of Measurement	
	Hypotheses	
	Testing Hypotheses	
IV.	RESULTS.....	15
	Univariate Statistics	
	Bivariate Statistics	
	Conclusion	
V.	DISCUSSION.....	22
VI.	REFERENCES.....	26
	APPENDIX A.....	28
	Survey	
	APPENDIX B.....	35
	Letter to the Parents	
	APPENDIX C.....	36
	Oral Presentation to Student	

Chapter I: Introduction

There has been increasing interest in research to learn more about students who exhibit delinquent behavior and also students who have learning disabilities. Numerous studies have been conducted on both subjects, but the connection between delinquent behavior and learning disabilities is still highly debated (Bachara & Zaba, 1978; Brier, 1989; Kirk & Reid, 2001). There is a need for more studies that explore this relationship in greater detail and in new ways because this research could help educators create better prevention and retention models for delinquent students (McNamara & Willoughby, 2010). The aim of the current study is to test the hypothesis that there is a significant relationship between learning disabilities or indicators of learning disabilities and delinquent behavior.

Findings regarding the connection between juvenile delinquency and learning disabilities vary significantly. Some studies argue that there is a strong correlation between learning disabilities and delinquency, while other studies report that there is no significant relationship at all (Cruickshank, 1985). Moreover, the majority of these studies deal with juveniles detained in detention centers or those diagnosed with learning disabilities (Waldie & Spreen, 1993). This restriction in sampling severely limits the research by excluding students who have not been detained yet or who may have an undiagnosed learning disability.

This study utilized a sample of students from a 4A high school in a small southern town, in grades 9th through 12th. A self-reporting scale was administered to evaluate the presence of a learning disability or indicators of a learning disability and delinquent behavior. The scale also evaluated the accuracy of the school failure hypothesis. The school failure hypothesis suggests that the reason learning disabled adolescents become delinquent is because their failure at school causes

others to view them in a negative way and causes the adolescents to develop a negative self-image (Lane, 1980). The current study will pose these questions:

1. Is there a relationship between learning disabilities or indicators of learning disabilities and delinquent behavior?
2. Does school failure serve as a mediator variable to an indirect relationship between learning disabilities and delinquency?

Chapter II: Literature Review

II.I Juvenile Delinquency

There are two different types of offenses committed by juveniles. The two types of offenses are delinquency offenses and status offenses. Puzzanchera and Sickmund (2008:5) define delinquency offenses as "...acts committed by juveniles that, if committed by an adult, could result in criminal prosecution." Status offenses, such as running away, truancy, and underage drinking, are acts that would not be considered illegal if committed by an adult (Puzzanchera & Sickmund, 2008). The current study will only address delinquent acts including property offenses, person offenses, and involvement with illegal drugs. Examples of property offenses include burglary, vehicle theft, and arson (Puzzanchera, 2009). Examples of person offenses of include aggravated assault, assault, and robbery (Puzzanchera, 2009).

Shader (2003) reports that the juvenile justice field has devoted a great deal of research in an effort to determine what risk factors are linked to delinquency. Shader (2003) writes that this research is needed because it is critical in the development of better delinquency prevention programs. According to Puzzanchera (2009), an estimated 2 million juveniles were arrested in the United States in 2008. This number may seem overwhelming at first, but Puzzanchera (2009) reports that this is actually a 3% decrease in juvenile arrests from 2007. Despite this decrease, juvenile delinquency is still a very disturbing issue in the United States. In 2008, juveniles were responsible for 16% of violent crime arrests and 26% of property crime arrests (Puzzanchera, 2009).

Puzzanchera (2009) reports that violent crime arrests for juveniles in 2008 was actually less than any other year in the 1990s. However, property crime arrests in 2008 increased

for the second consecutive year (Puzzanchera, 2009). Knoll and Sickmund (2010) reveal an even more disturbing fact about the rate of delinquency by reporting that in 2007, juveniles under the age of 16 accounted for 54% of all delinquent cases handled. Also, juveniles under the age of 14 accounted for 24% of person offenses (Knoll & Sickmund, 2010). This research shows that adolescents are committing serious offenses at high rates and at very young ages. Thus, it is important for new research to be conducted to determine what causes these adolescents to turn to crime. Shader (2003) concludes that determining risk factors for delinquency could help decrease the number of adolescents arrested. If risk factors for delinquency can be determined, it could lead to creation of better prevention models and a better understanding of how to decrease recidivism.

II.II Learning Disabilities

Hannell (2006: 111) writes, “The term specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations....” The current study measured the presence of three specific learning disabilities: dyslexia, dyscalculia, and dysgraphia. The National Center for Learning Disabilities or the NCLD (2010) classifies dyslexia as a learning disability that affects an individual’s ability to read, write, spell, and sometimes even speak. The NCLD (2010) reports that dyscalculia is a lifelong learning disability that consists of a wide range of consistent difficulties involving the math. The last learning disability this study will measure is dysgraphia. Dysgraphia causes the act of writing to become very difficult for a person having this disorder (NCLA, 2010). According to the NCLA (2010), dysgraphia can lead to

difficulties with spelling, poor handwriting, putting thoughts on paper, and organizing letters, numbers, and words on a line or page.

In addition to paying closer attention to adolescents with learning disabilities, researchers have also begun to assess the effects these disorders may have on an adolescent's behavior. Adolescents with learning disabilities are more likely to develop continuing social, behavioral, personal, and emotional problems (Phil & McLarnon, 1984). Learning disabled adolescents also often experience failure in school which may be the cause for some of these negative effects on the adolescent's behavior (Malmgren, Abbott, & Hawkins, 1999). Lazer, Foster, Brown, and Hummel (1988: 253) report that, for learning disabled adolescents, school can become an "emotional, social, and academic 'ball and chain' that the isolated student must suffer." Moreover, Moffitt, Gabrielli, Mednick, and Schulsinger (1981) report that learning disabled adolescents' experiences at school may result in frustration and failure, and this can cause the adolescents to have negative feelings directed at authority and be more susceptible to delinquent peer pressure. Because of these facts, researchers have begun to explore the idea that an adolescent with a learning disability may be at an increased risk for developing delinquent behavior.

II.III Hypotheses on the "Link"

The research on the "link" between learning disabilities (LD) and delinquency has presented three main hypotheses. These hypotheses are: susceptibility, differential treatment, and school failure (Malmgren et al., 1999). These hypotheses try to explain why adolescents with learning disabilities may be at an increased risk of becoming delinquents. The susceptibility hypothesis explains that "neurological and intellectual

difficulties of youngsters who are learning disabled directly contribute to antisocial behavior” (Brier, 1989: 547). The second hypothesis is the differential treatment hypothesis. Malmgren et al. (1999: 194) reports that this hypothesis proposes that “youths with LD engage in the same kinds of delinquent acts and at the same rates as nondisabled youth but are more likely to be arrested and/or adjudicated.” According to Lane (1980), the school failure hypothesis concludes that failure in the academic setting leads to the child being labeled in negative terms by others and by self. Eventually, the adolescent will be drawn to delinquent peers in order to gain experiences of success instead of failure (Lane, 1980). Gabriele, Brovedani, and Poli (1998) state that school failure coupled with a learning disorder, can be extremely traumatic for adolescents, resulting in damage to how adolescents view their intellectual processes and abilities. This may be the cause for adolescents turning to delinquent behavior. For this reason, the current study utilized the school failure hypothesis to determine if students with learning disabilities or with indicators of learning disabilities do indeed feel like they are viewed negatively by others, resulting in a negative self-image. The study also measured if these factors were related to the amount of delinquent behavior the adolescent has engaged in.

II.IV Controversy over the “Link”

Since researchers have begun to examine the relationship between learning disabilities and juvenile delinquency, the topic has been surrounded by controversy. Malmgren et al. (1999) reports that the discovery of a possible link between learning disabilities and delinquency began when researchers observed that delinquent adolescents appeared to be unable to learn in a normal classroom setting. Moffitt et al. (1981) also determined that low IQ is related to delinquency even when examined independently

from other variables such as social economic status. However, it is still important to understand that not all adolescents who have a learning disability have a low IQ. Therefore, it cannot be assumed that most delinquents have a learning disability simply because they are more likely to have lower IQs.

Behavioral issues involved with learning disabilities also lead researchers to believe that there may be a connection between learning disabilities and delinquency. Kirk and Reid (2001) conducted a study on the relationship between dyslexia and delinquency. According to Kirk and Reid (2001: 78), “The able school pupil, whose dyslexia condition is not diagnosed, or, having been diagnosed, receives insufficient or inappropriate support, might very well begin to feel devalued at school and turn to forms of deviant behavior....” It does seem logical then that learning disabilities may put adolescents at a higher risk of developing delinquent behavior.

Other studies have been conducted to determine what percentage of learning disabled adolescents also exhibit delinquent behavior. Cruickshank (1985) reports that studies have produced ranges of 30% to 92% of adolescents with learning disabilities are at risk for becoming delinquents. Many professionals question these results because of the wide variance. There is also criticism over the fact that some studies seem to imply that all learning disabled adolescents are “destined” to become delinquents (Cruickshank, 1985). Indeed, most researchers argue that adolescents with learning disabilities are simply at an increased risk of developing delinquent behavior (McNamara & Willoughby, 2010).

There are several studies that support the hypothesis that learning disabilities and delinquency exhibit a positive correlation. For example, Kirk and Reid (2001) produced a

study that measured indicators of a learning disability. This study utilized a sample of 50 adjudicated delinquents and distributed a computerized self-assessment screening test for dyslexia to the sample (Kirk & Reid, 2001). Kirk and Reid (2001) found that 50% of their sample exhibited at least borderline indicators of dyslexia. Wilgosh and Paitich (1982) tested 72 male adjudicated delinquents and 27 female adjudicated delinquents and found that 83.3% of males and 88.9% of females had learning difficulties. The researchers chose the term “learning difficulties” because the subjects were not diagnosed with learning disabilities but instead tested for indicators of having a learning disability (Wilgosh & Paitich, 1982). The current study also utilized a self-reporting scale of indicators of a learning disability. A similar study to Wilgosh and Paitich’s utilized a sample comprised of 24 subjects with learning disabilities and 24 normal control subjects (Pihl & McLarnon, 1984). Pihl and McLarnon (1984) found that the subjects diagnosed with a learning disability showed lower ratings in self-satisfaction, flexibility, social skills, and sociability while showing increased ratings of delinquency. Both of these studies indicate that whether a sample controls for delinquency or learning disabilities both will be present in the results.

It is important to note that other studies report results contrary to the hypothesis that learning disabilities and delinquency exhibit a positive correlation. For example, Fincham (1977) conducted a study on the moral judgment of males, ages eight to nine, with a learning disability. Despite having a learning disability, the subjects still displayed adequate moral judgment (Fincham, 1977). Fincham (1977) reported that these results appear to contradict the hypothesis that learning disabled adolescents may exhibit inappropriate moral behavior. In another study, McNamara and Willoughby (2010)

utilized a sample of 307 subjects with a learning disability and 307 subjects without a learning disability. Results indicated that both adolescents with learning disabilities and adolescents without learning disabilities showed minor risk-taking behaviors including delinquency (McNamara & Willoughby, 2010). The researchers suggested that these behaviors, when shown at such a moderated level, should simply be considered normal for adolescents (McNamara & Willoughby, 2010).

While this hypothesis may be true for minor acts of delinquency, there is still a large portion of adolescents who participate in acts of delinquency that lead to adjudication. Other research has shown that many of these adolescents also have a learning disability (Wilgosh and Paitich, 1982, Pihl & McLarnon, 1984). The majority of research supports the possible link between learning disabilities and delinquent behavior (Bachara & Zaba, 1974). However, the controversy that still exists over the relationship between learning disabilities and delinquency can be overcome by more research on this subject. Bachara and Zaba (1978) stressed the need for more research on this subject even more by revealing disturbing results from their study. Their study reported that juveniles with learning disabilities who become involved with courts for status offenses are more likely to return to the court for delinquent offenses (Bachara and Zaba, 1978). If juvenile delinquents are indeed adjudicated at a higher rate, then this further validates the need for more research on the relationship between learning disabilities and delinquency.

II.V Conclusion

The divergent of the studies noted above suggest that more research on the hypothesis that an adolescent with a learning disability may be at an increased risk of delinquency. In particular, the present study aims to add to the existing literature

regarding this connection. What sets this study apart from the others is the fact that the sample that was utilized was from the general population of a high school. Most of the studies that have been conducted so far are restricted to delinquents in detention centers. Cruickshank (1985) reports that some of the controversy surrounding the hypothesis that there is a connection between learning disabilities and delinquency could be due to the locations of the populations being studied, such as detention centers for delinquents. Also, the study utilized a self-reported delinquency scale. Elliott and Ageton (1980) report that one advantage of using a self-reported delinquency scale is that it offers a different view of delinquency than the one provided by official arrest records. A self-reported delinquency scale also allows a researcher to account for offenses an adolescent may have committed but was never actually detained for.

Next, this study included self-reported indicators of learning disabilities as well as self-reported diagnoses of learning disabilities. Few studies have utilized both of these factors. Most studies use either a diagnoses of a learning disability or indicators of a learning disability, not both. The reason this study will include indicators of a learning disability is because students may have a learning disability but have simply never been properly diagnosed.

This study also evaluated the school failure hypothesis. This was done by establishing if students with a learning disability or indicators of a learning disability feel as if they are viewed negatively by others and as a result, have developed a negative self-image. The relationship between an adolescent being labeled in negative terms and an adolescent participating in delinquent acts was also evaluated. Furthermore, it will be determined whether an adolescent is failing school. This will allow for a more

comprehensive understanding of adolescents with learning disabilities difficulty in school.

Chapter III: Methods

III.I Overview

The purpose of this research is to determine if there is a relationship between indicators of learning disabilities, or an actual diagnosis of one, and delinquent behavior. A convenience sample of 221 adolescents was recruited for participation in a survey instrument. The participants ranged in age from approximately 14-18 years of age. The students who were recruited to participate in the study came from a 4A high school in a small town of a southern state. The results from the survey were then coded and put into Excel spreadsheets and then exported to SPSS for purposes of analysis.

III.II Sample

Participants for this research were recruited through their high school classes. The researcher provided an oral presentation to the participants about what the study entailed, as well as what would be asked of them. Interested students were then provided with a letter of informed consent and asked to present the letter to his/her parent/s or guardian/s.¹ Dependent upon parental permission; those students then completed the survey. Additionally, procedures are contingent upon approval from the Institutional Review Board at the University of Southern Mississippi. Since the survey was administered at the high school during school hours, the principal determined the best method to guarantee confidentiality and to insure the least disturbance possible to the regular school day. The reason this population was chosen for this study was to determine the significance between learning disabilities and delinquency in students who are not in a detention center.

¹ Consent form available upon request.

III.III Variables and Unit of Measurement

The survey administered to the students was composed of several variables. There are seven independent variables that will be explored in this research project. These include: diagnosis of learning disabilities, indicators of learning disabilities, school failure, age, race, gender, and social economic status. The dependent variable examined in the study will be delinquency.

A survey was administered to participants in order to measure each variable. The survey consists of 61 questions. Participants were asked if they have ever been diagnosed with a learning disability. Three particular learning disabilities were included in the survey: dyslexia, dyscalculia, and dysgraphia. Indicators of learning disabilities in the areas of reading, math, and writing were measured using the Horowitz and Stecker's Checklist for Learning Disabilities (2007). Delinquency was measured using Elliott and Ageton's Self-Reported Delinquency Scale (1980:108).

In order to determine whether school failure has a relationship to a learning disabled adolescent becoming delinquent, the participants were asked if they feel that their failure in school has caused peers and authority figures to view them in a negative way. Also, the researcher tried to determine if failure in school is related to the adolescent developing a negative self-image. The only identifying information students were asked to provide was age, race, gender, and social economic status. Social economic status was determined by asking students if they receive free lunches at school.

III.IV Hypotheses

The current study will test two hypotheses.

H1: There is a significant relationship between diagnosis of a learning disability and delinquent behavior.

H2: The school failure hypothesis is a significant mediator variable to the indirect relationship between learning disabilities and delinquency.

III.V Testing Hypotheses

Data collected by the researcher was coded and put into Excel spreadsheets and then exported to SPSS. The program SPSS was utilized to run a variety of tests on the data collected. Univariate statistics of the data, such as descriptive and frequencies, were determined. The descriptives measured items that are interval variables such as diagnosis of a learning disability, indicators of a learning disability, delinquent behavior, school failure, age, and social economic status. Frequencies determined nominal variables such as gender and race. Bivariate statistics, such as a correlation matrix, were also used to interpret the data. The correlation matrix was run to examine the relationship between each independent variable with the dependent variable.

Chapter IV: Results

The primary purpose of this study was to determine if there is a significant relationship between learning disabilities and juvenile delinquent behavior. Furthermore, this study also evaluated if the school failure hypothesis is an accurate explanation for why students that do not succeed in school turn to delinquent behavior. The total sample size for this study was 221. One survey was omitted due to incompleteness, which resulted in a total sample size of 220. In order to analyze the data, univariate statistics, including frequencies and descriptives, were utilized, as well as bivariate statistics, specifically correlations.

IV.I Univariate Statistics

Frequencies

Frequencies were utilized to analyze the nominal variables such as gender, ethnicity, social economic status, and diagnosis of a learning disability. With a sample size of 220, 89 were male (40.5%) and 129 were female (58.6%), leaving two (.9%) missing responses. To determine social economic status, the researcher asked if students received free school lunches. In regards to this question, 154 participants (70%) answered yes, they did receive free lunches; and 62 participants (28.2%) answered no. There were a total of 4 (1.8%) missing responses. Frequencies for ethnicity included: 145 (65.9 %) reported as Caucasian; 47 (21.4%) reported as African American; 2 (.9%) reported as Hispanic; and 24 (10.9%) reported as "Other". There were a total of 2 (.9%) missing responses. Frequencies were also used to evaluate diagnosis of a learning disability among participants. A total of 203 (92.3%) reported that they had never been diagnosed with a learning disability, while 17 (7.7%) reported that they had been diagnosed with a

learning disability. In regards to the 17 participants that reported being diagnosed with a learning disability, 9 (4.1%) reported being diagnosed with dyslexia; 4 (1.8%) reported being diagnosed with dyscalculia; and 4 (1.8%) reported being diagnosed with “Other”.

Table 1

	Variable	Frequency	Percentage
Gender	Male	89	40.5%
	Female	129	58.6%
	Missing	2	.9%
	Total	220	100%
Free lunches	Receive	154	70%
	Do not receive	62	28.2%
	Missing	4	1.8%
	Total	220	100%
Ethnicity	Caucasian	145	65.9%
	African American	47	21.4%
	Hispanic	2	.9%
	Other	24	10.9%
	Missing	2	.9%
	Total	220	100%

Table 1 (continued)

	Variable	Frequency	Percentage
LD Diagnosis			
	Never Diagnosed	203	92.3%
	Dyslexia	9	4.1%
	Dyscalculia	4	1.8%
	Other	4	1.8%
	Missing	4	1.8%
	Total	220	100%

Descriptives

Descriptive statistics were utilized for the variable age. These statistics revealed that the minimum age of participants was 14 and the maximum 19. The mean age was 15 and there was a standard deviation of 1.18. Descriptive statistics were also utilized to analyze the seven scales and GPA.

Table 2

Variable	Range	Mean	Std. Dev.
Age	14-19	15.77	1.18
Dyscalculia Scale	1-4.71	1.49	.588
Dyslexia Scale	1-4.43	1.57	.664
Dysgraphia Scale	1-4.83	2.23	.927
Drug Use Scale	1-4	1.52	.657

Table 2 (continued)

Variable	Range	Mean	Std. Dev.
Violence Scale	1-3.60	1.24	.431
Property Scale	1-15.71	1.27	1.39
School Failure Scale	1-5	3.62	1.09
GPA	1-5	3.34	.800

Reliability

Cronbach's alpha was used to assess the reliability of the following scales: Dyscalculia Scale, Dyslexia Scale, Dysgraphia Scale, Drug Use Scale, Violence Scale, Property Damage Scale, and School Failure Hypothesis Scale. The Dyscalculia Scale (.847) was constructed from the following items: difficulty with basic addition and subtraction facts, difficulty memorizing basic addition and subtraction facts, difficulty with simple counting, difficulty estimating quantity values, difficulty learning shapes of numerals, difficulty counting rapidly, and difficulty telling time. The Dyslexia Scale (.856) was constructed from the following items: difficulty associating letters and sounds, difficulty learning to read, often confusing similar numbers and letters, confusion of similar looking words, difficulty recognizing sight words, often reversing letter order, and difficulty remembering sight words. The Dysgraphia Scale (.859) was constructed from the following items: difficulty preparing outlines, disorganized writing, difficulty with ideas for writing papers, difficulty editing work, messy writing, and copying notes inaccurately. The Drug Use Scale (.996) was constructed from the following items: use of alcoholic beverages, use of marijuana, and use of other illegal drugs. The Violence Scale

(.998) was constructed from the following items: attacking someone with the idea of seriously harming them, involvement in gang fights, hitting or threatening to hit someone, using force to get money or other things from people, and carrying hidden weapons. The Property Damage Scale (.984) was constructed from the following items: stolen a motor vehicle, stolen something worth \$50 or more, stolen something worth \$5 or less, stolen from parents, taken a vehicle to joyride, and breaking into a building or vehicle. The School Failure Hypothesis (.998) was constructed from the following items: achievement greatly affects teachers' perception of student, achievement greatly affects peers' perception of student, and achievement greatly affects student's perception of self. Reliability was high when determining if the items on each scale were measuring accurately.

Table 3

Characteristic	Cronbach's alpha
Dyscalculia Scale	.847
Dyslexia Scale	.856
Dysgraphia Scale	.859
Drug Use Scale	.996
Violence Scale	.998
Property Damage Scale	.984
School Failure Hypothesis	.998

IV.II Bivariate Statistics

Correlations

As can be observed in Table 4, the following variables had a significant relationship with the dependent variable of violence: gender (.704), age (.572), ethnicity (.702), free lunches (.495), GPA (.242), and school failure hypothesis scale (.699). The following independent variables had a significant relationship with the dependent variable, property damage: gender (.491), age (.390), ethnicity (.485), free lunches (.342), GPA (.155), and school failure hypothesis scale (.489). Finally, the following independent variables had a significant relationship with the dependent variable, drug use: gender (.701), age (.570), ethnicity (.699), free lunches (.491), GPA (.242), and school failure hypothesis scale (.697).

Table 4

Var.	Gender	Age	Eth.	SES	GPA	LD	SFH	D1	D2	D3
VS	.704**	.572**	.702**	.495**	.242**	-.018	.699**	.002	.010	-.032
PDS	.491**	.390**	.485**	.342**	.155*	-.031	.489**	-.009	-.027	-.076
DUS	.701**	.570**	.699**	.491**	.242**	-.023	.697**	.009	.014	-.021

Note: Var. = variable, Eth. = ethnicity, SES = social economic status (free lunches or not), LD = learning disability diagnosis, SFH= school failure hypothesis scale, D1= Dyscalculia scale, D2 = Dyslexia scale, D3 = Dysgraphia scale, VS = violence scale, PDS = property damage scale, and DUS = drug use scale.

Shared Variance

In regards to the dependent variable violence, violence shared 49% of variance with age, shared 32% of variance with gender, shared 49% of variance with ethnicity, shared 24% of variance with free lunches, shared 5% of variance with GPA, and shared 48% of variance with the school failure hypothesis scale. The dependent variable

property damage shared 24% of variance with gender, shared 15% of variance with age, shared 23% of variance with ethnicity, shared 11% of variance with free lunches, shared 2% of variance with GPA, and shared 23% of variance with the school failure hypothesis scale. Finally, the dependent variable drug use shared 49% of variance with gender, shared 32% of variance with age, shared 48% of variance with ethnicity, shared 24% of variance with free lunches, shared 5% of variance with GPA, and shared 48% of variance with the school failure hypothesis scale.

IV.III Conclusion

According to the findings of this study, females reported increased tendencies towards violence, increased acts of property damage, and increased drug usage than males. Minorities also reported higher tendencies towards violence, increased acts of property damage, and more frequent use of drugs than Caucasians. In regards to social economic status, if students reported that they did not receive free school lunches, they also reported increased tendencies for violence, increased acts of property damage, and increased drug use. As age increased, so too did reported acts of violence, property damage, and reported drug use. The results from this study also demonstrated that students who reported higher GPAs also reported increased acts of violence, increased acts of property damage, and increased drug usage. Lastly, students who reported strongly agreeing that their success in school greatly affected their own perception of themselves, their teachers' perceptions of them, and their peers' perceptions of them, they also reported higher rates of violence, more acts of property damage, and more frequent drug use.

Chapter V: Discussion

The primary purpose of this study was to further add to the research of evaluating learning disabilities as a risk factor for delinquent behavior. The research that has been conducted so far on this topic has offered varying results that are at best, mixed. Indeed, despite the many studies that have been conducted on the “link” between learning disabilities and delinquent behavior, a valid connection is still highly debated (Bachara & Zaba, 1978; Brier, 1989; Kirk & Reid, 2001). This debate is due mainly to the fact that some studies report a strong relationship between learning disabilities and delinquent behavior, while others report little to no relationship (Cruickshank, 1985). Due to the controversy surrounding the possibility of a connection between learning disabilities and delinquent behavior, it is evident that more research is needed in this area.

The objective of this research project was to try to determine if there was a relationship between diagnosis of learning disabilities, indicators of learning disabilities, and delinquent behavior. This study aimed to target a population of adolescents who were not detained in a juvenile detention center, but instead, were in high school. Also, this study included scales for indicators of dyscalculia, dyslexia, and dysgraphia, as well as self-reported diagnosis of learning disabilities. The purpose of including the self-reported indicators for learning disabilities was to attempt to identify any students who displayed signs of a learning disability but may not have ever been diagnosed. This study also evaluated the accuracy of the school failure hypothesis as an explanation for why students who do not succeed in school may turn to delinquent behavior. The school failure hypothesis concludes that a student who is unsuccessful in school will be labeled in negative terms by others, which leads to the student developing a negative self-image

(Lane, 1980). This labeling in negative terms is what leads a youth to seek out success and acceptance in a delinquent peer group (Lane, 1980).

There were two main hypotheses in this study. First, that there was a significant relationship between learning disabilities, indicators of learning disabilities, and delinquent behavior. Second, that the school failure hypothesis was an adequate explanation for why students who have difficulties, namely learning disabilities, in school turn to delinquent behaviors such as: violence, property damage, and drug use. According to the results of this study, there was no significant relationship between diagnosis of a learning disability and delinquent behavior. There also was no significant relationship between indicators of dyscalculia, dyslexia, or dysgraphia and delinquent behavior. Therefore, the first hypothesis of this study was not valid. This could possibly be due to the fact that the sample for this study was a small convenient sample. Also, it is possible that the students who have more difficulties in school chose not to participate in the survey.

In regards to the school failure hypothesis, students who reported that they felt that their success in school strongly affected their teachers', peers', and own perception of self also reported higher rates of violence, property damage, and drug use. Therefore, it seems as if the school failure hypothesis is accurate. This is due to the fact that if a student feels like they are viewed in a negative manner due to success in school, then he or she is more likely to turn to delinquent behavior.

Several other significant relationships require noting. For instance, students who reported higher GPAs also reported higher rates of violence, property damage, and drug use. It is possible that students who have higher GPAs were more honest when reporting

delinquent behavior because they were not as ashamed of their behavior due to their success in school. It is also possible that there is a third variable that is playing a part in this significant relationship. In regards to social economic status, students who reported not receiving free school lunches, which would indicate they have a higher social economic status, also reported increased frequency in violence, property damage, and drug use. A possible explanation for this significant relationship is that some adolescents from a higher social economic status have fewer responsibilities than those from lower social economic status, and therefore, have more time to engage in delinquent behavior. Lastly, females reported higher rates of violence, property damage, and drug use than males reported. A possible reason for this relationship is that females do not participate in as many activities, such as sports, that allow them to release energy in a therapeutic way like males do. Lastly, minorities also reported increased rates of violence, property damage, and drug use than Caucasians. It is possible that this is due to the fact that minorities may simply conform to the stereotypes that have been placed on them.

In the current study, there were some limitations that should be addressed if further research is to be done. The first limitation was the fact that the sample for this study was a small convenient sample. In the future, it would be desired to include a larger random sample from multiple high schools to participate. Another limitation of this study was the fact that it appeared some students either did not take the time to answer the questions on the survey carefully or did not fully understand the questions. It is possible that in the future it would be helpful to include interviews. This would allow students to give more in-depth answers, and it would eliminate the possibility of a student not understanding a question.

Although the results of this study revealed that there does not appear to be a significant relationship between learning disabilities and delinquent behavior, it is still important to continue researching this topic. By continuing to increase knowledge about the risk factors for delinquent behavior, it is possible to develop better prevention models for adolescents that are at risk. If it is possible to prevent youths from engaging in delinquent behavior, then it is possible to prevent those youths from growing into adults who engage in criminal behavior. Further studies still need to be conducted on the relationship between learning disabilities and delinquent behavior. By addressing the limitations of previous studies on this topic, it is possible to come to a more conclusive determination on the relationship between learning disabilities and delinquent behavior. It is important to continue to address the issue of juvenile delinquency so that it is possible to prevent adolescents from continuing to engage in criminal behavior as they advance to adulthood.

References

- Bachara, G. H., & Zaba, J.N. (1978). Learning disabilities and juvenile delinquency. *Journal of Learning Disabilities, 11*(4), 58-62.
- Brier, N. (1989). The relationship between learning disability and delinquency: a review and reappraisal. *Journal of Learning Disabilities, 22*(9), 546-553.
- Cruickshank, W. (1985). The search for excellence: an encore. *Journal of Learning Disabilities, 18*(10), 574-580.
- Elliott, D. S., & Ageton, S.S. (1980). Reconciling race and class differences in self-reported and official estimates of delinquency. *American Sociological Review, 45*(1), 95-110.
- Fincham, F. (1977). A comparison of moral judgment in learning disabled and normal achieving boys. *The Journal of Psychology, 96*, 153-160.
- Hannell, G. (2006). *Identifying children with special needs: checklists and action plans for teachers*. Thousand Oaks, California: Corwin Press.
- Horowitz, S.H., & Stecker, D. (2007). *Learning disabilities checklist*. Retrieved from <http://www.ncl.org/images/stories/Publications/Forms-Checklists-Flyers-Handouts/ldchecklist.pdf>
- Kirk, J., & Reid, G. (2001). An examination of the relationship between dyslexia and offending in young people and the implications of the training system. *Dyslexia, 7*, 77-84.
- Knoll, C., & Sickmund, M. U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention. (2010). *Delinquency cases in juvenile court, 2007* (NCJ 230168)

- Lane, B. (1980). The relationship of learning disabilities to juvenile delinquency: current status. *Journal of Learning Disabilities, 13*(8), 20-29.
- Malmgren, K., Abbott, R.D., & Hawkins, J.D. (1999). Ld and delinquency: rethinking the "link". *Journal of Learning Disabilities, 32*(3), 194-200.
- McNamara, J.K., & Willoughby, T. (2010). A longitudinal study of risk-taking behavior in adolescents with learning disabilities. *Learning Disabilities Research & Practice, 25*(1), 11-24.
- Masi, G., Brovedani, P., & Poli, P. (1998). School failure in early adolescence: the psychopathological risk. *Child Psychiatry and Human Development, 29*(2), 127-140.
- National Center for Learning Disabilities. (2010). *Language & math*. Retrieved from <http://www.nclld.org/ld-basics/ld-aamp-language>
- Pihl, R.O., & McLarnon, L.D. (1984). Learning disabled children as adolescents. *Journal of Learning Disabilities, 17*(2), 96-100.
- Puzzanchera, C. U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention. (2009). *Juvenile arrests 2008* (NCJ 228479). Washington, DC: Retrieved from <http://www.ncjrs.gov/pdffiles1/ojjdp/228479.pdf>
- Puzzanchera, C., & Sickmund, M. (2008). *Juvenile Court Statistics 2005*. Pittsburgh, PA: National Center for Juvenile Justice.
- Shader, M. U.S. Department of Justice, Office of Juvenile justice and Delinquency Prevention. (2003). *Risk factors for delinquency: an overview* (NCJ 207540)
- Wilgosh, L., & Paitich, D. (1982). Delinquency and learning disabilities. *Journal of Learning Disabilities, 15*(5), 278-279.

APPENDIX A

Survey

SECTION 1:

Please Answer the Following Questions to the Best of Your Ability

<p>1.) Have you ever been diagnosed with a learning disability?</p> <p>a. Never diagnosed</p> <p>b. Dyslexia (difficulties with reading)</p> <p>c. Dyscalculia (difficulties with math)</p> <p>d. Dysgraphia (difficulties with writing)</p> <p>e. Other: _____</p>
<p>2.) If you have been diagnosed with a learning disability, how old were you when first diagnosed?</p> <p>a. _____ years</p> <p>b. Not applicable</p>

SECTION 2:

Please circle the answer for the following questions that best applies to your learning styles.

. (SD= strongly disagree; D=disagree; N=neutral; A= agree; SA= strongly agree)

3.) I often confuse similar looking numbers and letters.	SD	D	N	A	SA
4.) I often confuse similar-looking words (e.g. beard/bread)	SD	D	N	A	SA
5.) I often reverse the letter order in words (e.g. saw/was)	SD	D	N	A	SA
6.) I had significant difficulty learning to read	SD	D	N	A	SA
7.) I often have trouble associating letters and sounds	SD	D	N	A	SA

8.) I often have difficulty recognizing sight words (e.g. the, and, to, you)	SD	D	N	A	SA
9.) I often have difficulty remembering sight words	SD	D	N	A	SA
10.) I often find simple counting to be a challenge	SD	D	N	A	SA
11.) I often have difficulty learning basic addition and subtraction facts	SD	D	N	A	SA
12.) I often have difficulty memorizing basic addition and subtraction facts	SD	D	N	A	SA
13.) It is often hard for me to estimate quantity values	SD	D	N	A	SA
14.) I have difficulty telling time	SD	D	N	A	SA
15.) It was hard to learn multiplication tables	SD	D	N	A	SA
16.) I often have difficulty learning mathematical formulas	SD	D	N	A	SA
17.) I often find interpreting graphs and charts to be challenging.	SD	D	N	A	SA
18.) I have difficulty counting rapidly	SD	D	N	A	SA
19.) I often have difficulty making calculations.	SD	D	N	A	SA
20.) I have difficulty learning strategic counting principles (e.g. by 2, 5, 10,100)	SD	D	N	A	SA

21.) I had difficulty learning how to write	SD	D	N	A	SA
22.) I have difficulty remembering shapes of letters and numerals	SD	D	N	A	SA
23.) My writing is messy	SD	D	N	A	SA
24.) My writing is incomplete	SD	D	N	A	SA
25.) I find it hard to think of ideas for writing papers	SD	D	N	A	SA
26.) I often copy notes inaccurately	SD	D	N	A	SA
27.) I am bad at spelling	SD	D	N	A	SA
28.) I find it hard to edit my own work	SD	D	N	A	SA
29.) I find it hard to prepare outlines for writing assignments	SD	D	N	A	SA
30.) My writing is disorganized.	SD	D	N	A	SA

Section 2A:

*****Only answer this question if you answered STRONGLY AGREE or AGREE to ANY questions in Section 2 (questions 3-30)*****

31.) When did you *first* start having problems with any of the above topics? (i.e. If you were twelve when you realized you had difficulty counting and 14 when you realized you have difficulty preparing outlines, put twelve).
 _____ years

SECTION 3:

Please circle the answer for the following questions that best applies to your past behaviors.

(N= Never; R=Rarely; O=Occasionally; F=Frequently; A= All the time)

32.) I have purposely damaged or destroyed property belonging to my parents, family members, others, or my school.	N	R	O	F	A
33.) I have stolen or attempted to steal a motor vehicle, such as a car or motorcycle.	N	R	O	F	A
34.) I have stolen (or tried to steal) something worth more than \$50.	N	R	O	F	A
35.) I have knowingly bought, sold, or held stolen goods.	N	R	O	F	A
36.) I have stolen items worth \$5 or less.	N	R	O	F	A
37.) I have stolen money or other items from my parents or other family members.	N	R	O	F	A
38.) I have taken a vehicle for a ride without the owner's permission.	N	R	O	F	A
39.) I broke into a building or vehicle or tried to in order to steal something or to just look around.	N	R	O	F	A

Section 3A:

Only answer this question if you answered "Rarely," "Occasionally," "Frequently" or "All the Time" to ANY questions in section 3 (questions 32-39)

40.) How old were you the FIRST time you did one of these acts? (i.e., If you were twelve the first time you stole money from your parents, and fourteen the first time you broke into a building, put twelve years)
_____ years.

SECTION 4:

Please answer the following questions based on your past behaviors.
(N= Never; R=Rarely; O=Occasionally; F=Frequently; A= All the time)

41.) I have carried a hidden weapon other than a plain pocket knife.	N	R	O	F	A
42.) I have attacked someone with the idea of seriously hurting him/her.	N	R	O	F	A
43.) I have been involved in gang fights.	N	R	O	F	A
44.) I have hit or threatened to hit one of my parents, teacher, or another student.	N	R	O	F	A
45.) I have used force to get money or things from other students.	N	R	O	F	A

Section 4A:

*****Only answer this question if you answered “Rarely,” “Occasionally,” “Frequently” or “All the Time” to ANY questions in section 4 (questions 41-45)*****

46.) How old were you the **FIRST** time you did one of these acts? (i.e., If you were twelve the first time you used force to get money, and fourteen the first time you carried a weapon, put twelve).
 _____ years.

SECTION 5:

Please circle the answer for the following questions that best applies to your past behaviors.

47.) I have used alcoholic beverages (beer, wine, or hard liquor).	N	R	O	F	A
48.) I have used marijuana.	N	R	O	F	A
49.) I have used other illegal drugs besides marijuana (this includes nonmedical use of prescription drugs).	N	R	O	F	A

(N= Never; R=Rarely; O=Occasionally; F=Frequently; A= All the time)

Section 5A:

*****Only answer this question if you answered “Rarely,” “Occasionally,” “Frequently” or “All the Time” to ANY questions in section 5 (questions 47-49)*****

50.) How old were you the **FIRST** time you used drugs or drank alcohol? (i.e., if you first drank alcohol at twelve years old and first used drugs at fourteen years, put twelve years old).
years.

Section 6:

Please circle the answer for the following questions that best applies to your past behaviors.

(N= Never; R=Rarely; O=Occasionally; F=Frequently; A= All the time)

51.) I have sold marijuana.	N	R	O	F	A
52.) I have sold other illegal drugs besides marijuana (this can include selling prescription drugs).	N	R	O	F	A

Section 6A:

*****Only answer this question if you answered “Rarely,” “Occasionally,” “Frequently” or “All the Time” to ANY questions in section 6 (questions 51-52)*****

53.) How old were you the FIRST time you sold drugs?
_____ years.

Section 7:

Please answer the following questions based on your beliefs. (SD= strongly disagree; D=disagree; N=neutral; A= agree; SA= strongly agree)

54.) My achievement in school greatly affects my teachers' perceptions about me.	SD	D	N	A	SA
55.) My achievement in school greatly affects my peers' perceptions about me.	SD	D	N	A	SA
56.) My achievement in school greatly affects my perceptions about myself.	SD	D	N	A	SA

Section 8:

Please answer the following questions to the best of your knowledge.

<p>57.) What is your GPA?</p> <p>a. 0.5-1.0 b. 1.5-2.0 c. 2.5-3.0 d. 3.5-4.0 e. Above 4.0</p>
<p>58.) What is your gender?</p> <p>a. Male b. Female</p>
<p>59.) Do you receive free school lunches?</p> <p>a. Yes b. No</p>
<p>60.) What is your ethnicity?</p> <p>a. Caucasian b. African American c. Hispanic d. Other _____</p>
<p>61.) What is your age? _____ years.</p>

APPENDIX B

Letter to the Parents:

Dear Parents/Guardians of the Students,

My name is Miriam Brooks. I am a senior at The University of Southern Mississippi, and I am in the Senior Honors program at Southern. In order to complete the requirements of the Honor's program, I am conducting a research project at Greene County High School. The purpose of this research is to better determine the relationship between learning difficulties and problem behaviors in adolescents.

If you choose to allow your child to participate in this study, he or she will be asked to complete a survey at the high school during school hours. Your child will be asked to answer questions about difficulties they may or may not have experienced in school such as: difficulties with math, reading, or writing. They will also be asked to answer questions about any delinquent behavior they may or may not have participated in such as: drug use, the sale of illegal drugs, theft, burglary, and underage drinking. The survey is completely voluntary and confidential. The student will never be asked to provide a name or any other form of identification that would connect him or her to any particular survey. If at any time while participating in the survey your child feels as if he or she does not wish to continue, he or she can stop answering questions immediately without any penalty, prejudice, or loss of benefits.

If you have any questions regarding this research project, please feel free to contact me at (601) 394-5010 or miriam.brooks@eagles.usm.edu.

APPENDIX C

Oral Presentation:

Hello, my name is Miriam Brooks. I am a senior at The University of Southern Mississippi. I am here today to tell you about a research project I am conducting in order to complete the requirements of the Senior Honors Program at Southern. The purpose of this research project is to try to determine the relationship between learning difficulties and delinquent behavior.

If you choose to participate in this study, you will be asked to complete a survey. The survey will take about 10-15 minutes to complete. All of the information you provide on the survey will remain completely confidential. You will never be asked to provide a name or any other form of identification. Therefore, there will be no way to connect any particular participant to any particular survey.

Minimum discomfort may occur due to the fact that you will be asked questions about your personal behavior and success in school. If at any time during the survey you feel that you do not wish to continue answering questions, you may stop immediately without any penalty, prejudice, or loss of benefits.

If you are interested in participating in this research project, please take a consent form to take home to your parents. There is also a letter to your parents that will inform them of what the study will entail. You will only be allowed to participate in this study if your parents consent to you participation. Also, if you are interested in participating in this study and wish to provide an email where you can be reached, then please do so. Your email address will only be used in order to remind you of when your parents consent forms are due if you wish to participate.

If you have any questions, please feel free to contact me at (601) 394-5010 or at miriam.brooks@eagles.usm.edu.