

Old Dominion University

## ODU Digital Commons

---

Theses and Dissertations in Urban Services -  
Urban Education

College of Education & Professional Studies  
(Darden)

---

Winter 1991

# Psychosocial Developmental Levels of Freshman Urban University Students With Learning Disabilities

Nancy Ann Wolthuis Olthoff  
*Old Dominion University*

Follow this and additional works at: [https://digitalcommons.odu.edu/urbanservices\\_education\\_etds](https://digitalcommons.odu.edu/urbanservices_education_etds)



Part of the [Higher Education Commons](#), [Social Psychology Commons](#), and the [Special Education and Teaching Commons](#)

---

### Recommended Citation

Olthoff, Nancy A.. "Psychosocial Developmental Levels of Freshman Urban University Students With Learning Disabilities" (1991). Doctor of Philosophy (PhD), Dissertation, , Old Dominion University, DOI: 10.25777/9m4g-r738  
[https://digitalcommons.odu.edu/urbanservices\\_education\\_etds/140](https://digitalcommons.odu.edu/urbanservices_education_etds/140)

This Dissertation is brought to you for free and open access by the College of Education & Professional Studies (Darden) at ODU Digital Commons. It has been accepted for inclusion in Theses and Dissertations in Urban Services - Urban Education by an authorized administrator of ODU Digital Commons. For more information, please contact [digitalcommons@odu.edu](mailto:digitalcommons@odu.edu).

PSYCHOSOCIAL DEVELOPMENTAL LEVELS OF FRESHMAN URBAN  
UNIVERSITY STUDENTS WITH LEARNING DISABILITIES

by

Nancy Ann Wolthuis Olthoff  
B.A. May 1970, Calvin College  
M.A. December 1976, Western Michigan University

A Dissertation submitted to the Faculty of  
Old Dominion University in Partial Fulfillment  
of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

URBAN SERVICES

OLD DOMINION UNIVERSITY  
December 1991

Approved by:

\_\_\_\_\_  
Dana Burnett  
Dissertation Chair

\_\_\_\_\_  
member

\_\_\_\_\_  
Concentration Area Graduate  
Program Director

\_\_\_\_\_  
member

\_\_\_\_\_  
Dean of College of Education

\_\_\_\_\_  
member

Copyright by Nancy Wolthuis Olthoff 1991  
All Rights Reserved

## ACKNOWLEDGEMENTS

To the students and professional staff at Old Dominion University for participation and cooperation,

To my dissertation committee for expertise, direction and encouragement,

To my women's dissertation support group for solace,

To my family for lovingly sharing the vision, adjusting to all the changes, and applauding the intermediate steps,

To all who stimulated, spurred, pondered and prayed on my behalf, I express my heartfelt gratitude.

CHEERS FOR JEHOVAH

## LIST OF ILLUSTRATIONS

Fig. 1	Psychosocial Background to Research on Freshmen with Learning Disabilities . . . . .	9
--------	---	---

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS . . . . .	ii
LIST OF ILLUSTRATIONS . . . . .	iii
LIST OF TABLES . . . . .	v
Chapter	
I. INTRODUCTION . . . . .	1
Background . . . . .	1
The Problem . . . . .	3
Problem Significance . . . . .	4
Overview of the Study . . . . .	6
Theoretical Framework . . . . .	8
II. REVIEW OF THE LITERATURE . . . . .	14
Introduction . . . . .	14
Laws and Definition . . . . .	14
Urban Freshmen with Learning Disabilities and Their Psychosocial Development . . . . .	33
Chickering's Theory of Student Development . . . . .	36
Student Development and Students with Learning Disabilities . . . . .	43
Summary . . . . .	57
III. RESEARCH DESIGN . . . . .	58
Overview . . . . .	58
Subjects . . . . .	58
Students with Learning Disabilities . . . . .	59
Non-Learning Disabled . . . . .	65
Potentially Learning Disabled . . . . .	66
Design . . . . .	66

Instruments . . . . .	67
Procedure . . . . .	71
IV. PRESENTATION OF FINDINGS . . . . .	73
Quantitative Results . . . . .	73
Qualitative Results . . . . .	78
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . . .	87
Summary . . . . .	87
The Problem . . . . .	87
Purpose and Design . . . . .	88
Results . . . . .	89
Discussion . . . . .	90
Recommendations and Conclusions . . . . .	94
ENDNOTES . . . . .	97
BIBLIOGRAPHY . . . . .	108
APPENDIX . . . . .	121
VITA . . . . .	124

## LIST OF TABLES

Table	Page
1. Relationship of Chickering's Developmental Vectors to Persons with Learning Disabilities: Literature Summary . . . . .	44
2. Descriptive Statistics for Age, Verbal SAT, Total SAT, and High School GPA . . . . .	60
3. Identification of Learning Disabilities . . . . .	63
4. Analysis of Establishing and Clarifying Purpose Task . . . . .	74
5. Analysis of Educational Involvement Subtask . . . . .	74
6. Analysis of Career Planning Subtask . . . . .	75
7. Analysis of Lifestyle Planning Subtask . . . . .	75
8. Analysis of Life Management Subtask . . . . .	76
9. Analysis of Salubrious Lifestyle Scale . . . . .	76
10. Analysis of Developing Mature Interpersonal Relationships Task . . . . .	76
11. Analysis of Peer Relationships Subtask . . . . .	77
12. Analysis of Academic Autonomy Task . . . . .	77
13. Analysis of Intimacy Scale . . . . .	78
14. Lifestyle Planning Choices . . . . .	80
15. Cultural Participation Choices . . . . .	82
16. Peer Relationship Issues . . . . .	84
17. Academic Autonomy Issues . . . . .	85
18. Tolerance Issues . . . . .	85



## ABSTRACT

### PSYCHO-SOCIAL DEVELOPMENTAL LEVELS OF FRESHMEN URBAN UNIVERSITY STUDENTS WITH LEARNING DISABILITIES

Nancy Ann Wolthuis Olthoff  
Old Dominion University, 1991  
Director: Dr. Dana Burnett

This research study addressed the question, "Is there a difference in psychosocial developmental levels, as defined by Arthur Chickering, between male and female traditional-aged urban university freshmen with and without learning disabilities?" Twenty students with learning disabilities, as diagnosed by independent practitioners who exhibited spelling disabilities on a writing sample placement test, were compared to two comparable groups of twenty students. One comparison group did not exhibit spelling disability. The second group while demonstrating spelling problems, did not have documentation of learning disabilities. The Student Developmental Task and Lifestyle Inventory, a measure of Arthur Chickering's theory of psychosocial development, was administered by university personnel during the summer prior to matriculation. Scores were analyzed by an analysis of covariance using Scholastic Aptitude Test scores as the covariate. Structured interviews to confirm the data were conducted with eight of the students in the group with learning disabilities.

Findings revealed no significant differences between the three groups. This knowledge is helpful to professionals in higher education as they work with students needing accommodations for learning disabilities. Programs should emphasize the academic needs for these students. These findings contrast with the professional literature which predicts that these students would be less developed in psychosocial characteristics.

# DEDICATION

To Sara Sophia Groen Olthoff, my mother-in-law, whose  
loving, interested, desire for letters brought me to write

## CHAPTER I

### INTRODUCTION

#### Background

The designation "learning disability" was introduced in the early 1960s to identify persons who experienced learning problems.<sup>1</sup> The most widely accepted definition for learning disabilities was developed by the National Joint Committee for Learning Disabilities in 1981:

Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g. sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g. cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences.<sup>2</sup>

This is a broad theoretical definition. Nevertheless, the persons identified as learning disabled are assured by subsequent legislation that reasonable accommodations are rightfully theirs at all educational levels, e.g. elementary, secondary and postsecondary.

Students with specific learning disabilities are enrolling at an increasing rate at postsecondary

institutions throughout the United States. The reported percentage of students with learning disabilities (LD) varies from one source to another. In 1987 the American Council on Education presented survey results indicating 1.1% of all full-time entering freshmen, or approximately 18,300,<sup>3</sup> were students with LD.<sup>4</sup> Other sources have estimated the percentage to be between 6%<sup>5</sup> and 14%<sup>6</sup> of incoming freshmen. These freshmen are high school graduates who have been admitted through regular admissions processes. Decker, Polloway and Decker say,

As LD (learning disabled) children and adolescents have graduated and moved into young adulthood, the focus of education efforts has, of necessity, shifted to the postsecondary level, reflecting the fact that more LD students than ever before are seeking a college education.<sup>7</sup>

In 1973 the Vocational Rehabilitation Act was passed by Congress. Section 504, a portion of this act, became a civil rights statement for students with disabilities. It stated:

No otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.<sup>8</sup>

The guidelines for implementation and application of this legislation were issued in 1977. Subsection E applied the act to all colleges and universities receiving federal funds. In January, 1981, additional clarification of the regulations appeared which included in the definition of

those qualified as handicapped "individuals who have a specific learning disability."<sup>9</sup> This action sought to remove barriers to higher education for persons with learning disabilities.

### The Problem

Recommendations for accommodations for students with LD are frequently presented to meet academic needs. These accommodations range from remedial course work to compensatory measures, e.g. allowing extended time on tests or permitting the tape recording of classes.

To a lesser extent many authors also indicate that students with LD are less developed in psychosocial areas than their non-learning disabled peers.<sup>10</sup> These psychosocial areas, which are also described as intrapersonal and relational characteristics, include in particular "depression, feelings of incompetence and inadequacy, frustration, impulsivity, boldness, lack of motivation, anger, excessive dependency, shyness."<sup>11</sup> These negative characteristics pose barriers to success in higher education.

According to Arthur Chickering, author of the most widely recognized and popular theory of student development,<sup>12</sup> postsecondary institutions impact adolescent and adult development in seven dimensions "which represent the general task of identity formation."<sup>13</sup> Chickering

labeled these vectors as developing competence, managing emotions, developing autonomy, establishing identity, freeing interpersonal relationships, developing purpose, and developing integrity.

A study by psychologist Ann Orzek links Chickering's theory to students with LD.<sup>14</sup> For each of the seven vectors of Chickering's theory, students with LD were described as lagging behind their non-disabled peers in development. No research study has demonstrated whether students with LD are in fact less developed. Therefore, the important question to examine is, "Do freshmen students with learning disabilities who are enrolled at an urban university differ in psychosocial developmental levels, as defined by Chickering, from their non-learning disabled peers?"

#### Problem Significance

This problem has significance for several reasons. First, authors such as Orzek, Ness and Price, and Mangrum and Strichart, who present characteristics of students with LD, identify these students as less developed emotionally than their peers and recommend that programs be established to meet these needs. Without confirmation of the existence of the psychosocial needs of these students, these programs would lack an adequate foundation. The National Joint Committee on Learning Disabilities reiterates this approach by recommending research on "the relationship between

learning disabilities and adult psychosocial maladjustments."<sup>15</sup> A paucity of research which would provide the basis for programming currently exists.

Second, a student's personal satisfaction has a positive effect upon retention, the student's continued involvement in the process of higher education. Alexander Astin of the Higher Education Research Institute at the University of California at Los Angeles states,

Currently, many college and university administrators and public officials look at retention rates and satisfaction data as one set of key indicators about something broadly defined as "institutional effectiveness."<sup>16</sup>

This idea is a pivotal point for colleges and universities, especially at a time when there are fewer high school graduates to fill enrollment openings.<sup>17</sup> Astin also contends that

There is much that colleges and universities can do to enhance learning opportunities, to make campuses more interesting and engaging places, to provide more and better assistance in a range of non-classroom (but not necessarily non-academic) services, and to retain students.<sup>18</sup>

Support for this perspective is also found at the University of Maryland. In a 1987 report the Longitudinal Study Steering Committee asserts that

Variables commonly associated with college student attrition and persistence include academic factors (i.e. high school grade point average, high school rank, scholastic aptitude scores and college grade point average) as well as social integration factors, that is how satisfied or identified the student is with the institution.<sup>19</sup>



Personal satisfaction is an important feature of programs designed to retain student participation, and the particular needs of students with LD are not always recognized.

Third, if research findings confirm a disparity between the psychosocial development of students with LD and that of their non-learning disabled peers, colleges and universities providing programs in this area would be well-suited by strongly encouraging the students with LD to participate in these programs. These students would acquire additional building blocks for their success both academically and psychosocially.

In summary, clarification of the psychosocial needs of the students with LD provides benefits to both the students themselves and to the universities educating them.

### Overview of the Study

This section briefly outlines the process of identifying students with LD, designates the independent and dependent variables of the study, and states the fundamental research question.

Students designated as learning disabled usually identify themselves to college-appointed coordinators of programs developed for their assistance. The students are designated eligible for services if they provide documentation of an impairment from a qualified accredited professional. Such a designation indicates that an

evaluation has been made and, in the professional's judgment, based on established criteria, the student presents the characteristics of a specific learning disability. Therefore, since these students are identifiable, and the related issues are significant to both them and to universities who work with them, this problem is amenable to research.

This study examines a population of students with LD and their psychosocial development. The independent variable in this study is the presence or absence of a specific learning disability. The dependent variable is the psychosocial developmental level of the students, as defined by Chickering's theory of student development, and as measured by the Student Developmental Task and Lifestyle Inventory, which was designed to measure the results of the application of Chickering's theory to college students.

The primary research question is: Do college freshmen identified as learning disabled perform at lower levels of psychosocial development, as defined by Chickering and as predicted by theorists, than those who are not learning disabled? The hypothesis, based on the review of the literature, is that there will be significantly lower levels of development for each objective measured for the students with LD.

### Theoretical Framework

The theoretical basis for this research question is rooted in developmental theory. This theoretical framework is illustrated in Figure 1. Psychologist Erik Erikson<sup>20</sup> originally proposed psychosocial developmental levels spanning from birth to death of the individual. Erikson divided psychosocial development into eight stages, each stage containing a polarity with a task to be resolved. Successful resolution of the polarity within each stage provided the foundation for attainment. Non-resolution of the polarity produced identity confusion and barriers to continuing development.

Havighurst listed six developmental stages spanning from infancy to over 60 years of age. His specific emphasis was the developmental tasks within each stage. Eight tasks were enumerated for the adolescent between ages 12 and 18.<sup>21</sup>

Daniel Levinson<sup>22</sup> identified the term "life cycle" to illustrate the developmental nature of life-long change and adaptation. He discusses four periods or "seasons" of adult life and transitions between the periods. Within the transitional phases, one season is concluded while another is begun. Each season has requisite tasks and key concerns.

While each of the previously mentioned theorists focuses upon the entire life span, several theorists narrow their emphases to the developmental stages and tasks

# THEORETICAL MODEL

## Psychosocial Developmental Levels of Freshmen with Learning Disabilities

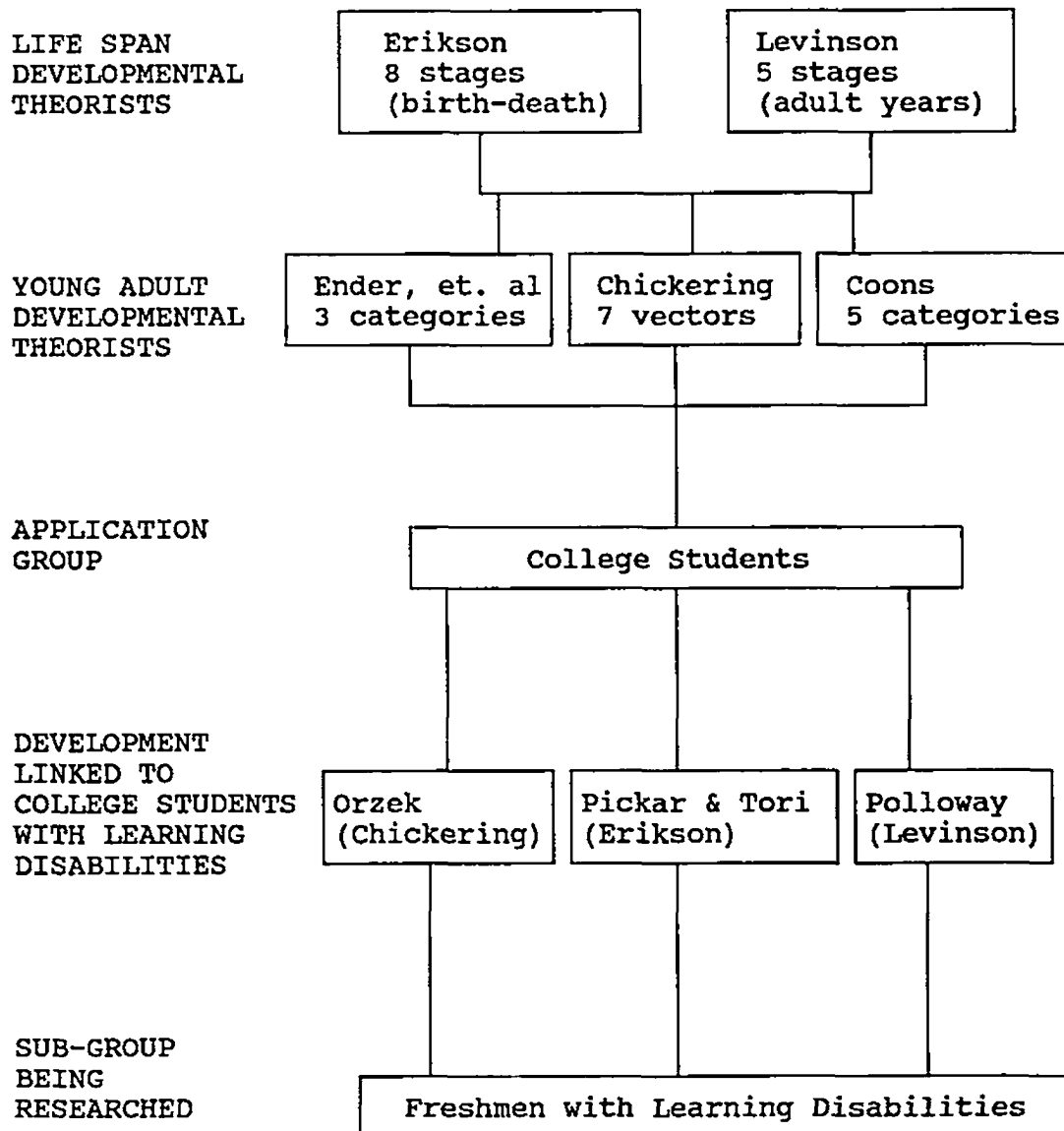


Figure 1. Psychosocial background to research on freshmen with learning disabilities.

operative during the college years. In 1969 Arthur Chickering wrote Education and Identity,<sup>23</sup> in which he summarized the college student's development as following seven chronological vectors. The specific vectors are (1) developing competence, (2) managing emotions, (3) developing autonomy, (4) establishing identity, (5) freeing interpersonal relationships, (6) developing purpose, and (7) developing integrity. Chickering distinguished the fourth vector, establishing identity, as the pivotal point to which the preceding three served as prelude and from which the subsequent four proceeded.

Subsequent theorists also focused on the traditional college age student. Coons<sup>24</sup> established the following set of sequential tasks for the college student: resolution of the parent child conflict, solidifying a sexual identity, development of a capacity for true intimacy, choosing a life's work, and formation of a personal value system. Ender<sup>25</sup> identified three significant tasks with related subtasks for the college student to master: developing autonomy in three areas--emotional, instrumental and interdependence; developing mature interpersonal relationships, which involves tolerance, mature peer relationships and capacity for intimate relationships; and developing purpose for educational plans, career interests and lifestyle plans. In each of the two above theories the designated categories and tasks are parallel to those

proposed by Chickering. The more in-depth presentation of Chickering will be provided in the review of the literature (Chapter II).

Several theorists studied developmental models in relation to college students with learning disabilities. Pickar and Tori<sup>26</sup> studied Erikson's developmental theory in relation to urban high school students with LD. They concluded that adolescents with learning disabilities score significantly lower than their non-learning disabled peers on the industry scale of the Erikson Psychosocial Stage Inventory (EPSI). Successful resolution of the industry versus inferiority stage depends upon an "adequate feeling of competence."<sup>27</sup> Cook<sup>28</sup> supports their finding, noting that children with academic failure do not have an adequate sense of competence.

According to Travis,<sup>29</sup> assuming that adults who have learning deficiencies are merely mature children would be erroneous. Addressing this assumption Followay, Smith and Patton<sup>30</sup> discuss Levinson's theory as related to adults with learning disabilities. They state,

The starting point for successful intervention with learning disabled adults must be to develop an understanding of the nature of adulthood and arrive at a realistic appraisal of successful personal adjustment.<sup>31</sup>

Accordingly they assert, "Based on available findings we may conclude that social aspects along with personal life

satisfaction constitute the major factors that differentiate disabled from many nondisabled adults."<sup>32</sup>

Ann Orzek<sup>33</sup> narrows the focus from adults with learning disabilities in general to college students with LD and discusses their needs in relation to the seven vectors of the Chickering theory. Orzek maintains that

By using these [Chickering's vectors] as a model for the normal developmental process of the college-aged population, a framework is provided to examine areas of potential concern, both interpersonal and academic for students with learning disabilities.<sup>34</sup>

A comprehensive discussion of the vectors and their relation to college students with LD is presented in Chapter II.

This theoretical framework provides the background for the focus of this study on the psychosocial developmental levels of urban university freshmen with learning disabilities. The following chapters continue the presentation.

Chapter II introduces extensive discussions of several of the key variables in this study. Initially, the population of college students with LD is addressed in terms of definition and in relation to the law regarding accommodations in academic settings. Second, a rationale is presented for focusing on the psychosocial development of urban freshmen students. Third, a more comprehensive presentation of Chickering's theory is given. And finally, Chickering's theory is applied to college students with LD.

In Chapter III the methodology is developed and the instruments utilized in the study are discussed. Chapter IV presents the data collected and provides an analysis and interpretation of the data. Chapter V, in conclusion, discusses the results of the data analysis, identifies suggestions for utilization of the information obtained, and lists suggestions for further research.



## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

This chapter reviews various facets of the question, "Do freshmen students with learning disabilities who are enrolled at an urban university differ in psychosocial developmental levels, as defined by Chickering,<sup>35</sup> from their non-learning disabled peers?" Emphasis will be placed upon (1) defining the population of college students with learning disabilities; (2) establishing the legal responsibilities of colleges to provide for the needs of this population; (3) presenting the rationale for studying the psychosocial development of urban freshmen students; (4) presenting and discussing Chickering's theory of student development; and (5) applying this theory to college freshmen with learning disabilities.

#### Laws and Definition

The term "learning disabilities" was introduced in the 1960s by William Cruickshank. In 1963 Samuel Kirk used the term during a conference of parents and professionals interested in the needs of students with perceptual handicaps.<sup>36</sup> The first legislation to incorporate the use

of this new category was the Children With Specific Learning Disabilities Act of 1969. This law authorized training, research, and development of programs for students with learning disabilities. It did not appropriate funds for these services at the time of its passage.<sup>37</sup>

The following year this act was included as part of Public Law 91-230 which was entitled "Education of the Handicapped Act: Elementary and Secondary Education Amendments of 1969." Title VI "combined into one act a number of previously isolated legislative enactments related to handicapped children."<sup>38</sup> Specifically funded through this law was the establishment of five research institutes in learning disabilities. These institutes were to:

(a) Conduct research on the nature and educational treatment of children with specific learning disabilities, (b) work directly with client populations, and (c) produce a set of responsible educational interventions.<sup>39</sup>

These research institutes were located at the University of Illinois-Chicago, Columbia University-Teacher's College, the University of Kansas, the University of Minnesota, and the University of Virginia.

At this time the emphasis was primarily upon the elementary and secondary levels of education. A dramatic shift occurred in 1973 with the enactment of Public Law 93-112 called the Rehabilitation Act of 1973.

In particular Section 504 is applicable to higher education. It reads,

No otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance.<sup>40</sup>

Since the majority of colleges receive federal financial assistance, either directly through grants and loans, or indirectly through financial aid loan programs, they are obligated to comply.<sup>41</sup> This law is parallel in intent

to the nondiscrimination provision of Section 601 of Title VI of the Civil Rights Act of 1964 (discrimination based upon race) and Section 901 of Title IX of the Education Amendments of 1972 (discrimination based upon sex).<sup>42</sup>

According to the Department of Health, Education and Welfare, the similarities between Section 504 and previous Civil Rights legislation were intentional. Nevertheless, Section 504 is considerably more detailed:

Handicapped persons may require different treatment in order to be afforded equal access to Federally assisted programs and activities, and identical treatment may, in fact constitute discrimination.

Therefore, "questions arise as to when different treatment of handicapped persons should be considered improper and when it should be required."<sup>43</sup> These concerns are particularly difficult because there are few precedents for interpretation. Neither the judicial, legislative, nor administrative agencies have had experience in implementing these requirements.

Within Section 504 there are several Subparts. Subpart A includes general provisions; Subpart B deals with

employment practices; Subpart C discusses program accessibility. Each of these regulations apply to all those who receive federal financial assistance. The three following Subparts are applied to specific classes or groups. Subpart D is appropriate to pre-school, elementary, and secondary education. Subpart F handles health, welfare and social service programs. Subpart E is of special significance in this writing as it applies to postsecondary education.

A closer analysis of Subpart E reveals the extent of the impact of this law. Initially, the terms of the law were applied to admissions and recruitment, as follows: (1) The handicapping condition may not be used as a basis for denial of admission; (2) The number of handicapped students who can be admitted may not be limited; (3) The institution may not use a "test or criterion for admission that has a disproportionate, adverse effect on handicapped persons or any class of handicapped persons";<sup>44</sup> (4) The institution may use an admissions test, but the test must reflect what it is designed to measure, rather than a handicapped student's impairment; and (5) Prior to admission the institution may not inquire regarding whether a person is handicapped, although the information may be provided voluntarily by the applicant.

Postsecondary handicapped students are also protected from discrimination in the areas of

academic research, occupational training, housing, health, insurance, counseling, financial aid, physical education, athletics, recreation, transportation, other extra-curricular, or other postsecondary education program or activity.<sup>45</sup>

They cannot be excluded from any course, or course of study. The college must provide equal opportunity for their participation and must do so in the "most integrated setting appropriate."<sup>46</sup>

The postsecondary institutions are required to make adjustments to accommodate these students. Adjustments may need to be provided in academic requirements. The guidelines suggest that

modification may include changes in the length of time permitted for the completion of degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted.<sup>47</sup>

No rules may be imposed upon these students that would in effect limit their participation. Accommodations must also be provided in the area of course examinations to insure that evaluation will reflect the student's actual achievement and not the student's impairment. Furthermore, the institutions must ensure that

no handicapped student is denied the benefits of, excluded from participation in, or otherwise subjected to discrimination under the education program or activity. . . because of the absence of educational auxiliary aids for students with impaired sensory, manual, or speaking skills.<sup>48</sup>

Protection is further afforded to the student in the areas of housing, financial assistance, and employment both

within the institution's context and outside of it, if assistance is provided to other students in this area.

Finally, the regulations address nonacademic services such as (1) physical education and athletics, in which qualified handicapped students must be provided with equal opportunity to participate, (2) counseling and placement services, in which these students may not be "counseled toward more restrictive career objectives than are nonhandicapped students,"<sup>49</sup> and (3) social organizations, including fraternities, and sororities.

Within the parameters of this law and its subsequent regulations by the Department of Health Education and Welfare through the Office of Civil Rights, the needs and rights of students with learning disabilities are prescribed and protected.<sup>50</sup> This law is the most specific in regard to higher education, however, another law, Public Law 94-142, which was enacted in the same year as the rules and regulations for Section 504, also impacted students with learning disabilities and the postsecondary institutions that were serving them.

A sequence of historical events and previous legislation served as precursors to the enactment of Section 504. They also functioned as background to the

establishment of Public Law 94-142.<sup>1</sup> Federal support for

---

<sup>1</sup>Public Law 94-142 and Section 504 of the Vocational Rehabilitation Act of 1973 are the two major legislative acts to apply to students with learning disabilities. A brief comparison of these two acts is important.

Section 504 applies with no exceptions to all 50 states and all the educational agencies within the states. In contrast Public Law 94-142 applies only to the states that receive funding based on the formula within the act. If a state does not receive a grant under this law, the provisions of the law would not apply.

The laws differ with respect to the type of legislation that they are and the agencies that monitor their enforcement. Section 504 is a civil rights act and its enforcement is overseen by the Office for Civil Rights. It is a broad ranging law covering (a) employment practices, (b) program accessibility, (c) preschool, elementary, and secondary education, (d) post secondary education, (e) health, welfare, and social services, and (f) complaint and enforcement procedures.

Public Law 94-142 is not civil rights legislation. It is a grant formula law and is enforced by the Department of Education in the Bureau of Education for the Handicapped. It is a very specific law.

The major contrast between the two laws is the populations to which they apply. Section 504 utilizes the term "handicapped person" which includes all persons having a physical or mental impairment that substantially impairs or restricts one or more major life activities, such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working; having a record of such an impairment; or being regarded as having such an impairment. Public Law 94-142 is applied to handicapped school-age (ages 3 to 22) children, who have been evaluated as possessing one or more of the educational or medical disorders listed in the definition. Thus, Section 504 provides broad coverage, whereas 94-142 is much more restrictive.

Despite these differences many similarities exist. Both laws require active identification of handicapped individuals for whom services may be available. They both dictate that public education will be free and appropriate to the needs of the individual. Section 504 specifies that individuals must be educated with those who are not handicapped to the maximum appropriate extent. This setting is referred to in 94-142 as the "least restrictive environment." In addition both laws have standards and procedures for evaluation and placement; they both have procedural safeguards of due process; and they both extend beyond the educational setting to nonacademic and

the education of the handicapped first appeared in 1864 with an act of Congress forming Gallaudet College to serve the deaf. In 1879 Congress created the American Printing House for the Blind.<sup>51</sup>

As president, John F. Kennedy was an advocate of the needs of the handicapped. Kennedy obtained passage of Public Law 88-164, entitled the Mental Retardation Facilities and Community Mental Health Center Construction Act, which provided funding for training personnel, education of graduate students, and research.<sup>52</sup>

Litigation also served as impetus for the creation of legislation. In 1971 the Pennsylvania Association for Retarded Children sued the state of Pennsylvania on behalf of 13 retarded children. Their claim charged that since the United States Constitution guarantees equal protection under the law, and the state constitution guarantees a free, public education for all, the state was obligated to provide those benefits to the handicapped. The court concurred with the plaintiffs "that all children, regardless of their handicapping condition, have a right to a free and appropriate education."<sup>53</sup>

Within a year another suit followed against the District of Columbia Board of Education. The District contented that it could not "divert millions of dollars" to

---

extracurricular services and activities.



special education at the risk of being "inequitable to children outside the alleged plaintiff class."<sup>54</sup> In finding for the plaintiff, the court stated "that a state not only must provide an education for all its handicapped children, but insufficient funds cannot be used as an excuse for inadequate programming."<sup>55</sup>

These factors encouraged Sen. Harrison Williams, D-NJ, and Rep. John Brademas, D-IN, to submit their handicapped education bill to Congress in 1975. It passed overwhelmingly in both houses, and was signed reluctantly by President Gerald Ford in November 1975. Upon signing the bill, Ford stated,

This bill promises more than the federal government can deliver . . . and even its strongest supporters know as well as I that they are falsely raising expectations by claiming authorization levels which are excessive and unrealistic. It also contains a vast array of detailed, complex and costly administrative requirements which would unnecessarily assert federal control over traditional state and local functions.<sup>56</sup>

President Jimmy Carter was more enthusiastic and vowed to implement the act as quickly as possible. He stated, "I believe that this is an important and worthwhile use of our limited public funds."<sup>57</sup>

The nature of the law was very comprehensive. Some of the most significant rights that it guaranteed were (1) a free, appropriate education, (2) an evaluation which was nondiscriminatory, (3) due process in all procedures, (4) placement in the least restrictive environment, and (5)

an individualized education program.<sup>58</sup> It was designed to ensure availability, fairness, clear management and auditing. The financial efforts of state and local governmental bodies would be supported by federal funds.

The above provisions applied to all the handicapped children designated in the Section 602 of the definitions.

It reads,

Handicapped children are defined as 'mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously and emotionally disturbed, orthopedically impaired or other health impaired children, or children with specific learning disabilities who by reason thereof require special education and related services.'<sup>59</sup>

This law was designed primarily to assist the handicapped in elementary and secondary education programs. Nevertheless, in the process of presenting the implementation rules and regulations the category of specific learning disabilities was defined as follows:

'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, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or of environmental, cultural, or economic disadvantage.<sup>60</sup>

This definition became the working definition utilized for implementation of Public Law 94-142. However, since that time, Mangrum and Strichart report "the field has expanded

to include young adults and adults, so the concept is now used to cover all individuals with learning disabilities."<sup>61</sup>

Public Law 94-142 further provides that determination of a learning disability will be based on the evaluation of a child study team. This determination will be made if "the child does not achieve, when provided with learning experiences appropriate to his age and ability, at an appropriate ability level in one of seven listed areas."<sup>62</sup>

These seven areas include "oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematics calculation, and mathematics reasoning."<sup>63</sup>

The specific components of this definition are important to consider. A specific learning disability is seen as a condition resulting from lack of normative development of basic psychological processes relating to the utilization of language skills.<sup>64</sup> These processes are transmission problems that occur within the brain and central nervous system, the auditory system, or the visual-motor system. Information that is communicated is either not comprehended, or not answered appropriately. These problems may occur in any of the functional areas listed--listening, thinking, speaking, reading, writing, spelling or calculating.

The second part of the definition indicated those areas that should be included under this category. It cites

perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. These categories predated the term learning disabilities, evolved primarily from a medical model, and are generally not used in an educational setting, as learning disabilities is preferred. The categories may, however, be found whenever a definition is needed that comes from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM III) because learning disabilities is not a category that it utilizes.<sup>65</sup>

A final component of the definition excludes disorders outside the scope of this classification:

By implication, the definition is saying that the problems of a learning-disabled child are not primarily attributable to sensory limitations, physical limitations, lack of intelligence, emotional problems, or environmental deprivation.<sup>66</sup>

Many discussions have ensued as a result of the definition. In reflecting upon Public Law 94-142 authors have written chapters entitled "Learning Disabilities: Open to Interpretation"<sup>67</sup> and "The Controversy Over Learning Disabilities."<sup>68</sup> Author Hagerty states that "most troublesome are the many unanswered questions regarding appropriate labeling, percentages, and formulas."<sup>69</sup>

Early criticism called the category "vague and arbitrary."<sup>70</sup> Others suggested that it lacked "scientific coherence."<sup>71</sup> In a report to the United States Congress on Learning Disabilities in 1987, several other voices were

raised. Dr. Stan Dublinske, Director of the State Regulatory Policy Division of the American Speech-Language-Hearing Association, encouraged that learning disabilities be viewed "not as a homogeneous diagnostic category, but as a convenient generic term for a group of numerous disorders that make up the category."<sup>72</sup>

The difficulty of definition has many implications. First, using the label "learning disability" will be variously interpreted. Second, the responses to the condition need individual application. Some students classified as learning disabled may benefit most from remediation, while others may better be served by accommodation procedures. Because of the diversity of this group as a whole, utilizing means that apply to the learning disabled as a group will be difficult. This problem may be especially exacting in the area of research. This group is not homogeneous in so many respects that to develop comparable groupings may in effect "define away" the groups or produce "specific, but useless information."<sup>73</sup> Delimiting the population is a great concern as many authors stress the need for additional research on this population group.<sup>74</sup>

In a 1987 book by Scott Sigmon a thorough discussion is presented on "The Evolution of Learning Disabilities." In his approach he not only illustrates the various professional roots of the classification, but also suggests

why the components developed in this manner, and what social purposes were thus served.<sup>75</sup>

Sigmon first identifies the child study movement as begun by G. Stanley Hall in 1882, in which Hall suggests that schools can be adapted to meet the needs of the child. A second vector in the process was the work in neurology by Franz Joseph Gall on brain injured adults who suffered subsequent language disorders. The work of Kurt Goldstein with brain damaged soldiers and aphasia inspired Alfred Strauss, who fled Hitler's Germany and found his way to the United States. After studying with Goldstein, Strauss worked at Wayne County Training School, which was at the time "the world's greatest residential center for educable mentally retarded boys and girls."<sup>76</sup>

Strauss' work was significant because (1) he focused on children with brain injuries and their education, and (2) he influenced special education leaders.<sup>77</sup> Sigmon concludes,

Probably the most significant early notion, when looking for the genesis of learning disabilities, can be traced back to that of 'exogenous factors' as causative to 'mental deficiency' in children as delineated by Strauss. This idea led to the establishment of two distinct categories of retardation: retardation as a result of external brain insult or the 'exogenous type', and that without 'brain damage' (familial retardation) or the 'endogenous type.'<sup>78</sup>

The third factor in the learning disabilities development model used by Sigmon is termed "the remediation

stage"<sup>79</sup> in which the slow learner was identified as needing special assistance. Greater need for remediation appeared following the 1920s, according to Sigmon, for four reasons. First, the influx of immigrants led to rapid growth. Second, schools had previously approved the study of students' individual differences. Third, the method of teaching reading changed from oral skills to silent comprehension skills. And finally, and most controversially, Sigmon states, "just as more sophisticated schooling arrangements helped create the mildly retarded student, so too did they produce the student who required remedial reading by the 1920s."<sup>80</sup>

In April of 1963 persons representing these various vectors met at "The Conference on Exploration into Problems of the Perceptually Handicapped Child," sponsored by the Fund for Perceptually Handicapped Children. During his evening address, Dr. Samuel A. Kirk, at the urging of his cohorts, introduced the term "learning disabilities."<sup>81</sup>

Dr. Kirk continued to be figural in the development of the field in his role of the Director of the Division of Exceptional Children and Youth in the United States Office of Education for six months in 1964. During that time four postsecondary institutions received grants to train people in the area of learning disabilities. By 1966 the Bureau of Education for the Handicapped added a subdivision on Learning Disorders and Interrelated Areas.<sup>82</sup>

The Journal of Learning Disabilities published its first issue in January 1968. Its first article, entitled "Perspectives on Learning Disabilities: The Vectors of a New Convergence," was written by Ray H. Barsch.<sup>83</sup> The variant elements coming together are evidenced by the title.

The current controversy over the definition of learning disabilities can clearly be based in the historical and cultural background of the development of the field. Recently, representatives of six organizations constituting the National Joint Committee for Learning Disabilities agreed on a revised definition of learning disabilities:

Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g. sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g. cultural differences, insufficient/ inappropriate instruction, psychogenic factors), it is not the direct result of those conditions, or influences.<sup>84</sup>

Some committee members also argued for the addition of the phrase "or of social skills"<sup>85</sup> following "mathematical abilities."

The Department of Education argued against the addition of the phrase "of social skills" saying that

A change in the EHA (Education of All Handicapped Children Act) would result in increased confusion in the criteria used to determine who is eligible for special education services and who is not eligible. Since the Department of Education is making an



effort to return to regular classrooms those children who do not have true learning disabilities but who do have learning difficulties, the inclusion of those children with "social skills" deficiencies would increase rather than decrease the number of children who would be classified as learning disabled and eligible for special education services.<sup>86</sup>

The differences between the definition of the National Joint Committee for Learning Disabilities and that of Public Law 94-142 are important.<sup>87</sup> First, the most recent definition includes all age groups; in other words, it is not limited to children. The phrase "basic psychological processes" identifies the "intrinsic nature of learning disabilities."<sup>88</sup> Second, considerable controversy exists regarding whether to address learning disabilities through remediation or accommodation; however, acknowledging the fact that the condition is unique to the individual person is beneficial in the definition. Third, although the word "spelling" is omitted from the new statement, it is understood as included under written language. Fourth, in an attempt to clarify the definition, the previous list of specific labels or conditions was eliminated. Finally, the concluding statement of the National Joint Committee on Learning Disabilities identifies the relationship between learning disabilities and other conditions that may be manifest.

The six organizational representatives concluded that this new definition "was basically a 'theoretical statement'

specifying the delimiting characteristics of conditions called learning disabilities."<sup>89</sup> This definition has subsequently been adopted by five of the six governing boards which worked to develop the definition.

Authors have responded to this attempt to define the category of learning disabilities in two distinct modes. Some attempt to broaden the definition to incorporate an "ever-widening ecology."<sup>90</sup> Others seek to narrow the focus to specific circumstances and conditions. Daryl Mellard of the Institute for Research in Learning Disabilities at the University of Kansas takes this approach in the following definition:

Learning disability in California community college adults is a persistent condition of presumed neurological dysfunction which may also exist with other disabling conditions. This dysfunction continues despite instruction in standard classroom situations. Learning disabled adults, a heterogeneous group, have these common attributes:

- a. average to above average intellectual ability;
- b. severe processing deficits;
- c. severe aptitude-achievement discrepancy(ies);
- d. measured achievement in an instructional or employment setting; and
- e. measured appropriate adaptive behavior (Title 5, California Code of Regulations, Section 56014).<sup>91</sup>

This very specific definition, while unique to the California community college adults, does provide a helpful approach to move from a theoretical definition toward a more operational one that can be helpful in research.

Mellard's operational definition satisfies the suggestions of several authors. Kavale states that

"discrepancy alone does not capture the complexities of the learning disability phenomenon."<sup>92</sup> Swanson recommends that assessment for learning disabilities investigate "complex models of learning that are sensitive to the development of expertise and performance competence."<sup>93</sup> Mastropieri says "the use of multiple comparisons increased the possibility of finding a severe discrepancy."<sup>94</sup> Chalfant concurs stating, "A learning disability cannot be identified by any one criterion."<sup>95</sup> Sinclair and Alexson also recommend that "psychometric data and statistical formulas should be but one component in learning disability diagnosis."<sup>96</sup>

Research conducted with students with learning disabilities has frequently utilized multiple indicators to establish the presence of learning disabilities.<sup>97</sup> In a recent study by Runyan<sup>98</sup> on the effect of extra time during testing for students with learning disabilities, the population was identified and described in terms similar to Mellard's five categories. Therefore, while adhering to the theoretical definition as adopted by the major organizations working with individuals with learning disabilities, the components of the model presented by Mellard are the basis of the operational approach of this research study.

At this juncture the impetus for provision of services to students with learning disabilities should be reiterated. The federal mandate, Section 504 of the Vocational Rehabilitation Act of 1973, under its overseer the Office of

Civil Rights, provides the stimulus to determine student needs and appropriate accommodations.

Urban Freshmen with Learning Disabilities and  
Their Psychosocial Development

The urban university has grown and developed throughout the past several decades. Since its emergence in the 1970s, leadership has been provided to cities and their surrounding metropolitan areas in "educating an urban poor, establishing good community relations, and developing urban research and related studies."<sup>99</sup> According to The Urban University in America by Maurice Berube,

The urban university has become the dominant institution of higher learning in America. It has been called upon not only to educate a majority of college students in America, but to provide leadership to a nation of cities.<sup>100</sup>

Given the growing influence of this type of institution and the increasing numbers of students attending these institutions, research should concentrate on students at these institutions.

The focus upon the freshman year for students with learning disabilities is also established by support in the literature. M. Bireley and E. Manley state, "As is true of nondisabled students, the freshman year is the crucial year when support is most desired and needed."<sup>101</sup>

Attention to the psychosocial development of the student is a valid concern for college and university personnel. This was stated most clearly in the Student

Personnel Point of View developed by the American Council on Education,<sup>102</sup> which indicated that student affairs personnel should respond "to the whole person, acknowledging individual differences, and meeting students at their level of development."<sup>103</sup>

Numerous authors have identified the need to address these concerns in relation to students with learning disabilities. In 1977 Sheralyn Cox addressed the problems of adults with learning disabilities. She concluded,

Keeping in mind that emotional and behavioral disturbance is frequently related to learning disabilities even in children receiving special education, it is understandable that adults who have never received remediation may have suffered long-term emotional and behavioral disturbance.<sup>104</sup>

In 1979 Alley and Deshler discussed the persistence into adulthood of various characteristics of children with learning disabilities.<sup>105</sup> These characteristics included problems in psychosocial behavior.

Barbara Cordoni, writing about the psychosocial aspects of college-aged students with LD, stated in 1982,

Although a few sensitive researchers alerted professionals regarding the existence of social-emotional deficits associated with a learning disability and even made some suggestions as to treatment, the truth of the matter is that few programs, even in the '80s address anything except academics.<sup>106</sup>

Fred Barbaro expressed concern that colleges are not attending to the psychosocial aspects of students with learning disabilities. He quotes Kronick who stated, "In

terms of total life-functioning, social ineptitude tends to be far more disabling than academic dysfunction."<sup>107</sup>

In a review of the literature on students with LD in postsecondary institutions in 1984 M. Lewis Putnam explains,

In addition to having these academic and processing problems that are directly responsible for academic difficulties, most postsecondary LD students exhibit poor self-concepts, social immaturity and inadequacies in social situations.<sup>108</sup>

In the same year as the preceding two articles, Charles Mangrum and Stephen Strichart published College and the Learning Disabled Student.<sup>109</sup> In describing the characteristics of students with LD, they cite both the social and affective areas. The authors list fourteen areas of social difficulty including establishing good relationships with others, making friends, manifesting appropriate social behaviors, and maintaining appropriate personal appearance. Eighteen affective problem areas are identified including establishing a positive self-concept, tolerating frustration, curbing impulse behavior, and interacting with others in a nondefensive manner.

In 1985 the National Joint Committee on Learning Disabilities recommended that programs of research be developed to study "the relationship between learning disabilities and adult psychosocial maladjustments."<sup>110</sup>

In 1990 Jean Ness and Lynda Price reported, "Many professionals now believe that there is a significant relationship between learning disabilities and social or

psychological disorders."<sup>111</sup> They list the following characteristics that may be ramifications of learning disabilities:

depression, feelings of incompetence and inadequacy, frustration, impulsivity, boldness, lack of motivation anger, excessive dependency, shyness.<sup>112</sup>

In summary, many writers have identified the importance of psychosocial issues for individuals with learning disabilities. Several also suggest the need for research on this topic.

#### Chickering's Theory of Student Development

A perspective on college students and their development is presented by Arthur Chickering in his book Education and Identity.<sup>113</sup> This widely accepted theory functions as the substantive perspective for this study of the differences in psychosocial development between freshmen with and without learning disabilities. Since Chickering's work is pivotal to this study, an extended presentation of his theory is provided.

Chickering defines the components of student development. He demonstrates support from the literature on student development and from studies at Goddard college. He characterizes student development by seven vectors. These vectors have both direction and magnitude. Each vector should be viewed as a step progression or as a spiral rather than as a straight line.

The first of Chickering's vectors is developing competence. This vector consists of three interrelated prongs. Intellectual competence is growth in general information, general intelligence, and critical thinking ability. The maturing student is expected "to think more clearly, to handle abstractions, and to contribute positively to group discussion."<sup>114</sup> Physical and manual competence is demonstrated in athletics and art which yield "evidence of achievement."<sup>115</sup> The effectiveness and effort of interactions with others demonstrate a level of interpersonal competence. Success in each of the three areas increases trust in one's confidence and "makes for more open and energetic action in the service of learning and development."<sup>116</sup> The mere awareness of competence for an individual affects autonomy. Chickering states,

Achieving emotional independence is difficult without a sense that one can affect one's human environment, that one is competent in interpersonal relationships. Achieving instrumental independence is difficult without a sense that one has the intellectual and physical capacity to cope with life's problems. And it is difficult to recognize the interdependence of one's existence without a sense that one can give as well as receive.<sup>117</sup>

Managing emotions is the second Chickering vector. In this phase aggression and sex must be handled. Initially, a reduction of repressions from earlier life is followed by "developing flexible controls congruent with the self one is."<sup>118</sup> The keys are awareness and appropriate expression of emotions. Chickering warns, "When management of emotions is



impaired, learning is hampered and achievement falls short of potential."<sup>119</sup> The goal is to increase integration of the self with the emotions. This integration, in turn, allows the emotions to serve as a basis of appropriate action and decision making. As a result,

Control fosters openness to new information and the ability to process it, leading to increasingly complex varieties of control and levels of sensitivity. Development proceeds. Noncontrol restricts input and hampers the ability to process it, and previous patterns based on internal configurations already established are employed. Higher levels of sensitivity and more flexible patterns of control are not fostered. Development stalls.<sup>120</sup>

Development continues to be fostered in the third vector, developing autonomy. Three components are included in this vector--developing emotional independence, developing instrumental independence, and recognition of interdependence. During an interview in 1984 Chickering, reflecting on his earlier book, stated that the label for the vector of autonomy could be changed to interdependence.<sup>121</sup> This shift indicates that the goal of this vector is interdependence, which may not be obvious by the label applied to this phase.

Reaching emotional independence includes (1) disengagement from the parents and other authority figures, and (2) increased reliance on peers. This independence is demonstrated by freedom from continual need for "reassurance, affection or approval."<sup>122</sup>

The second component of developing autonomy is maturing instrumental independence, which is defined as becoming self-sufficient and being capable of mobility to move freely as needs dictate. The opposite of instrumental independence would be the inability to expedite activities on one's own and to feel limited by place constraints.

The goal of developing autonomy is to reach a point of interdependence. According to Chickering,

For college students this mature dependence means recognizing that one cannot dispense with his parents except at the price of continuing pain for all; that one cannot comfortably accept continuing support without working for it; that one cannot receive benefits from a social structure without contributing to that structure; that loving and being loved are necessarily complementary.<sup>123</sup>

These three vectors--developing competence, managing emotions, and developing autonomy--set the stage for establishing identity, the pivotal fourth vector.

Chickering's definition of identity is states as:

that solid sense of self that assumes form as the developmental tasks for competence, emotions, and autonomy are undertaken with some success, and which as it becomes more firm, provides a framework for interpersonal relationships, purposes, and integrity. It is "the inner capital accrued from all those experiences"<sup>124</sup>--it is the self, the person one feels oneself to be. It is that "fuller, richer establishment, compounded of bodily sensations, feelings, images of one's body, the sound of one's name, the continuity of one's memories, and an increasing number of social judgements delivered through the words and behavior of others."<sup>125</sup>

The primary elements in identity formation are the formation of body image and personal appearance and defining

one's sexual identity. Development in these two areas is facilitated by reduced stress and worry, a variety of personal experiences in diverse settings, and significant achievement. Chickering summarizes the importance of this task in development: "In twentieth-century society, where change is the only sure thing, not socialization but identity formation becomes the central and continuing task of education."<sup>126</sup>

Within an emerging sense of identity, the fifth vector, freeing interpersonal relationships, is begun. Chickering states,

Such growth involves two discriminable aspects: (1) increased tolerance and respect for those of different backgrounds, habits, values, and appearance, and (2) a shift in the quality of relationships with intimates and close friends.<sup>127</sup>

Tolerance includes an acceptance of diversity and a non-prejudicial understanding of differences. Interdependence becomes the hallmark in relationships with peers, parents and adults.

Developing purpose is the sixth vector. It consists of three components: (1) avocational and leisure interests, (2) vocational interests, and (3) life-style concerns. The avocational and leisure interests include social relationships, activities related to special areas of interest, and planning that allows deleting a lower priority interest while including a higher priority interest. Vocational purpose is focused on clarification and

meaningful career activity. Energy is directed toward a vocational goal, which may be quite specific or remain somewhat diffuse. The component "style of life" defines one's self in family and the larger community as a contributor.

Developing integrity is the seventh vector in Chickering's schema. This vector is defined as:

A personally valid set of beliefs and values that have internal consistency and that provide at least a tentative guide to behavior, affect, and are affected by, conceptions of the kind of person one is and would become, and by dominant interests, occupational plans, and life-style considerations.<sup>128</sup>

Within this vector the individual establishes standards of behavior and seeks to live in accord with those standards. When one is successful in measuring up to one's own standards, congruence results. These standards or values will be highly personal and may incorporate religious beliefs. The individual will mold these values to specific situations thus experiencing relativity and its accompanying stress. Acknowledging these values as one's own will contribute to reduction in inconsistencies between belief and behavior. The effort to achieve congruence is continuous.

Chickering's theory has served as a basis for the creation of various instruments designed to evaluate student development. Erwin and Delworth developed the Erwin Identity Scale (EIS). Their instrument focused on three

areas--confidence, sexual identity, and conceptions about body and appearance.<sup>129</sup>

Hood, Riahinejad, and White used the EIS to study student development along Chickering's vector of identity. This study found that change occurs between freshmen and senior years, but the order of the vectors may vary.<sup>130</sup>

A broader scale to study more of Chickering's vectors is presented in the Student Development Task Inventory (Version 2) (SDTI-2) and the most recent version, the Student Developmental Task and Lifestyle Inventory (SDTLI). The first instrument was developed by Winston and Miller and the most recent version by Winston, Miller and Prince.

Hanson describes the SDTI-2 as easy to use and more developed than other measures designed to evaluate student development.<sup>131</sup> He also cites this instrument as encompassing "multiple dimensions of student development."<sup>132</sup>

In assessing the SDTI-2 with factors in the college environment, Erwin notes that "it is one of the few standardized developmental inventories available that claims to measure student development, not personality characteristics."<sup>133</sup>

A Winston and Polkosnik study summarizes the reliability and validity of the SDTI-2 and considers various subgroups to which the findings were applied. They report that Pollard found regularly admitted freshmen scored higher than marginally admitted freshmen on the Appropriate

Education Plans Scale.<sup>134</sup> No indication was provided that students with learning disabilities were included in the group of marginal students.

In 1987 the SDTLI replaced the SDTI-2 as the updated instrument developed to assess student development along the vectors proposed by Chickering. Chapter III describes the reliability and validity data as it relates to its use in research and its relationship to this current study.

#### Student Development and Students with Learning Disabilities

The presentation of Chickering's theory of student development is generally applied to all traditional age college students. The following section will examine characteristics of persons with learning disabilities and these seven vectors.

Many authors reflect upon the concerns and difficulties that they perceive for students with LD. Table I summarizes the conclusions of leading studies which have examined characteristics of students with learning disabilities and categorizes their conclusions according to Chickering's seven vectors and their individual subsections. Of the 41 studies summarized in the table 36 are theoretical studies which are based upon reviews of literature, case studies, discussions and student guides. The six empirical studies, which are marked by asterisks in the table following the author's name, include three surveys, one

training program assessment, and two contrast group causal-comparative studies. Twenty-one of the studies specifically identify their population group as college students. Ten studies focus on adolescents and ten studies on adults. Since traditional-aged freshman may be included in any of the above categories these studies are included.

Table 1.--Relationship of Chickering's Developmental Vectors to Persons with Learning Disabilities: Literature Summary

Author	Year	Content (Page number)
<u>Vector 1 - Developing Competence</u>		
Cook	1979	Fail to develop a global sense of competence (699)
Mangrum & Strichart	1984	Difficulty establishing a sense of competence (31)
Ness & Price	1990	Incompetence (17)
Pickar	1986	Fail to develop a sense of competence (28)
Pickar & Tori	1986	Unable to develop a global sense of competence (437)
a) Intellectual Competence		
Bireley & Manley	1980	Need to spend more time and energy on their studies than NLD (14)
Dalke	1988	Reading, math and writing deficits (567 & 568)  Cognitive and academic deficits (569)
Hoffman, et. al.*	1987	Self report reading and spelling areas of learning problems (44)

"Table 1--Continued"

Author	Date	Content (Page number)
Hughes & Osgood*	1990	Variety of problems that adversely affect their academic performance (76)
Mangrum & Strichart	1984	Language difficulties are the core of learning disabilities (27)
Minskoff, et. al.*	1988	LD adults: problems with reading and spelling (117)
Putnam	1984	Lists academic problems (69)
Sprandel	1982	Intellectual areas of difficulty (7)
Tollefson, et. al.*	1982	LD more academic difficulties than NLD (225)
Vogel	1982	Greatest concern to faculty and LD adults written language expression (524)

## b) Physical and manual competence

Bireley & Manley	1980	Fine motor and visual perceptual problems (14)
Brown	1982	Motor problems (12)
Mangrum & Strichart	1984	Perceptual-motor problems (28)
Kahn	1980	Motor coordination problems (41)
Nayman	1982	Motor coordination problems (78)

## c) Social and interpersonal competence

Barbaro	1982	Poor peer and family relationships (602)
Brown	1982	Trouble understanding others (12)



"Table 1--Continued"

Author	Year	Content (Page number)
Cook	1979	Sense of inferiority and incompetence (704)
Cordoni	1979	Difficulty making friends (267)
Cordoni	1982	Inappropriate social skills (40)
Dalke	1988	Social immaturity (567)
Decker, et. al.	1985	Social problems (339)
Hoffman, et.al.*	1987	Desire help in talking and thinking (45)
Johnston	1984	Poor interpersonal relationships (387)
Kroll	1984	Lack confidence that people will like and respect them (141)
		Difficulty making friends (142)
Mangrum & Strichart	1984	Difficulty establishing good relations with others (30)
		Difficulty making friends (30)
		Difficulty reading body language and facial expression (30)
		Difficulty having appropriate social behaviors (30)
		Difficulty knowing what to say (30)
		Difficulty understanding humor (30)
		Difficulty using small talk (30)

"Table 1--Continued"

Author	Year	Content (Page number)
Miller, et. al.	1990	Participated less in extracurricular activities (352)
Nayman	1982	Friendships hard to form (78)
Ness & Price	1990	Difficulties with social relationships (17)
Orzek	1984	Lack of competence in what to say when to listen and how to understand other people (405)
Osman	1986	Disproportionately rejected by peers (6)
Pickar & Tori	1986	Unable to develop a global sense of competence (438)
Polloway	1988	Weak or marginal social relationships (268)
Silver	1988	Less well liked and more likely to be rejected by others (77)
Smith	1988	Difficulty making and keeping friends (53)
Vogel	1982	Difficulty making and keeping friends (524)
White, et.al.*	1982	Less socially active (273)
Wiener	1987	Less accepted by peers (66)
<u>Vector 2 - Manage Emotions</u>		
Barbaro	1982	Self-centeredness (602)
Cordoni	1982	Manipulative behaviors (42)
Cox	1986	Emotional and behavioral disturbance (86)
Dalke	1988	Maladaptive coping mechanisms (567)

"Table 1--Continued"

Author	Year	Content (Page number)
Hoffman, et. al.*	1987	Impulsivity, shyness (48)
Kroll	1984	Sensitive, easily hurt, tense, anxious (141)
Mangrum & Strichart	1984	Difficulty with appropriate social behaviors (30)
		Difficulty with sense of security (30)
		Difficulty with acting mature (31)
Minskoff, et. al.*	1988	Shyness, taking or acting before thinking (118)
Ness & Price	1990	Depression, boldness, shyness (17)
Putnam	1984	Fear of failure and fear of success (69)
Sabatino	1981	Feels anxious (463)
Smith	1988	Shyness, lack of self-confidence (53)

## a) Aggression

Barbaro	1982	Anger, poor impulse control (602)
Hoffman, et. al.*	1987	Frustration, control emotions and temper (48)
Mangrum & Strichart	1984	Difficulty curbing impulses (30)
		Difficulty interacting non-defensively (30)
Minskoff, et. al.*	1988	Control of emotions and temper (119)

"Table 1--Continued"

Author	Year	Content (Page number)
Ness & Price	1990	Frustration, impulsivity, anger (17)
Sabatino	1981	Responding in an aggressive-passive behavioral continuum in a rigid non appropriate manner (463)
Smith	1988	Frustration, controlling emotions and temper (53)
b) sex		
Cook	1979	Sexuality and sexual expression problematic, lack information and social outlet (704)
Orzek	1984	Not prepared to handle social and emotional consequences of biological changes (405)
<u>Vector 3 - Developing Autonomy</u>		
Barbaro	1982	Strong dependency needs, time management (602)
Cordoni	1982	External locus of control (42)
Cox	1977	Dependant upon others (85)
Hoffman, et. al.*	1987	Dependent on others (48)
Huestis and Ryland	1986	Major developmental task separation and emancipation (7)
Kroll	1984	Sensitive, easily hurt, tense, anxious (141)
		Many live at home (143)
Mangrum & Strichart	1984	Difficulty establishing good relations with others (30)

"Table 1--Continued"

Author	Year	Content (Page number)
Mangrum & Strichart	1984	Difficulty maintaining good family relationships (30)
		Difficulty saying what is thought or felt (30)
		Difficulty avoiding overdependence (31)
Ness & Price	1990	Excessive dependency (17)
Osman	1986	Participate less in extra curricular activities (23)
		Prolonged dependency (24)
Polloway, et. al.	1988	Tied to family (268)
		External locus of control (270)
Putnam	1984	Strong dependency on others (69)
Sabatino	1981	Practicing learned helplessness (463)
Smith	1988	Dependent (53)
Tollefson, et. al.*	1982	Poorly developed planning and organizational skills (224)
		Poor self management (224)
<u>Vector 4- Establish Identity</u>		
Brown	1982	Poor self-image (25)
Bryan	1986	Poor self concept in academic areas (83)
Cook	1979	Impulsivity, low self-esteem, low frustration tolerance (697)

"Table 1--Continued"

Author	Year	Content (Page number)
Cook	1979	One dimensional self identity with inadequacy and ineffectance (701)
Decker, et. al.	1985	Psychological problems (anxiety) (339)
Hoffman, et.al.*	1987	Need to understand and accept self (50)
Justice	1982	Self concept is likely to be one of incompetence and uncertainty (4)
Kroll	1984	Poor grooming (142)
Lutwak	1983	Low motivation, low ego status, hypersensitivity (320)
Mangrum & Strichart	1984	Difficulty maintaining appropriate personal appearance (30)
		Difficulty establishing positive concept (30)
		Difficulty maintaining motivation (31)
		Difficulty with self confidence (31)
Miller, et. al.	1990	Self esteem and self concept are major problem areas for this population (353)
Ness & Price	1990	Low self esteem (17)
Pickar	1986	Negative self concept (24)
Sabatino	1981	Limited feelings of self worth (463)
Siperstein	1988	Negative self-image and self confidence (433)

"Table 1--Continued"

Author	Year	Content (Page number)
Winne*	1982	Reliably lower self concept in academics and performance (473)

Vector 5 -Freeing Interpersonal Relationships

Cordoni	1982	Problems in male female relationships (42)  Inflexibility with others, especially with romantic partners (42)
Hoffman, et. al.*	1987	Dating problems (48)
Kroll	1984	Difficult to tolerate tension (141)
Mangrum & Strichart	1984	Difficulty relating to authority figures, such as professors (30)  Difficulty accepting criticism by others (31)  Difficulty adjusting to feeling of others (31)  Difficulty tolerating frustration (31)
Minskoff, et. al.*	1988	Problems with dating (118)
National Joint Committee on Learning Disabilities	1987	Disturbed patterns of interaction with spouses and children (175)
Ness & Price	1990	Dysfunctional interactions with spouses or children (17)
Pickar	1986	Perceiving and understanding affective states in others (25)

"Table 1--Continued"

Author	Year	Content (Page number)
<u>Vector 6 - Clarifying Purpose</u>		
Bingham*	1980	Psychological readiness for career choice lags behind intellectual readiness (139)
Bryan	1986	Less optimistic about the likelihood of future improvements (83)
Cordoni	1982	Employment problems (44)
Decker, et. al.	1985	Vocational problems (339)
Hoffman, et. al.*	1987	Difficulty locating jobs and filling out job applications (47)
		Difficulty securing an appropriate job (50)
Kroll	1984	Not particularly satisfied with their jobs (138)
Mangrum & Strichart	1984	Difficulty working effectively with others (30)
		Difficulty meeting responsibilities (30)
		Difficulty developing and maintaining hobbies and interests (31)
		Difficulty viewing life prospects optimistically (31)
Miller, et. al.	1990	Less career mature than NLD peers (353)
Minskoff*	1988	Difficulty where to find jobs and filling out job applications (120)
Ness & Price	1990	Vocational success is especially at risk (17)



"Table 1--Continued"

Author	Year	Content (Page number)
Orzek	1984	Identified strengths may be perceived as weaknesses (406)
		Need to know how ones LD related to vocational/ avocational and lifestyle (407)
Siperstein	1988	Have inaccurate information about the world of work (434)
<u>Vector 7 - Developing Integrity</u>		
Barbaro	1982	Lack of trust (602)
Cook	1979	Perceptions of the world often problematic and inaccurate (702)
Kroll	1984	Absence of well-planned goal directed activity (140)
Mangrum & Strichart	1984	Difficulty avoiding saying or doing things that are later regretted (30)
		Difficulty clarifying their values about life (31)
		Difficulty subordinating their own welfare to that of others (31)
Mangrum & Strichart	1984	Difficulty trusting (31)
Orzek	1984	Need to discover capacities and limitations (407)
Osman	1986	Lack Self-monitoring (25)
* Identifies empirical studies		

Developing competence, as reviewed in Table 1, may be perceived as particularly difficult in the academic area for students with LD. Learning disabilities are observed as deficits in academic achievement in relation to expected ability based upon evidence of intellectual capacity to learn. Many physical coordination activities may be tied to processing problems. These may be fine motor, gross motor, visual or perceptual. Lack of competence in the social interpersonal realm for students with LD is seen as significant by many authors.

While students with LD are perceived as having emotional deficits in many areas, handling emotions related to aggression and sexuality are especially noted. Additional concerns about emotional development include poor coping skills, oversensitivity and impulsivity.

The students with LD are not perceived as (1) capable of functioning without continuing reassurances or (2) capable of managing a competent independent lifestyle. The students are expected to take considerably longer to establish both independence from family and interdependence with others.

Authors<sup>135</sup> frequently related the effects of lack of competence in academic, physical, and social areas as contributing to the weak, underdeveloped, or negative self concept which underlies one's identity. Positive self concept appears negated by the difficulties in other areas.

For students with LD, no solid ground is evident to establish the pivotal point of identity.

The awkwardness in social relationships and lack of rootedness for the self spills over into freeing interpersonal relationships. These conditions limit tolerance for others and intimacy with others.

Clarifying purpose is another vector which suffers from the repercussions of the inadequate development in previous vectors. Students with LD may be uncertain whether they can obtain the ideals that they have for themselves and hesitate initiating action toward success in a vocation.

As Maslow's hierarchy<sup>136</sup> is dependent upon the strength of the base and succeeding levels of development, so also Chickering's model has a component of hierarchy. Students have difficulty perceiving beyond themselves when they are uncertain of their own self worth, their identity, their competence, and their ability to establish autonomy. As earlier vectors are fulfilled, the student will be more capable of introspection and developing integrity in a mature way.

Evidence from this review of both empirical and theoretical studies indicates support for the premise that students with learning disabilities demonstrate underdeveloped psychosocial skills when compared to their non-disabled peers. The predominance of theoretical studies

in contrast to empirical studies highlights the need for the research described in Chapter III.

### Summary

This chapter began with consideration of the definition and legal background behind this study of students with LD in higher education. Second, the chapter focused upon the rationale for studying urban freshmen with learning disabilities. Third, it presented Chickering's theory of student development and assessment from the literature. And finally, it looked at the relationship of Chickering's theory to assertions about the deficit areas of students with LD. This grounding facilitates the consideration of the original question under study, "Do freshmen with learning disabilities enrolled in an urban university differ in their psychosocial developmental levels, as defined by Chickering, from their non-learning disabled peers?"

### CHAPTER III

#### RESEARCH DESIGN

##### Overview

This chapter presents the structure of the study. It includes (1) the description of the subjects and the rationale for dividing the groups according to the number of spelling errors on the Writing Sample Placement Test; (2) the identification and description of the instruments utilized in the study; (3) the nature of the design and the variables; and (4) the procedures used in data collection.<sup>2</sup>

##### Subjects

The research paradigm used in this study identifies three groups of college freshmen--those with learning disabilities (LD), those who potentially have learning disabilities (PLD), and those without learning disabilities (NLD). Precedent for dividing the groups in this manner was found in studies by Gregg and Hoy, who used the labels

---

<sup>2</sup>This study has been accepted by the Human Subjects Committee and Prospectus Review committee of Old Dominion University. The university's Assessment Task Force has granted access to the instruments and data necessary to conduct this study.

"Writers with Learning Disabilities", "Nondisabled Writers", and "Underprepared Writers."<sup>137</sup>

#### Students with Learning Disabilities

The first group included 20 freshman students, 16 male and 4 female, self-identified as having learning disabilities by documentation on file with the Disability Services office at a large southeastern urban university. This group was limited to those in the traditional age range of freshmen students 17 to 20 years old. They were admitted through regular admissions procedures and had English as their primary language. They indicated no major physical or emotional disabilities.

The number of years since being identified as having learning disabilities and the types of prior special education experiences are profiled as follows. Twelve students were identified prior to or during high school. Eight students were identified during the 12 months prior to college matriculation. Of the students who were identified prior to college enrollment seven received resource or support services while attending mainstream classes. Two students were mainstreamed totally in their high school classes. Of the remaining three students one was in a self-contained resource program, one was in a resource room and not mainstreamed, and one was in a program which was not specified.

Their high school grade point averages and scores on the Scholastic Aptitude Test are documented in Table 2. Each student in the group with learning disabilities scored six or more spelling errors in a Writing Sample Placement Test which was given prior to registration for college level courses. This test had been used to place students in appropriate level English classes and assists college staff

Table 2.--Descriptive Statistics for Age, Spelling Errors, SAT Scores and High School Grade Point Average

Variables	Mean	Standard Deviation	Minimum	Maximum
<b>Age</b>				
LD Group	18.5	.607	18	20
PLD Group	18.33	.483	18	19
NLD Group	18.1	.553	17	19
<b>Spelling Errors</b>				
LD Group	14.9	10.04	6	48
PLD Group	9.9	2.36	7	16
NLD Group	1.4	.99	0	3
<b>Verbal SAT</b>				
LD Group	388.50	69.80	260	530
PLD Group	403.33	80.02	300	620
NLD Group	439.55	86.94	300	640
<b>Total SAT*</b>				
LD Group	840.50	110.79	650	1050
PLD Group	863.33	137.59	640	1200
NLD Group	970.55	159.25	730	1240
<b>High School GPA</b>				
LD Group	2.52	.42	2	3.42
PLD Group	2.54	.36	2	3.48
NLD Group	2.75	.58	2.06	4.25

\*Significant F 4.91, DF 2, 54  $p < .01$

in identifying students with potential learning disabilities. The validity of this Writing Sample Placement Test is determined annually by the students' performance in a mandatory English writing course.

Since spelling is frequently a weak area for students with learning disabilities,<sup>138</sup> spelling errors in the writing sample further delineated the group under study. Noel Gregg's research on spelling errors and students with learning disabilities supported utilizing this means for further delineating between the groups.<sup>139</sup> Gregg writes, "there are both qualitative and quantitative differences in the spelling performances between learning disabled, normal and underprepared college writers."<sup>140</sup>

Vogel (1985), in a study of college students, emphasized the significance of spelling stating that "by far the most severe and frequently reported deficit of LD college students by self-report and faculty observations is in spelling."<sup>141</sup> Following their recent study, Leuenberger and Morris concluded, "that LD and NLD students were significantly different in the number and percentage (6% and 3% respectively) of total spelling errors within a 200 word writing sample."<sup>142</sup> In another study O'Hearn stated clearly, "The source of greatest difficulty for the learning disabled student is spelling."<sup>143</sup> These authors provided the basis to



divide groups based upon the number of spelling errors as a distinguishing variable.

The specific documentation that was provided for each student identified as learning disabled varied according to the professional conducting the evaluation and the instruments utilized. Nevertheless, students with learning disabilities included in the study met four of the five criteria of Mellard's operational definition.<sup>144</sup> First, they demonstrated average to above-average intellectual ability. Ten students were assessed primarily by the Wechsler Adult Intelligence Scale-Revised (WAIS-R). The Wechsler Intelligence Scale for Children-Revised (WISC-R) was the primary assessment instrument for nine students. One student was evaluated by the Woodcock-Johnson Psycho-Educational Battery (WJ) as the primary instrument. These are the most commonly used instruments to establish individual capability. A summary of test score results is found in Table 3.

Secondly, the students manifested severe processing deficits. The WAIS-R, WISC-R, or WJ were the usual instruments to determine deficits. Specific areas of disability indicated by student documentation included: (1) spelling for nine students; (2) reading for eight students; (3) auditory memory for seven students; (4) arithmetic for five students; (5) visual perception and short-term memory for four students; and (6) written language, oral

arithmetic, vocabulary development, long-term memory, and visual-motor coordination for two students each.

Table 3.--Identification of Learning Disabilities

Instrument	Mean	Minimum	Maximum
WISC-R			
Verbal IQ	104.5	88	114
Performance IQ	114.2	92	128
Total IQ	110.8	89	122
WAIS-R			
Verbal IQ	107.0	85	129
Performance IQ	102.2	87	115
Total IQ	106.0	85	120
WRAT*			
Reading	33.3	5	81
Spelling	25.1	12	58
Arithmetic	40.3	18	75

\* WRAT scores are percentiles

Professionals providing the documentation indicated the deficits using statements such as "general language processing defects"; "weaknesses are apparent in vocabulary development, fund of information and auditory memory"; "short-term auditory memory seems to be his major weakness"; and "a weakness in visual perception." In addition, the spelling errors on the writing placement test demonstrated deficiencies in written expression.

Third, a discrepancy between aptitude and achievement was shown. The WAIS-R, WISC-R, WJ, or Wide Range Achievement Test (WRAT) were the primary instruments used to

reveal a discrepancy. Significant differences, more than one standard deviation, between verbal and performance scores on either the WAIS-R or WISC-R were reported for nine students. Scores for eight students revealed no significant differences between verbal and performance scores. Data were not available for three students on these specific measures. Twelve individuals were assessed by the WRAT in addition to one of the primary instruments. This instrument assesses reading, spelling and arithmetic skills. The results according to percentile are in Table 3.

Fourth, achievement of some academic goals was evident. Mellard states,

This component is based on the assumption that the learning disability is manifested in a specific skill area, but that in other academic and vocational areas these students are successful.<sup>145</sup>

Evidence of achievement in the instructional setting was based upon scores on the Scholastic Aptitude Test (SAT) and high school grade point averages which are summarized in Table 2. According to Mellard, determination of achievement in this way:

further differentiated (the student with learning disabilities) from a student better characterized as a low achiever--someone whose ability and achievement are comparable and distinguished by generally low achievement relative to his or her peers.<sup>146</sup>

The fifth component of Mellard's criteria, Appropriate Adaptive Behavior, was not used. Mellard describes this component as providing "information about whether the

student has the level of personal independence, as well as social and vocational responsibility expected of other community college students."<sup>147</sup> This description is parallel to the data anticipated from the primary instrument that was the focus of this research study.

#### Non-Learning Disabled

A second group (NLD) consisted of an equal number of students with males and females in the same four to one ratio as in the first group. They were randomly selected from a pool of freshmen students who had taken the Student Developmental Task and Lifestyle Inventory during freshman orientation and who fit the following profiles. They were admitted to the urban university through regular processes and were traditional age freshmen. English was their primary language, and they did not display any major physical or emotional disabilities or indicate that they had utilized any special education services. Their high school grade point averages and scores on the Scholastic Aptitude Test were compared to the first group (See Table 2). In addition, any student scoring seven or more spelling errors on the writing placement test was eliminated from this group. This group was described as non-learning disabled (NLD).

### Potentially Learning Disabled

A third group was also selected. They were parallel in characteristics to the two previous groups except that they had scored seven or more spelling errors on the writing placement test, yet had not identified themselves as learning disabled. They were classified as potentially learning disabled (PLD).

An analysis of variance was performed on the total Scholastic Aptitude Test scores of the three groups-- learning disabled, potentially learning disabled, and non-learning disabled. The analysis revealed significant group differences,  $F (DF 2,58) = 4.91, p < .01$ . The results are summarized in Table 2. These results were used as the covariate for analysis of data which is described in Chapter IV.

### Design

The design for this study was a causal-comparative multiple group design. The independent variable was the presence, potential presence, or absence of a specific learning disability as evidenced by documentation of learning disability and the number of spelling errors from the writing placement test. The dependent variables were the scores on the Student Developmental Task and Lifestyle Inventory (SDTLI).

The particular scores under study were: (1) "Establishing and Clarifying Purpose Task" (PUR) and related

subtasks "Educational Involvement" (EI), "Career Planning" (CP), "Lifestyle Planning" (LP), and "Life Management" (LM); (2) "Developing Mature Interpersonal Relationships Task" (MIR) and related subtask "Peer Relationships" (PR); (3) "Academic Autonomy Task" (AA); (4) "Salubrious Lifestyle Scale" (SL); (5) "Intimacy Scale" (Int); and (6) "Response Bias Scale" (RB).

Three subtask scores were omitted due to lack of adequate reliability as suggested by the authors of the instrument.<sup>148</sup> These omitted scores were: the "Cultural Participation" subtask, which was part of the "Establishing and Clarifying Purpose Task," and the "Tolerance" and "Emotional Autonomy" subtasks, which were part of the "Developing Mature Interpersonal Relationships Task."

The hypothesis, based upon the review of the literature, was that freshmen students with LD would have significantly lower scores than students without LD on the selected portions of the SDTLI. The null hypothesis was that no significant difference would be demonstrated between the groups.

### Instruments

In addition to the Writing Sample Placement Test previously identified, instruments utilized to study the groups included the Student Biographical Questionnaire, and

the Student Developmental Task and Lifestyle Inventory (SDTLI), which was based on Chickering's theory.

A qualitative in-depth interview with eight students from the students with LD group was used to validate their presentations on the SDTLI. The students participated voluntarily in the interviews and were recruited during freshman orientation. The format for the interview was piloted with other students (The interview questions are presented in Appendix I). The interviews were conducted by the researcher.

The interview assists in confirming the information presented on the SDTLI.<sup>149</sup> As Isaac and Michael stated, "Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced."<sup>150</sup> This method is known as "triangulation of measurement" and allows conclusions with greater power.

The Student Biographical Questionnaire was used to eliminate any students from the study who indicated either: (1) a learning disability, but did not have documentation on file with the Disability Services office, or (2) some other disability which could confound the study results.

The primary instrument utilized in the study to identify differences between the two groups was the Student Developmental Task and Lifestyle Inventory (SDTLI).<sup>151</sup> The instrument consists of one hundred and thirty-five

true/false items designed to measure the following three tasks, eight subtasks, and three scales. A task is defined as "an interrelated set of behavior and attitudes which the culture specifies should be exhibited."<sup>152</sup> A subtask is a smaller subset of the overall task. A scale is a self report of "behavioral characteristics, attitudes, or feelings" that "may not be directly affected by participation in the higher education environment."<sup>153</sup>

A list of the tasks, subtasks, and scales follows:

(1) "Establishing and Clarifying Purpose Task" with subtasks (a) "Educational Involvement," (b) "Career Planning," (c) "Lifestyle Planning," (d) "Life Management," and (e) "Cultural Participation"; (2) "Developing Mature Interpersonal Relationships Task" with subtasks (a) "Tolerance," (b) "Peer Relationships," and (c) "Emotional Autonomy"; (3) "Developing Academic Autonomy Task"; (4) "Salubrious Lifestyle Scale"; (5) "Intimacy Scale"; and (6) "Response Bias Scale."

Reliability was measured by test-retest and internal consistency. For the tasks, subtasks, and scales in test-retest examination, measuring stability over time, the results clustered around .80 with a range of .70 to .88 with all statistics significant at the  $p < .01$  level. The coefficient alpha, measuring internal consistency, ranged from .90 to .50. If the "Response Bias Scale" is omitted, the total inventory has a .93 coefficient alpha. The three



subtasks of "Cultural Participation," "Tolerance," and "Emotional Autonomy" were relatively low in reliability and will, therefore, not be used in this study, although the task of which they are a part is reliable.<sup>154</sup>

The validity of the SDTLI was approached from the areas of content and criterion related concurrent studies. The content of the inventory is based on the work in higher education student development by Arthur Chickering and grouped by factor analysis.<sup>155</sup> Each separate task in the inventory was correlated with the following concurrent scales and inventories: Career Development Inventory, College Student Questionnaire, Erwin Identity Scale, Iowa Developing Autonomy Inventory, Mines-Jensen Interpersonal Relationship Inventory, Omnibus Personality Inventory, and Religious Dogmatism Scale.

The norms for the SDTLI were developed from approximately 1,200 undergraduates ages 17-24 who were enrolled at 20 different colleges in the United States and Canada. Demographic characteristics were identified by gender, class standing, age, residence within three years before college, marital status, current place of residence, geographical region of residence three years prior to college, and racial/ethnic background.

Two separate reviews of the SDTLI support use of this instrument for research. Reviewer Henning-Stout states that "the reliability and validity of this instrument are well

established" and that "the SDTLI is a psychometrically sound inventory."<sup>156</sup> Reviewer Porterfield says that the SDTLI "has a solid and identifiable theoretical base," labels it "a useful tool for further research with college students," and describes the SDTLI as "one of the more valid and reliable measures of Chickering's vectors of college student development."<sup>157</sup>

### Procedure

Data were gathered from incoming freshmen students during orientation sessions. These sessions are two day non-mandatory events during which students are assessed in reading, writing, and math. In these sessions they also complete the instruments identified in the study. The administration of the instruments was supervised by university personnel.

Once the data were collected, the particular groups were selected. The students with learning disabilities self-identified to the coordinator of the program of Disability Services. Their results on the writing placement test were determined. They were included in the study if they had more than seven spelling errors, with one exception for a student with documentation of a learning disability who had six errors. The balance of the students who had completed the instruments became the pool from which the two contrast groups were randomly selected.

Interviews were conducted with eight students with learning disabilities during the summer and first semester of study following their orientation session. The interview format incorporated questions about the topic areas identified in the Student Developmental Task and Lifestyle Inventory.

The collected data were analyzed by using analysis of covariance, which enabled the three groups to be equalized as much as possible on the variable on which they differed, their SAT scores. This method supported the possible significance of the learning disability as the factor that distinguished between the groups.

The results of this analysis are presented in Chapter IV. The impact of these results for students with learning disabilities and for institutions of higher education is presented in Chapter V.

## CHAPTER IV

### PRESENTATION OF FINDINGS

The hypothesis that freshmen students with learning disabilities will demonstrate psychosocial developmental differences when compared to freshmen without learning disabilities was quantitatively and qualitatively explored. This chapter identifies the results of the investigation. First, the quantitative results of the statistical analyses performed on the data are presented. Second, the qualitative results of interview data are given.

#### Quantitative Results

Collected data were analyzed using the Statistical Analysis System (SAS). The significant Scholastic Aptitude Test scores (Identified in Chapter III) were used as covariates to control initial group differences throughout the analysis of scores on the Student Developmental Task and Lifestyle Inventory.

Analysis of covariance was conducted to determine whether developmental differences were evident among the groups as measured by each of the selected tasks, subtasks, and scales of the Student Developmental Task and Lifestyle

Inventory. There were no significant differences on any of the ten scales of the inventory.

On "Establishing and Clarifying Purpose Task" scores no significant differences were identified. Results are indicated in Table 4.

Table 4.--Analysis of "Establishing and Clarifying Purpose Task"

Groups	Means	Standard Deviation	F*
LD	35.05	10.36	1.05
PLD	33.33	13.79	
NLD	29.90	9.67	

\*DF 2, 54

Analysis of covariance on the "Educational Involvement Subtask" scores also revealed no significant differences between the three groups. The specific results are found in Table 5.

Table 5.--Analysis of "Educational Involvement Subtask"

Groups	Means	Standard Deviation	F*
LD	7.26	2.74	.13
PLD	7.00	3.74	
NLD	6.75	2.86	

\*DF 2, 54

No significant difference was found in an analysis of covariance on the "Career Planning Subtask." The results are included in Table 6.

Table 6.--Analysis of "Career Planning Subtask"

Groups	Means	Standard Deviation	F*
LD	7.26	2.75	2.37
PLD	8.31	4.67	
NLD	6.20	3.79	

\*DF 2, 54

No significant differences were found among the three groups on the "Lifestyle Planning Subtask." The results are listed in Table 7.

Table 7.--Analysis of "Lifestyle Planning Subtask"

Groups	Means	Standard Deviation	F*
LD	6.68	1.67	1.75
PLD	6.75	2.71	
NLD	5.50	2.56	

\*DF 2, 56

Similarly, the results included in Table 8 reveal no significant differences among the three groups on the "Life Management Subtask."

An analysis of covariance on the "Salubrious Lifestyle" Scale revealed no significant differences among

the groups. The analysis results are presented in Table 9.

Table 8.--Analysis of "Life Management Subtask"

Groups	Means	Standard Deviation	F*
LD	9.31	3.67	.24
PLD	8.95	3.46	
NLD	8.55	3.28	

\*DF 2, 57

Table 9.--Analysis of "Salubrious Lifestyle Scale"

Groups	Means	Standard Deviation	F*
LD	5.95	1.65	.37
PLD	6.24	2.14	
NLD	5.75	1.65	

\*DF 2, 57

The "Developing Mature Interpersonal Relationships Task" was analyzed by covariance. No significant differences were found among the groups. The results are shown in Table 10.

Table 10.--Analysis of "Developing Mature Interpersonal Relationships Task"

Groups	Means	Standard Deviation	F*
LD	16.32	5.51	1.54
PLD	15.00	6.52	
NLD	18.00	3.92	

\*DF 2, 56

The analysis of covariance conducted on the "Peer Relationships Subtask" demonstrated no significant differences among the groups. The results are included in Table 11.

Table 11.--Analysis of "Peer Relationships Subtask"

Groups	Means	Standard Deviation	F*
LD	7.21	2.76	.40
PLD	6.87	2.97	
NLD	7.60	2.21	

\*DF 2, 57

No significant results were found on the "Academic Autonomy Task." The results are recorded in Table 12.

Table 12.--Analysis of "Academic Autonomy Task"

Groups	Means	Standard Deviation	F*
LD	4.89	2.75	.09
PLD	4.90	2.74	
NLD	4.60	2.14	

\*DF 2, 57

Finally, an analysis of covariance was conducted on the "Intimacy Scale" with no significant results found among the three groups. Results are listed in Table 13.

For each of the tasks, subtasks, and scales of the



Table 13.--Analysis of "Intimacy Scale"

Groups	Means	Standard Deviation	F*
LD	12.06	2.84	2.06
PLD	12.70	3.13	
NLD	10.17	3.46	

---

\*DF 2, 35

Student Developmental Task and Lifestyle Inventory the analysis of covariance, using the total Scholastic Aptitude Test scores as covariate, found no significant difference.

#### Qualitative Results

Structured interviews were conducted with 40% (eight) of the students with learning disabilities who had completed the Student Developmental Task and Lifestyle Inventory. The interview format is located in Appendix I. The questions were designed to parallel the sections of the Student Developmental Task and Lifestyle Inventory. The interview responses are identified in this portion of the chapter.

Two questions were asked relating to "Educational Involvement." Each student indicated that he/she had decided upon a major. The chosen majors included psychology, business, mechanical engineering, fine arts, elementary education, and marketing. Five students described themselves as "eager to learn." One student stated reluctance to learn. One student described his

learning style as "in between." For two students their approach to learning depended upon the subject matter and their interest in it.

Three questions addressed "Career Planning" issues. Four students indicated that they were quite knowledgeable about careers that interested them. Two were "somewhat" knowledgeable. Two were unfamiliar with careers related to their chosen majors.

The following factors were reported by the students as the main basis for career decisions: (1) "liking the career," (2) "fun," (3) "money," (4) "personal experience," (5) "like to work with children," and (6) "enjoy it as much in five years as when begin." Three students stated "liking the career" as the main factor.

Six students stated that they talked with others about their career decisions. Two indicated that they did not talk to others.

The main sources from which they expected to obtain information about their career options were: (1) "school," (2) "friends," (3) "family," (4) "acquaintances," (5) "coworkers," (6) "teachers," (7) "guest speakers," (8) "career guidance office," (9) "library," (10) "books," (11) "people in the field," and (12) "pamphlets from the college education department." One student did not know where to expect to obtain information about careers.

One question referred to "Lifestyle Planning." Students identified the areas of life in which they had made definite decisions. The responses of the students are given in Table 14.

Table 14.--"Lifestyle Planning" Choices

Lifestyle Area	Number of students Responding Positively
Volunteer activity	0
Goals	7
Close friends	5
Values	6
Marriage	2
Number of children	0
Income level	2
Religion	3
Material goods	4

One interview question reflected the "Salubrious Lifestyle" issues of the Student Developmental Task and Lifestyle Inventory. Students were asked how they took care of their physical health and mental well being. The following responses were given:

1. Exercise/physical fitness (Response of five students),
2. Communication with friends (Response of two students),
3. Hobbies,
4. Time alone,
5. Set goal to stay able bodied.

Several questions explored "Lifestyle Management" issues. When asked, "How do you organize your time to meet your needs?" the following responses were given:

1. Set time for social and study,
2. Mentally,
3. Day to day, not really organize,
4. By importance,
5. Mentally by priority,
6. Schedule book,
7. No set schedule,
8. Add time to most difficult tasks and reduce time on less difficult.

The following answers were given to the question, "How do you handle your personal finances?"

1. Budgeting (Response of two students),
2. Balancing checkbook,
3. Rely on parents,
4. Write things down,
5. Keep records,
6. Parents pay tuition, room and board, student covers other expenses,
7. Don't know.

A variety of responses were given to the question, "How do you solve problems or plan activities?"

1. I don't plan activities,
2. I look at what's important and plan,
3. I don't know (Response of four students),

4. I discuss and accept others' opinions,
5. I talk things out,
6. I break problems down into parts,
7. I write down long term plans and remember short term ones.

The final question regarding "Lifestyle Management" was "How are you making a contribution to society?"

Students stated:

1. Good to friends,
2. Going to school which later will help everyone,
3. Church youth group,
4. Not making a contribution,
5. By staying on the right side, not doing wrong, keeping those close to me from doing wrong,
6. Helping to set up children's community sports,
7. Staying out of jail,
8. Unknown.

For the area of "Cultural Participation" students were asked to identify activities which they regularly enjoyed. Their responses are presented in Table 15.

Table 15.--"Cultural Participation" Choices

---



---

Activity	Number of Students Selecting Activity
Hobbies	5
Leisure reading	4
Organized activities	6
Lectures	2
Plays or concerts	3
Museums	3

---

Responding to the topic of intimacy, six students indicated that they had a special relationship with another person. One student did not have such a relationship and one other student had been in a special relationship until the week prior to the interview. In identifying the most important factors in a love relationship three students stated "trust." Others stated "honesty," "respect for the other person's feelings," "caring," "enjoying each other," "having time for each other," and "communication."

"Peer Relationships" were addressed. Students identified the following ways of handling people who disagreed with them:

1. Respectfully seek to understand,
2. Try to see both sides,
3. Present own views and try to change others' opinions,
4. Respect other opinions (Response of three students),
5. No problems with disagreements,
6. See it as just their opinion and fight for your own.

Additional questions and responses which considered peer relationships are shown in Table 16.

In the area of "Emotional Autonomy" each student responded affirmatively that they were open to new ideas and activities. To the question "What decisions would you consult your parents about?" students gave the following responses:

1. Money,

2. Clothing,
3. Everything,
4. Dealing with the future,
5. Jobs,
6. When I need help,
7. College,
8. Major decisions (Response of three students).

Table 16.--"Peer Relationship" Issues

Questions	Responding Yes	Responding No
Do you usually keep your opinions to yourself?	1	5
Do you keep some secrets even from friends?	4	2
Do you try to live up to your friends' expectations?	1	5

Several questions were asked about "Academic Autonomy." The responses are presented in Table 17.

The final questions of the structured interviews reflected the area of "Tolerance." Responses are summarized in Table 18.

In summary, the null hypothesis that no significant differences would be demonstrated between freshman students with learning disabilities and freshman students without

learning disabilities is sustained by the quantitative data.

Table 17.--"Academic Autonomy" Issues

Question	Responding Yes	Responding No
Do you perform in class less well than you could?	4	1
Do you have difficulty concentrating for long periods of time?	3	3
Do you procrastinate doing school work?	4	2
Are you reluctant to ask your instructors for help at school?	0	6
Do you expect instructors to remind you of due dates and to check on your progress?	1	5

Table 18.--"Tolerance" Issues

Questions	Responding Yes	Responding No
Do you use stereotypes for or against any groups of people?	1	5
Would you room with a person of another race?	6	0
Do you think people in the US should speak English?	4	2

The qualitative data on the students with learning disabilities triangulates, that is confirms or authenticates, the findings and provides reassurance of the



accuracy of the instrument scores for these students on the Student Developmental Task and Lifestyle Inventory. The interview data is helpful in addressing the possible reasons for these non-significant results. The results are discussed in Chapter V.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter contains a brief summary of the problem, the methodology, and the results of this study. Conclusions are presented based upon the results, and recommendations are given to apply the results and encourage future research.

#### Summary

##### The Problem

Colleges and universities are increasingly becoming aware that students with learning disabilities are enrolled. Meeting the identified needs of these students in the educational environment assists them in achieving their academic goals. Research has documented the academic needs of students with learning disabilities. A significant body of literature has suggested that students with learning disabilities also demonstrate needs in psychosocial areas. Empirical research which documents these psychosocial needs has, in general, been lacking. This study was structured to investigate whether college freshmen with learning disabilities and with academic obstacles also had

limitations in the psychosocial areas as specified by Arthur Chickering in his theory of college student development.

### Purpose and Design

The purpose of this study was to examine the psychosocial needs of freshmen students with learning disabilities using the Student Developmental Task and Lifestyle Inventory, which was based upon Arthur Chickering's theory of college student development. The study was designed to study three contrasting groups of students identified as: (1) freshmen who had documentation of learning disabilities and who scored seven or more spelling errors on their Writing Sample Placement Test; (2) freshmen who scored more than seven spelling errors on their Writing Sample Placement Test, but who did not have documentation of learning disabilities; and (3) freshmen who scored less than seven spelling errors on the placement test and did not have documentation of learning disabilities.

A total of 61 students were included in the study. Each group had at least 20 students. Data were collected after the students were accepted into the university and prior to their attending classes. Quantitative data included the students' scores on the Scholastic Aptitude Test, the Student Development Task and Lifestyle Inventory, the Student Biographical Questionnaire, and the spelling scores on the Writing Sample Placement Test. Qualitative

data were collected using a structured interview with 40% of the students with learning disabilities.

An analysis of covariance was performed on the quantitative data using the student's Scholastic Aptitude Test scores as the covariate.

### Results

The quantitative data revealed significant differences between the groups with respect to Scholastic Aptitude Test scores. These scores were thus used as covariates to analyze the scores of the Student Developmental Task and Lifestyle Inventory. The analysis of covariance for each of the test scores did not reveal significant differences between the groups for any of the categories measured by the inventory.

Qualitative information was collected from 40% of the group of students with learning disabilities by way of structured interviews. The qualitative responses confirmed the scores presented on the inventory.

The qualitative data revealed that the students with learning disabilities had several areas of strength. Each of the interviewed students had clear, specific educational goals and had selected a major. Six students indicated that they discussed their career plans with others. Seven students stated that they knew where to obtain information to assist in making career choices. Seven students

identified that they had chosen their life style goals, and six students had made clear value choices. Each student had developed ways to care for physical health and to relieve stress. Six students stated that they enjoyed participating in organized activities.

Less well developed areas, according to student responses to questions on the structured interview, included solving problems and planning activities, making a contribution to society, participating in cultural activities, and performing in class as well as possible.

Although the "Intimacy Scale" scores were not significantly different among the three groups, 17 of the 20 students with learning disabilities indicated that they were or had been involved in special relationships. Of the potentially learning disabled group only 10 out of 21 responded to the intimacy statements. From the non-learning disabled group 12 out of 20 responded to the items. The interview data identified six out of the eight that had special relationships.

### Discussion

Since the consensus of the authors in the review of the literature was that psychosocial problems would be apparent in groups of students with learning disabilities, the possible sources which might have contributed to the contrary results which were found in this study are

discussed. Succinctly stated, no significant differences relating to psychosocial issues were identified between students with and without learning disabilities.

Several factors may have contributed to this result. One primary factor that must be understood is that the university in which the study was conducted is a four-year institution with selective admissions procedures. In the course of collecting the data several students with learning disabilities, who had self-identified and who the researcher assumed would be included in the study, were not included because they received poor grades during their final semester in high school and were denied admission. All students in the study had to enter the university through the regular admissions process. Due to the selectivity of this process those students with learning disabilities who were weakest academically and, therefore, likely to be less goal-directed than the students in the study, were probably eliminated. The converse is also probable: that those students with learning disabilities, who were strongest academically and more likely to be goal oriented, were accepted by the university in the admissions process and thus became subjects for this study.

The above perceptions are supported by Houck, Engelhard, and Geller who surveyed college students with and without learning disabilities. They conclude:

Perhaps LD students who choose to go to college represent a particular subgroup that displays

attributes contributing to success in college such as adaptability, motivation, and strong verbal conceptualization abilities.<sup>158</sup>

While all students who met the criteria of having a learning disability and having seven or more spelling errors on the writing sample placement test were included in the study, the overall group size remained small. This small number of observations did not affect the results; however, as in most cases the results were not even close to being significant. Therefore, enlarging the group would not have been likely to affect the significance of the results.

Another factor that may have influenced the results is the time of life when the student was diagnosed as having a learning disability. In this study nine of the twenty students with learning disabilities were identified within twelve months prior to their admission to the university. Five of the students were identified the summer prior to their commencement of course work. The traditional definition of learning disability is linked with academic failure or significant academic lag behind peers. Students who were identified subsequent to high school most likely did not experience these problems, or they unknowingly were successful in compensating for their disability. They, thus, did not carry the label of learning disabled, which may have affected their psychosocial development.

Dennis Hogenson has identified several positive personality qualities in the population of successful adults

who have dyslexia. These include: (1) Warmth--"a secure interpersonal style"; (2) Intelligence; (3) Ego Strength--"a strong sense of one's personal identity"; (4) Dominance--"the ability to direct the activity of others and leadership that is shared, fair, and productive"; (5) Impulse control; (6) Group Conformity--"the ability to be a good team member," and one "who values the rights of others"; and (7) Boldness--"assertive, risk-taking behavior."<sup>159</sup> Ness and Price add "creativity" to this list.<sup>160</sup> The successful high school students with learning disabilities, who had enrolled in college and who were the subjects of this study, indicated these strengths in the interview process.

Research of case studies by Silva and Yarborough support the results of this study. Their work compared writing effectiveness and self-esteem which included general personality well-being, locus of control, and perceptions of self. They concluded that there was not a significant relationship between college students with severe spelling and writing difficulties and measures of self-esteem or loss of internal control. They state, "instead of finding that students with significant spelling difficulties were those with the lowest self-esteem, the reverse was true. This was surprising. . . ."<sup>161</sup> In fact, they found a relatively high level of self-satisfaction.



### Recommendations and Conclusions

The findings in this study support the conclusion that freshmen with learning disabilities do not differ in psychosocial development from their non-learning disabled peers. The following recommendations are provided to explore the implications of this conclusion.

1. Since the results of this study contrast with the presentation of the literature, repetition of the study in other urban universities would be of value.

2. Due to the selective admissions process at this university, a similar study at open admission institutions, both two-year and four-year, is recommended.

3. One of the reasons for focusing on this population was to establish a basis for programs which assist students with learning disabilities. Since no grounds for addressing the special psychosocial needs of these students can be identified on the basis of this study, programming emphases can be placed primarily upon their academic concerns. However, support groups may still be important for this population. The primary emphasis of such groups would be upon the adjustments necessary for academic success. A fair assumption would be that these students will meet their psychosocial needs in the same manner as their peers.

4. Future studies of students with LD should consider whether students are identified early in their academic careers or later, as the identification process may impact

the students differently depending upon the stage of development that they have achieved prior to diagnosis. The types of support services that they have received in prior educational settings may also affect their expectations of what the university setting will offer to them.

5. Given the number of students that were identified as having learning disabilities as a result of performance on the writing placement test, one recommendation is that colleges and universities be assertive in seeking out these students who may not have been previously identified, yet who may benefit from accommodations available to them.

6. Since the number of students with learning disabilities entering as freshmen and as transfer students is growing, colleges and universities must be adequately staffed and organized to handle the needs that will arise.

7. Faculty and staff of universities should be informed that students with learning disabilities will need academic accommodations. This research shows that the students have clear goals and determination to meet these goals. They are capable of success and should be respected as competent.

8. Some students with learning disabilities independently develop compensation strategies in the academic realm. Perhaps they have carried the ability to assess their needs and develop compensatory mechanisms into the psychosocial area as well. Case studies could be

helpful in identifying the students' perceptions and assessments of their skills in academic and psychosocial functioning.

9. For students with learning disabilities who are currently experiencing academic distress, a determination should be made about whether intervention at younger ages, which encourages development of self-esteem and optimism about future goals, could serve as motivation for increased academic success. Answers to this question could assist teachers in developing programs for students.

10. The definition presented by Mellard was helpful for identifying the population of students with learning disabilities. The assumption of the Measured Appropriate Adaptive Behavior component that "LD students' composite adaptive behavior is appropriate"<sup>162</sup> is sustained.

## ENDNOTES

<sup>1</sup>Charles T. Mangrum II and Stephen S. Strichart, College and the Learning Disabled Student (New York: Harcourt Brace Jovanovich, Publishers, 1984), 1.

<sup>2</sup>Donald D. Hammill, James E. Leigh, Gaye McNutt, and Stephen C. Larsen, "A New Definition of Learning Disabilities," Learning Disability Quarterly 11 (Summer 1988): 217.

<sup>3</sup>Sally S. Scott, "Coming to Terms with the 'Otherwise Qualified' Student with a Learning Disability," Journal of Learning Disabilities 23 (August/September 1990): 398.

<sup>4</sup>Paul Hippolitus, "College Freshmen with Disabilities Preparing for Employment," President's Committee on Employment of the Handicapped Washington, D.C. (1987).

<sup>5</sup>Mary Beirne-Smith and Mary D. Deck, "A Survey of Postsecondary Programs for Students With Learning Disabilities," Journal of Learning Disabilities 22 (August/September 1989): 456-457.

<sup>6</sup>Diana J. Fishlock, "Variety of Services Now Available for Students with Hidden Handicaps," The Chronicle of Higher Education (September 16, 1987): A40.

<sup>7</sup>Thomas W. Decker, Edward A. Polloway, Barbara Brundige Decker, "Help For the LD College Student," Academic Therapy 20 (January 1985): 339.

<sup>8</sup>Department of Health, Education and Welfare, "Nondiscrimination on Basis of Handicap," Federal Register (4 May 1977) vol. 42, no. 86, p. 22676-22702. Microfiche.

<sup>9</sup>Jay Brill, "Learning Disabled Adults in Postsecondary Education," Heath Resource Center (Washington, D.C.: The National Clearing House on Postsecondary Education for Individuals with Handicaps, Spring 1987): 1.

<sup>10</sup>Tannis Bryan and James Bryan, "Social Factors in Learning Disabilities: An Overview," Learning Disabilities Theoretical and Research Issues, ed. H. Lee Swanson and Barbara Keogh (Hillsdale, N.J.: Lawrence Erlbaum Associates,

Inc., 1990); Barbara Cordoni, "Personal Adjustment: The Psychosocial Aspects of Learning Disabilities," Helping the Learning-Disabled Student, ed. Marlin R. Schmidt and Hazel Z. Sprandel, no.18 (San Francisco: Jossey-Bass Inc., 1982), 39-48; Mangrum and Strichart, 30-31; Jean Ness and Lynda A. Price, "Meeting the Psychosocial Needs of Adolescents and Adults with LD," Intervention by School and Clinic 26 (September 1990): 16-21; M. Lewis Putnam, "Postsecondary Education for Learning-Disabled Students: A Review of the Literature," Journal of College Student Personnel 25 (January 1984): 68-75.

<sup>11</sup>Ness and Price, 17.

<sup>12</sup>David B. White and Albert B. Hood, "An Assessment of the Validity of Chickering's Theory of Student Development," Journal of College Student Development 30 (July 1989): 354.

<sup>13</sup>Ibid.

<sup>14</sup>Ann M. Orzek, "Special Needs of the Learning Disabled College Student: Implications for Interventions through Peer Support Groups," Personnel and Guidance Journal 62 (March 1984): 404-407.

<sup>15</sup>National Joint Committee on Learning Disabilities, "Adults with Learning Disabilities: A Call to Action," Journal of Learning Disabilities 20 (March 1987): 174.

<sup>16</sup>Alexander Astin, William Korn, Kenneth Green, "Retaining and Satisfying Students," Educational Record 68 (Winter 1987): 36.

<sup>17</sup>U.S. Bureau of the Census, Statistical Abstracts of the United States: 1990 (110th edition) Washington, D.C., 1990: no. 14.

<sup>18</sup>Astin, 42.

<sup>19</sup>University of Maryland Longitudinal Study Steering Committee, "Students Who Become Nonpersisters: Who, When, Why and To Do What? The Astin Index: One Approach to Predicting Persistence at UNCP Four Years After Initial Enrollment," (1987), 25, ERIC, ED 301 103.

<sup>20</sup>Erik H. Erikson, Identity Youth and Crisis (New York: W. W. Norton and Co., 1968); Erik H. Erikson, Childhood and Society, 2nd ed. (New York: W. W. Norton and Co., 1963).

<sup>21</sup>Vernon G. Zunker, Career Counseling Applied Concepts of Life Planning (California: Wadsworth, Inc., 1990): 203.

<sup>22</sup>Daniel J. Levinson, The Seasons of a Man's Life (New York: Alan A. Knopf, 1978).

<sup>23</sup>Arthur W. Chickering, Education and Identity (San Francisco: Jossey-Bass, 1969).

<sup>24</sup>Frederick W. Coons, "The Developmental Tasks of College Students," Adolescent Psychiatry: Developmental and Clinical Studies, vol. 1, ed. Sherman C. Feinstein, Peter L. Glovacchini and Arthur A. Miller (New York: Basic Books, 1971).

<sup>25</sup>Steven C. Ender, Sue Saunders McCaffrey, and Theodore. K. Miller, Students Helping Students: A Training Manual for Peer Helpers on the College Campus, (Athens, Georgia: Student Development Associates, 1979).

<sup>26</sup>Daniel B. Pikar and Christopher D. Tori, "The Learning Disabled Adolescent: Eriksonian Psychosocial Development, Self-Concept, and Delinquent Behavior," Journal of Youth and Adolescence 15 (1986): 429-440.

<sup>27</sup>Ibid.

<sup>28</sup>Louisa D. Cook, "The Adolescent with a Learning Disability: A Developmental Perspective," Adolescence 14 (1979): 697-707.

<sup>29</sup>George Travis, "An Adult Educator Views Learning Disabilities," Adult Literacy and Basic Education 3 (1979): 85-92.

<sup>30</sup>Edward A. Polloway, J. David Smith, and James R. Patton, "Learning Disabilities: An Adult Development Perspective," Learning Disabilities Quarterly 11 (Summer 1988): 265-272.

<sup>31</sup>Ibid., 271.

<sup>32</sup>Ibid., 269.

<sup>33</sup>Orzek, 404-407.

<sup>34</sup>Ibid., 405.

<sup>35</sup>Chickering.

<sup>36</sup>Mangrum and Strichart, 1.

<sup>37</sup>Scott B. Sigmon, Radical Analysis of Special Education: Focus on Historical Development and Learning Disabilities (London: The Falmer Press, 1987), 25.

<sup>38</sup>Ibid.

<sup>39</sup>Ibid., 26.

<sup>40</sup>Federal Register, (4 May 1977) p. 22676-22702.

<sup>41</sup>M. Lewis Putnam, "Postsecondary Education for Learning-Disabled Students: A Review of the Literature," Journal of College Student Personnel 25 (January 1984): 72.

<sup>42</sup>Richard Clelland, Section 504: Civil Rights for the Handicapped (Arlington, Virginia: American Association of School Administrators, 1978), v.

<sup>43</sup>Department of Health, Education and Welfare, "Nondiscrimination on the Basis of Handicap," Federal Register (17 May 1976) vol. 41, no. 96, p. 20296. Microfiche.

<sup>44</sup>Federal Register (4 May 1977) p. 22683.

<sup>45</sup>Ibid.

<sup>46</sup>Ibid.

<sup>47</sup>Ibid.

<sup>48</sup>Ibid.

<sup>49</sup>Ibid.

<sup>50</sup>Mike Lopez and Myrtle Clyde-Snyder, "Higher Education for Learning Disabled Students," NASPA Journal 20 (1983): 35.

<sup>51</sup>Robert Hagerty and Thomas Howard, How to Make Federal Mandatory Special Education Work for You (Illinois: Charles C. Thomas, 1978), 5.

<sup>52</sup>Sigmon, 25.

<sup>53</sup>Hagerty, 10.

<sup>54</sup>Mills v. Board of Education of the District of Columbia. 348 F. Supp. 866, 1972.

<sup>55</sup>Hagerty, 11.

<sup>56</sup>David G. Savage, Educating All the Handicapped (Virginia: National School Public Relations Association, 1977), 16.

<sup>57</sup>Ibid., 17.

<sup>58</sup>Putnam, 71.

<sup>59</sup>Hagerty, 19.

<sup>60</sup>Department of Health, Education and Welfare, "Education of Handicapped Children", Federal Register (23 August 1977), vol. 42, no. 163, p. 42478.

<sup>61</sup>Mangrum and Strichart, 2.

<sup>62</sup>Hagerty, 82.

<sup>63</sup>Mangrum and Strichart, 3.

<sup>64</sup>Ibid., 2.

<sup>65</sup>Sigmon, 54.

<sup>66</sup>Mangrum and Strichart, 3.

<sup>67</sup>Savage, 72.

<sup>68</sup>Hagerty, 79.

<sup>69</sup>Ibid.

<sup>70</sup>Savage, 76.

<sup>71</sup>Hagerty, 79.

<sup>72</sup>Interagency Committee on Learning Disabilities, Learning Disabilities: A Report to the U.S. Congress (Washington, D.C., 1987), 14.

<sup>73</sup>Ibid., 24.

<sup>74</sup>Barbara K. Cordoni, "Secondary Education: Where Do We Go From Here?" Journal of Learning Disabilities, 15 (May 1982): 265; Edward M. Levinson, "School Psychology and College Learning Disabled Students: Training and Service Possibilities," Psychology in the Schools, 23 (July 1986): 298; Putnam, p.70.

<sup>75</sup>Sigmon, 35.

<sup>76</sup>Ibid., 44.

<sup>77</sup>Ibid.

<sup>78</sup>Ibid., 45.



<sup>79</sup>Ibid., 47.

<sup>80</sup>Ibid., 48.

<sup>81</sup>Ibid., 53.

<sup>82</sup>Ibid., 56.

<sup>83</sup>Ibid., 57.

<sup>84</sup>Hammill, Leigh, McNutt, and Larsen, 217.

<sup>85</sup>Ibid.

<sup>86</sup>Ibid., 222.

<sup>87</sup>Ibid., 218-219.

<sup>88</sup>Ibid.

<sup>89</sup>Ibid., 219.

<sup>90</sup>Jill Sunday Bartoli, "On Defining Learning and Disability: Exploring the Ecology," Journal of Learning Disabilities 23 (December 1990): 628.

<sup>91</sup>Daryl F. Mellard, "The Eligibility Process: Identifying Students with Learning Disabilities in California's Community Colleges," Learning Disabilities Focus 5 (1990): 78.

<sup>92</sup>Kenneth A. Kavale, "Theoretical Issues Surrounding Severe Discrepancy," Learning Disabilities Research 3 (1987): 19.

<sup>93</sup>H. Lee Swanson, "Severe Discrepancy: Some Thoughts from Cognitive Psychology," Learning Disabilities Research 3 (1987): 62.

<sup>94</sup>Margo A. Mastropieri, "Statistical and Psychometric Issues Surrounding Severe Discrepancy: A Discussion," Learning Disabilities Research 3 (1987): 30.

<sup>95</sup>James C. Chalfant, "Identifying Learning Disabled Students: A Summary of the National Task Force Report," Learning Disabilities Focus 1 (1985): 12.

<sup>96</sup>Esther Sinclair and Joyce Alexson, "Learning Disability Discrepancy Formulas: Similarities and Differences Among Them," Learning Disabilities Research 1 (1986): 116.

<sup>97</sup>Alan R. Frank, David P. Wacker, Timothy Z. Keith,

and Teresa K. Sagen, "Effectiveness of a Spelling Study Package for Learning Disabled Students," Learning Disabilities Research 2 (1987): 111; Anna Gajar, John Salvia, Meenakshi Gajria, and Shawn Salvia, "A Comparison of Intelligence Achievement Discrepancies Between Learning Disabled and Non-Learning Disabled College Students," Learning Disabilities Research 4 (1989): 120; Noel Gregg and Cheri Hoy, "Referencing: The Cohesive Use of Pronouns in the Written Narrative of College Underprepared Writers, Nondisabled Writers and Writers with Learning Disabilities," Journal of Learning Disabilities 21 (November 1990): 558; Barry S. Knowles and Patricia S. Knowles, "A Model for Identifying Learning Disabilities in College-Bound Students," Journal of Learning Disabilities 16 (January 1983): 40; Joan M. McGuire, Debora Hall, and A. Vivienne Litt, "A Field-Based Study of the Direct Service Needs of College Students with Learning Disabilities," Journal of College Student Development 32 (March 1991): 102; Mary Morris and Janice Leuenberger, "A Report of Cognitive, Academic and Linguistic Profiles for College Students With and Without Learning Disabilities," Journal of Learning Disabilities 23 (June/July 1990): 356.

<sup>98</sup>M. Kay Runyan, "The Effect of Extra Time on Reading Comprehension Scores for University Students With and Without Learning Disabilities," Journal of Learning Disabilities 23 (June/July 1990): 356.

<sup>99</sup>Maurice R. Berube, The Urban University in America (Westport, Connecticut: Greenwood Press, Inc., 1978), 5.

<sup>100</sup>Berube, 3.

<sup>101</sup>Marlene Bireley and Eleyse Manley, "The Learning Disabled Student in a College Environment: A Report of Wright State University's Program," Journal of Learning Disabilities 13 (1980): 10.

<sup>102</sup>American Council on Education, The Student Personnel Point of View (Washington, D.C., 1937).

<sup>103</sup>Marylu K. McEwen, Larry D. Roper, Daborah R. Bryant, Miriam J. Langa, "Incorporating the Development of African-American Students into Psychosocial Theories of Student Development," Journal of College Student Development 31 (September 1990): 429.

<sup>104</sup>Sheralyn Cox, "The Learning Disabled Adult," Academic Therapy 13 (September 1977): 429.

<sup>105</sup>Gordon Alley and Donald Deshler, Teaching the Learning Disabled Adolescent: Strategies and Methods

(Denver: Love Publishing Co., 1979).

<sup>106</sup>Cordoni, "Personal Adjustment," 40.

<sup>107</sup>Doreen Kronick, "An Examination of Psychosocial Aspects of Learning Disabled Adolescents," Learning Disabilities Quarterly 1 (1978): 87, quoted in Fred Barbaro, "The Learning Disabled College Student: Some Considerations in Setting Objectives," Journal of Learning Disabilities 15 (December 1982): 599.

<sup>108</sup>Putnam, 69.

<sup>109</sup>Mangrum and Strichart, 30-31.

<sup>110</sup>National Joint Committee on Learning Disabilities, 174.

<sup>111</sup>Ness and Price, 14.

<sup>112</sup>Ibid., 17.

<sup>113</sup>Chickering.

<sup>114</sup>Ibid., 26.

<sup>115</sup>Ibid., 29 and 30.

<sup>116</sup>Ibid., 34.

<sup>117</sup>Ibid., 37.

<sup>118</sup>Ibid., 41.

<sup>119</sup>Ibid., 46.

<sup>120</sup>Russel Thomas and Arthur W. Chickering, "Education and Identity Revisited," Journal of College Student Personnel 25 (September 1984): 395.

<sup>121</sup>Chickering, 59.

<sup>122</sup>Ibid., 74.

<sup>123</sup>Ibid., 74.

<sup>124</sup>Erik Erikson, "Identity and the Life Cycle," Psychological Issues 1 (1959): 89.

<sup>125</sup>Robert Winthrop White, Lives in Progress (New York: Dryden Press, 1959), 332. Quoted in Chickering, 80.

<sup>126</sup>Chickering, 92.

<sup>127</sup>Ibid., 94.

<sup>128</sup>Ibid., 122.

<sup>129</sup>T. Dary Erwin and Ursula Delworth, "Formulating Environmental Constructs that Affect Students' Identity," NASPA Journal 20 (1982): 47-55.

<sup>130</sup>Albert B. Hood, Ahmad Reza Riahiinejad, and David B. White, "Changes in Ego Identity During the College Years," Journal of College Student Personnel 27 (March 1986): 113.

<sup>131</sup>Gary R. Hanson, "Critical Issues in the Assessment of Student Development," in Measuring Student Development ed. Gary R. Hanson no. 20 (San Francisco: Jossey-Bass Inc., Publications, 1982), 49.

<sup>132</sup>Ibid., 54.

<sup>133</sup>T. Dary Erwin and William B. Love, "Selected Environmental Factors in Student Development," NASPA Journal 26 (Summer 1989): 258.

<sup>134</sup>Kathy D. Pollard, Sidney E. Benton, and Katherine Hinz, "The Assessment of Developmental Tasks of Students in Remedial and Regular Programs," Journal of College Student Personnel 24 (1983): 20-23, summarized in Roger B. Winston, Jr. and Mark Polkosnik, "Student Developmental Task Inventory (2nd Edition): Summary of Selected Findings," Journal of College Student Personnel 27 (November 1986): 554.

<sup>135</sup>Marilyn Bergman, "Organic Dysfunction Linked to LD Disrupts Normal Social Development," Hill Top Spectrum 3 (March 1986), 20 ERIC, ED 273 083; Tannis H. Bryan, "Self-Concept and Attributions of the Learning Disabled," Learning Disabilities Focus 1 (1986): 82; Wendy B. Heyman, "The Self-Perception of a Learning Disability and Its Relationship to Academic Self-Concept and Self-Esteem," Journal of Learning Disabilities 23 (October 1990): 472; Orzek, 405.

<sup>136</sup>Dennis Coon, Introduction to Psychology (St. Paul, MN: West Publishing Company, 1989), 299.

<sup>137</sup>Noel Gregg and Cheri Hoy, 1990, 557-563.

<sup>138</sup>Jan Leuenberger and Mary Morris, "Analysis of Spelling Errors by Learning Disabled and Normal College Students," Learning Disabilities Focus 5 (Spring 1990): 103.

<sup>139</sup>Noel Gregg, Cheri Hoy and Rugh Sabol, "Spelling Error Patterns of Normal, Learning Disabled, and Underprepared College Writers," Journal of Psychoeducational Assessment 3 (1985): 223-229.

<sup>140</sup>*Ibid.*, 223.

<sup>141</sup>Susan Vogel, "Learning Disabled College Students: Identification, Assessment and Outcome," in Understanding Learning Disabilities: Interdisciplinary and Multidisciplinary Views ed. Drake D. Duane and Che Kan Leong (New York: Plenum Pub., 1985), 179-198, as quoted in Carolyn O'Hearn, "Recognizing the Learning Disabled College Writer," College English 51 (March 1989): 297.

<sup>142</sup>Leuenberger and Morris, 114.

<sup>143</sup>Carolyn O'Hearn, "Recognizing the Learning Disabled College Writer," College English 51 (March 1989): 297.

<sup>144</sup>Mellard, 75-90.

<sup>145</sup>*Ibid.*, 79.

<sup>146</sup>*Ibid.*

<sup>147</sup>*Ibid.*, 80.

<sup>148</sup>Roger B. Winston, Jr. and Theodore K. Miller, Student Developmental Task and Lifestyle Inventory Manual (Athens, Georgia: Student Development Associates, Inc., 1987), 37.

<sup>149</sup>Stephen Isaac and William B. Michael, Handbook in Research and Evaluation (San Diego: EdITS Publishers, 1983).

<sup>150</sup>*Ibid.*, 92.

<sup>151</sup>Roger B. Winston, Jr., Theodore K. Miller and Judith S. Prince, Student Developmental Task and Lifestyle Inventory (Athens, Georgia: Student Development Associates, Inc., 1987).

<sup>152</sup>Winston and Miller, 8.

<sup>153</sup>*Ibid.*, 8.

<sup>154</sup>*Ibid.*, 23-24.

<sup>155</sup>*Ibid.*, 24.

<sup>156</sup>Mary Henning-Stout, "Review of the Student Developmental Task and Lifestyle Inventory," in The Supplement to the Tenth Mental Measurement Yearbook, ed. Oscar K. Buro (Lincoln, Nebraska: Nebraska University Press, 1990), 247-248.

<sup>157</sup>William D. Porterfield, "Review of the Student Deveopmental Task and Lifestyle Inventory," in The Supplement to the Tenth Mental Measurement Yearbook, ed. Oscar K. Buro (Lincoln, Nebraska: Nebraska University Press, 1990), 248-249.

<sup>158</sup>Cherry K. Houck, Judy Engelhard, Carol Geller, "Self-Assessment of Learning Disabled and Nondisabled College Students: A Comparative Study," Learning Disabilities Research 5 (1989):66.

<sup>159</sup>Dennis L. Hogenson, "Positive Personality Qualities In Successful Dyslexic Adults," Hill Top Spectrum 3 (Rosemont, Pennsylvania: Hill Top Preparatory School, December, 1985), 7-8, ERIC, ED 273 083.

<sup>160</sup>Ness and Price, 17.

<sup>161</sup>Clare Silva and Betty H. Yarborough, "A Survey of Case Histories of Ten College Level Disabled Writers/Spellers, 1984(?)" Personal files of Clare Silva, Old Dominion University, Norfolk, Virginia.

<sup>162</sup>Mellard, 81.

## SELECTED BIBLIOGRAPHY

- Ackerman, Peggy T., M. Jeanette Mc Grew, and Roscoe A. Dykman. "A Profile of Male and Female Applicants For a Special College Program for Learning-Disabled Students." Journal of Clinical Psychology 43 (January, 1987): 67-78.
- Adelman, Howard S. and Linda Taylor. An Introduction to Learning Disabilities. Glenview, Illinois: Scott, Foresman and Company, 1986.
- Allard, W. Gregory, John M. Dodd, and Esther Peralez. "Keeping LD Students In College." Academic Therapy 22 (March, 1987): 359-365.
- Alley, Gordon and Donald Deshler. Teaching the Learning Disabled Adolescent: Strategies and Methods. Denver: Love Publishing Co., 1979.
- American Council on Education. The Student Personnel Point of View. Washington, D. C., 1937.
- Association of Children with Learning Disabilities (ACLD). Taking the First Step to Solve Learning Disabilities. Brochure. Washington, D.C.
- Astin, Alexander, William Korn, and Kenneth Green. "Retaining and Satisfying Students." 68 Educational Record (Winter, 1987): 36.
- Barbaro, Fred. "The Learning Disabled College Student: Some Considerations in Setting Objectives." Journal of Learning Disabilities 15 (December, 1982): 599-603.
- Barbaro, Fred, Dorcas Christman, Sandra M. Holzinger and Ellen Rosenberg. "Support Services for the Learning Disabled College Student." Social Work 30 (January-February, 1985): 12-18.
- Barr, Alyce. Successful College Tutoring: Focusing on the Learning Disabled Student in the Learning Center. Position Paper Series, document no. 11. New York: Long Island University, Brooklyn, 1987. ERIC, ED 289 337.

- Bartoli, Jill Sunday. "On Defining Learning and Disability." Journal of Learning Disabilities 23 (December, 1990): 628.
- Beirne-Smith, Mary, and Mary D. Deck. "A Survey of Postsecondary Programs for Students With Learning Disabilities." Journal of Learning Disabilities 22 (August/September, 1989): 456-457.
- Bennett, Randy Elliot, Donald A. Rock, and Ka Ling Chan. "SAT Verbal-Math Discrepancies: Accurate Indicators of College Learning Disability?" Journal of Learning Disabilities 20 (March, 1987): 189-192.
- Bergman, Marilyn. "Organic Dysfunction Linked to LD Disrupts Normal Social Development." Hill Top Spectrum 3 (March, 1986): 20-24. ERIC, ED 273 083.
- Berube, Maurice R. The Urban University in America. Westport, CT: Greenwood Press, Inc., 1978.
- Bingham, Grace. "Career Maturity of Learning Disabled Adolescents." Psychology In the Schools 17 (January, 1980): 135-139.
- Bireley, Marlene and Eleyse Manley. "The Learning Disabled Student in a College Environment: A Report of Wright State University's Program." Journal of Learning Disabilities 13 (January, 1980): 12-15.
- Brill, Jay. "Learning Disabled Adults in Postsecondary Education." Heath Resource Center. Washington, D. C.: The National Clearing House on Postsecondary Education for Individuals with Handicaps, Spring, 1987.
- Brown, Dale. "Rehabilitating the Learning Disabled Adult." American Rehabilitation 7 January-February, 1982. ERIC, ED 230 751.
- Bryan, Tanis H. "Self-Concept and Attributions of the Learning Disabled." Learning Disabilities Focus 1 (Spring, 1986): 82-88.
- Bryan, Tanis H. and James Bryan. "Social Factors in Learning Disabilities: An Overview." In Learning Disabilities Theoretical and Research Issues, ed. H. Lee Swanson and Barbara Keogh, 131-138. Hillsdale, N.J.: Lawrence Erlbaum Associates, Inc., 1990.
- Buchanan, Mary and Joan S. Wolf. "A Comprehensive Study of Learning Disabled Adults." Journal of Learning Disabilities 19 (1986): 34-38.



- Chalfant, James C. "Identifying Learning Disabled Students: A Summary of the National Task Force Report." Learning Disabilities Focus 1 (1985): 9-20.
- Chickering, Arthur. Education and Identity. San Francisco: Jossey-Bass, Inc., 1969.
- Clelland, Richard. Section 504: Civil Rights for the Handicapped. Arlington, VA: American Association of School Administrators, 1978.
- Cook, Louisa D. "The Adolescent with a Learning Disability: A Developmental Perspective." Adolescence 14 (Winter, 1979): 697-707.
- Coons, Frederick W. "The Developmental Tasks of College Students." In Adolescent Psychiatry: Developmental and Clinical Studies, ed. Sherman C. Feinstein, Peter L. Glovacchini and Arthur A. Miller, Vol. I, New York: Basic Books, 1971.
- Cordoni, Barbara, K. "Secondary Education: Where Do We Go From Here?" Journal of Learning Disabilities 15 (May, 1982): 265-266.
- \_\_\_\_\_. "Personal Adjustment: The Psychosocial Aspects of Learning Disabilities." Helping the Learning-Disabled Student. Marlin R. Schmidt, Hazel Z. Sprandel, eds. San Francisco: Jossey-Bass, Inc. 18 (June, 1982): 39-47.
- \_\_\_\_\_. "Directory of College LD Services." Journal of Learning Disabilities 15 (November, 1982): 529-534.
- \_\_\_\_\_. "Assisting Dyslexic College Students: An Experimental Program Design at a University." Bulletin of The Orton Society 29 (1979): 263-268
- Cox, Sheralyn. "The Learning Disabled Adult." Academic Therapy 13 (1977): 79-86.
- Dalke, Connie. "Woodcock-Johnson Psycho-Educational Test Battery Profiles: A Comparative Study of College Freshmen With and Without Learning Disabilities." Journal of Learning Disabilities 21 (November, 1988): 567-570.
- Dalke, Connie and Susan Schmitt. "Meeting the Transition Needs of College Bound Students with Learning Disabilities." Journal of Learning Disabilities 20 (March, 1987): 176-180.

- Decker, Thomas, W., Edward A. Polloway, and Barbara Brundige Decker. "Help for the LD College Student." Academic Therapy 20 (January, 1985): 339-345.
- Eliason, Michele J. and Lynn C. Richman. "The Continuous Performance Test in Learning Disabled and Nondisabled Children." Journal of Learning Disabilities 20 (December, 1987): 614-619.
- Ender, Steven C., Sue Saunders McCaffrey, and Theodore K. Miller. Students Helping Students: A Training Manual for Peer Helpers on the College Campus. Athens, Georgia: Student Development Associates, 1979.
- Engel, Joanne B. "Questions To Ask the Bright But Learning Disabled Student During the Admissions Process." College and University 63 (Summer, 1988): 333-337.
- Erikson, Erik. "Identity and the Life Cycle." Psychological Issues 1 (1959): 89.
- \_\_\_\_\_. Childhood and Society. 2nd ed. New York: W. W. Norton and Co., 1963.
- \_\_\_\_\_. Identity Youth and Crisis. New York: W. W. Norton and Co., 1968.
- Erwin, T. Dary and Ursula Delworth. "Formulating Environmental Constructs that Affect Students' Identity." NASPA Journal 20 (1982): 47-55.
- Erwin, T. Dary and William B. Love. "Selected Environmental Factors in Student Development." NASPA Journal 26 (Summer, 1989): 256-264.
- Fishlock, Diana J. "Variety of Services Now Available for Students with Hidden Handicaps." The Chronicle of Higher Education (September 16, 1987): A40.
- Frank Alan R., David P. Wacker, Timothy Z. Keith and Teresa K. Sagen. "Effectiveness of a Spelling Study Package for Learning Disabled Students." Learning Disabilities Research 2 (1987): 110-118.
- Freeman, Sharon. Alternative Instructional Materials for the Learning Disabled. Texas: San Jacinto College, Central Campus, 1987. ERIC, ED 287101.

- Gajar, Anna, John Salvia, Meenakshi Gajria, and Shawn Salvia. "A Comparison of Intelligence Achievement Discrepancies Between Learning Disabled and Non-Learning Disabled College Students." Learning Disabilities Research 4 (1989): 119-124.
- Gregg, Noel, and Cheri Hoy. "Coherence: The Comprehension and Production Abilities of College Writers Who Are Normally Achieving, Learning Disabled and Underprepared." Journal of Learning Disabilities 22 (June/July, 1989): 370-372.
- \_\_\_\_\_. "Referencing: The Cohesive Use of Pronouns in the Written Narrative of College Underprepared Writers, Nondisabled Writers, and Writers with Learning Disabilities." Journal of Learning Disabilities 23 (November, 1990): 557-563.
- Gregg, Noel, Cheri Hoy and Ruth Sabol. "Spelling Error Patterns of Normal, Learning Disabled, and Underprepared College Writers." Journal of Psychoeducational Assessment 3 (1985): 223-229.
- Griffey, Quentin L., Jr. "Word Processing For LD College Students." Academic Therapy 22 (September, 1986): 61-67.
- Hagerty, Robert and Thomas Howard. How to Make Federal Mandatory Special Education Work for You. Illinois: Charles C. Thomas, 1978.
- Hammill, Donald D., James E. Leigh, Gaye McNutt and Stephen C. Larsen. "A New Definition of Learning Disabilities." Learning Disability Quarterly 11 (Summer, 1988): 217-223.
- Hanson, Gary R. "Critical Issues in the Assessment of Student Development." In Measuring Student Development, ed. Gary R. Hanson, 47-64. San Francisco: Jossey-Bass Inc., Publications, 1982.
- Henning-Stout, Mary. "Review of the Student Developmental Task and Lifestyle Inventory." In The Supplement to the Tenth Mental Measurements Yearbook, ed. Oscar K. Buro, 246-248. Lincoln, Nebraska: Nebraska University Press, 1990.
- Heyman, Wendy B. "The Self-Perception of a Learning Disability and Its Relationship to Academic Self-Concept and Self-Esteem." Journal of Learning Disabilities 23 (October, 1990): 472-475.

- Hippolitus, Paul. College Freshmen with Disabilities Preparing for Employment. President's Committee on Employment of the Handicapped, Washington, D. C., 1987.
- Hoffmann, F. James, Kenneth L. Sheldon, Esther H. Minskoff, Scott W. Sautter, Ernest F. Steidle, Deborah P. Baker, Mary Beth Bailey and Laura D. Echols. "Needs of Learning Disabled Adults." Journal of Learning Disabilities 20 (January, 1987): 43-52.
- Hogenson, Dennis L. "Positive Personality Qualities In Successful Dyslexic Adults." Hill Top Spectrum 3 September-June 1985-1986. ERIC, ED 273 083.
- Hood, Albert B., Ahmad Reza Riahi, and David B. White. "Changes in Ego Identity During the College Years." Journal of College Student Personnel 27 (March, 1986): 107-113.
- Houck, Cherry K., Judy Engelhard, and Carol Geller. "Self-Assessment of Learning Disabled and Nondisabled College Students: A Comparative Study." Learning Disabilities Research 5 (1989): 61-67.
- Huestis, Robert and Cheryl Ryland. Integrating Learning Disabilities into the Life of Adolescents. Paper presented at the Annual Conference of the Association for Children and Adults with Learning Disabilities, N.Y., 12-15 March 1986. ERIC, ED 269 930.
- Hughes, Charles A. and Judith Osgood Smith. "Cognitive and Academic Performance of College Students with Learning Disabilities: A Synthesis of the Literature." Learning Disability Quarterly 13 (Winter, 1990): 66-78.
- Ingram, Gregg F., and Lois Dettenmaier. "LD College Students and Reading Problems." Academic Therapy 22 (May, 1987): 513-518.
- Interagency Committee on Learning Disabilities. Learning Disabilities: A Report to the U.S. Congress. Washington, D.C., 1987.
- Isaac, Stephen, and William B. Michael. Handbook in Research and Evaluation. San Diego: EdITS Publishers, 1983.
- Johnston, Christopher L. "The Learning Disabled Adolescent and Young Adult: An Overview and Critique of Current Practices." Journal of Learning Disabilities 17 (August/September, 1984): 386-391.

- Justice, Elaine. "Implications of Learning Disabilities for Adolescent and Adult Adjustment." Unpublished paper obtained from Dr. Clare Silva, Old Dominion University, 1982 (?).
- Kahn, Michale S. "Learning Problems of the Secondary and Junior College Learning Disabled Student: Suggested Remedies." Journal of Learning Disabilities 13 (October, 1980): 40-44.
- Kavale, Kenneth A. "Theoretical Issues Surrounding Severe Discrepancy." Learning Disabilities Research 3 (1987): 12-20.
- Knowles, Barry S., and Patricia S. Knowles. "A Model for Identifying Learning Disabilities in College-Bound Students." Journal of Learning Disabilities 16 (January, 1983): 39-42.
- Kroll, Laura G. "LD's-What Happens When They Are No Longer Children?" Academic Therapy 20 (November, 1984): 133-148.
- Kronick, Doreen. "An Examination of Psychosocial Aspects of Learning Disabled Adolescents." Learning Disabilities Quarterly 1 (1978): 87. Quoted in Fred Barbaro. "The Learning Disabled College Student: Some Considerations in Setting Objectives." Journal of Learning Disabilities 15 (December, 1982): 599-603.
- Leuenberger, Jan and Mary Morris. "Analysis of Spelling Errors by Learning Disabled and Normal College Students." Learning Disabilities Focus 5 (1990): 108-118.
- Levinson, Daniel J. The Seasons of a Man's Life. New York: Alan A. Knopf, 1978.
- Levinson, Edward M. "School Psychology and College Learning Disabled Students: Training and Service Possibilities." Psychology in the Schools 23 (July, 1986): 295-302.
- Lopez, Mike and Myrtle Clyde-Snyder. "Higher Education for Learning Disabled Students." NASPA Journal 20 (1983): 35.
- Lutwak, Nita and Elaine Fine. "Countertherapeutic Styles When Counseling the Learning-Disabled College Student." Journal of College Student Personnel 24 (July, 1983): 320- 324.

- Mangrum, Charles T., and Stephen S. Strichart, eds.  
Peterson's Guide to Colleges with Programs for Learning Disabled Students. Princeton, N.J.: Peterson's Guides, 1985.
- \_\_\_\_\_. College and the Learning Disabled Student.  
 Orlando: Harcourt Brace Javanovich, Publishers, 1984.
- Mastropiere, Margo A. "Statistical and Psychometric Issues Surrounding Severe Discrepancy: A Discussion."  
Learning Disabilities Research 3 (1987): 29-31.
- McEwen, Marylu K., Larry D. Roper, Deborah R. Bryant, Miriam J. Langa. "Incorporating the Development of African-American Students into Psychosocial Theories of Student Development." Journal of College Student Development 31 (September, 1990): 429-436.
- McGuire, Joan M. Debra Hall and A. Vivienne Litt. "A Field-Based Study of the Direct Service Needs of College Students With Learning Disabilities." Journal of College Student Development 32 (March, 1991): 101-108.
- Mellard, Daryl F. "The Eligibility Process: Identifying Students with Learning Disabilities in California's Community Colleges." Learning Disabilities Focus 5 (Spring, 1990): 75-90.
- Michael, Robert J. "Evaluating the College of Choice." Academic Therapy 22 (May, 1987): 485-488.
- Mills v. Board of Education of the District of Columbia, 438 F. Supp. 866, 1972.
- Miller, Robert J., Bill Snider, and Chet Rzonca. "Variables Related to the Decision of Young Adults with Learning Disabilities to Participate in Postsecondary Education." Journal of Learning Disabilities 23 (June/July, 1990): 349-354.
- Mindingall, Arnold, J. Wesley Libb and Michael Welch. "Locus of Control and Personality Functioning of LD Children." Journal of Clinical Psychology 36 (1980): 137-141.
- Minner, Sam, and Greg Prater. "College Teachers' Expectations of LD Students." Academic Therapy 20 (November, 1984): 225-229.

- Minskoff, Esther H., Scott W. Sautter, Kenneth L. Scheldon, Ernest F. Steidle, Deborah P. Baker. "A Comparison of Learning Disabled Adults and High School Students." Learning Disabilities Research 3 (Summer, 1988): 115-123.
- Morris, Mary and Janice Leuenberger. "A Report of Cognitive, Academic, and Linguistic Profiles for College Students With and Without Learning Disabilities." Journal of Learning Disabilities 23 (June/July, 1990): 355-360, 385.
- National Clearinghouse on Postsecondary Education for Individuals with Handicaps. Information From Heath. Washington, D.C.: Heath Resource Center, May-June, 1988.
- National Joint Committee on Learning Disabilities. "Adults with Learning Disabilities: A Call to Action." Journal of Learning Disabilities 20 (March, 1987): 172-175.
- Nayman, Robbie L. "College Learning Assistance Services and the Learning-Disabled College Student." In Helping the Learning-Disabled Student, ed. Marlin R. Schmidt and Hazel Z. Sprandel, 69-86. San Francisco: Jossey-Bass Inc., 1982.
- Ness, Jean and Lynda A. Price. "Meeting the Psychosocial Needs of Adolescents and Adults with LD." Intervention in School and Clinic 26 (September, 1990): 16-21.
- O'Hearn, Carolyn. "Recognizing the Learning Disabled College Writer." College English 51 (March, 1989): 294-304.
- Orzek, Ann M. "Special Needs of the Learning Disabled College Student: Implications for Interventions Through Peer Support Groups." Personnel and Guidance Journal 62 (March, 1984): 404-407.
- Osman, Betty. "Learning Disabilities in Adolescents Generate Socialization Disorders." Hill Top Spectrum 3 September-June 1985-1986. ERIC, ED 273 083.
- Patton, James R. and Edward A. Polloway. "Analyzing College Courses." Academic Therapy 22 (January, 1987): 273-280.
- Pickar, Daniel B. "Psychosocial Aspects of Learning Disabilities." Bulletin of the Menninger Clinic 50 (1986): 22-32.

- Pickar, Daniel B. and Christopher D. Tori. "The Learning Disabled Adolescent: Eriksonian Psychosocial Development, Self-Concept, and Delinquent Behavior." Journal of Youth and Adolescence 15 (1986): 429-440.
- Pollard, Kathy D., Sidney E. Benton and Katherine Hinz. "The Assessment of Developmental Tasks of Students in Remedial and Regular Programs." Journal of College Student Personnel 24 (January, 1983): 20-23. Summarized in Roger B. Winston, Jr., and Mark C. Polkosnik. "Student Developmental Task Inventory (2nd Edition): Summary of Selected Findings." Journal of College Student Personnel 27 (November, 1986): 548-559.
- Polloway, Edward A., J. David Smith, and James R. Patton. "Learning Disabilities: An Adult Development Perspective." Learning Disabilities Quarterly 11 (Summer, 1988): 265-272.
- Porterfield, William D. "Review of the Student Developmental Task and Lifestyle Inventory." In The Supplement to the Tenth Mental Measurements Yearbook, ed. Oscar K. Buro, 248-249. Lincoln, Nebraska: Nebraska University Press, 1990.
- Professional Staff Congress/CUNY. Reasonable Accommodations: A Faculty Guide To Teaching College Students With Disabilities. New York: City University of New York Edition, 1988.
- Putnam, M. Lewis. "Postsecondary Education for Learning-Disabled Students: A Review of the Literature." Journal of College Student Personnel 25 (January, 1984): 68-75.
- Ribner, Sol. "Self-Concept in Mainstreaming and Self Contained Classes." Journal of Learning Disabilities 11 (1978): 319-323. Cited in Rita Silverman and Naomi Zigmond. "Self-Concept in Learning Disabled Adolescents." Journal of Learning Disabilities 16 (October, 1983): 478-482.
- Runyan, M. Kay. "The Effect of Extra Time on Reading Comprehension Scores for University Students With and Without Learning Disabilities." Journal of Learning Disabilities 24 (February, 1991): 104-108.
- Sabatino, David A., Ted L. Miller, Carl R. Schmidt. Learning Disabilities. Rockville, MD: Aspen Systems Corp., 1981.
- Savage, David G. Educating All the Handicapped. Virginia: National School Public Relations Association, 1977.



- Scott, Sally S. "Coming to Terms with the 'Otherwise Qualified' Student with a Learning Disability." Journal of Learning Disabilities 23 (August/September, 1990): 398-405.
- Seelig, Shari. A College Guide for LD Service Providers. Position Paper Series: Document no. 12, New York: Long Island University, Brooklyn. ERIC, ED 289338.
- Sigmon, Scott B. Radical Analysis of Special Education: Focus on Historical Development and Learning Disabilities. London: The Falmer Press, 1987.
- Silva, Clare and Betty H. Yarborough. "A Survey of Case Histories of Ten College Level Disabled Writers/Spellers, 1984(?)." Personal files Clare Silva, Old Dominion University, Norfolk, Virginia.
- Silver, Larry B. "A Review of the Federal Government's Interagency Committee on Learning Disabilities Report to the U.S. Congress." Learning Disabilities Focus 3 (Spring, 1988): 73-80.
- Silverman, Rita and Naomi Zigmond. "Self-Concept in Learning Disabled Adolescents." Journal of Learning Disabilities 16 (October 1983): 478-482.
- Sinclair, Esther and Joyce Alexson. "Learning Disability Discrepancy Formulas: Similarities and Differences Among Them." Learning Disabilities Research 1 (1986): 112-118.
- Siperstein, Gary N. "Students with Learning Disabilities in College: The Need for a Programmatic Approach to Critical Transitions." Journal of Learning Disabilities 21 (August/September, 1988): 431-436.
- Smith, Judith Osgood. "Social and Vocational Problems of Adults with Learning Disabilities: A Review of the Literature." Learning Disabilities Focus 4 (Fall, 1988): 46-58.
- Swanson, H. Lee. "Severe Discrepancy: Some Thoughts from Cognitive Psychology." Learning Disabilities Research 3 (1987): 57-63.
- Thomas, Russel and Arthur W. Chickering. "Education and Identity Revisited." Journal of College Student Personnel 25 (September, 1984): 392-399.

- Tollefson, Nona, D. B. Tracy, E. P. Johnsen, A. W. Farmer, and Meredith Buening. "Goal Setting and Personal Responsibility Training for LD Adolescents." Psychology in the Schools 21 (April, 1984): 224-233.
- Travis, George. "An Adult Educator Views Learning Disabilities." Adult Literacy and Basic Education 3 (1979): 85-92.
- University of Maryland Longitudinal Study Steering Committee. Students Who Became Nonpersisters: Who, When, Why and To Do What? The Astin Index: One Approach to Predicting Persistence at UNCP Four Years After Initial Enrollment 1987. ERIC, ED 301 103.
- U.S. Bureau of the Census. Statistical Abstracts of the United States: 1990. (110th edition) Washington, D. C., 1990: no. 14.
- U.S. Department of Health, Education and Welfare. "Nondiscrimination on the Basis of Handicap." Federal Register (17 May 1976) vol. 41, no. 96, p. 20296-20379. Microfiche.
- U.S. Department of Health, Education and Welfare. "Nondiscrimination on the Basis of Handicap." Federal Register (4 May 1977) vol. 42, no. 86, p. 22676-22702. Microfiche.
- U.S. Department of Health, Education and Welfare. "Education of Handicapped Children." Federal Register (23 August 1977) vol. 42, no. 163, p. 42474-425188. Microfiche.
- Vaughn, Sharon and Anne Hogan. "Social Competence and Learning Disabilities: A Prospective Study." In Learning Disabilities Theoretical and Research Issues, ed. H. Lee Swanson and Barbara Keogh, 175-200. Hillsdale, NJ: Lawrence Erlbaum Assoc, Inc., 1990.
- Vogel, Susan A. "On Developing LD College Programs." Journal of Learning Disabilities 15 (November, 1982): 518-528.
- \_\_\_\_\_. "Learning Disabled College Students: Identification, Assessment and Outcomes." Edited by Drake A. Duane and Chekan Leong, Understanding Learning Disabilities. New York: Plenum Press (1985): 179-204.

- \_\_\_\_\_. "Levels and Patterns of Intellectual Functioning Among LD College Students: Clinical and Educational Implications." Journal of Learning Disabilities 19 (February, 1986): 71-78.
- White, David B. and Albert B. Hood. "An Assessment of the Validity of Chickering's Theory of Student Development." Journal of College Student Development 30 (July, 1989): 354-360.
- White, Robert Winthrop. Lives in Progress. New York: Dryden Press, 1959.
- White, Warren J., Gordon R. Alley, Donald D. Deshler, Jean B. Schmaker, Michale M. Warner, and Frances L. Clark. "Are There Learning Disabilities After High School." Exceptional Children 49 (November, 1982): 273-374.
- Wiener, Judith. "Peer Status of Learning Disabled Children and Adolescents: A Review of the Literature." Learning Disabilities Research 2 (Summer, 1987): 62-79.
- Winne, Philip H., Margaret J. Woodlands and Bernice Y. L. Wong. "Comparability of Self Concept Among Learning Disabled, Normal and Gifted Students." Journal of Learning Disabilities 15 (October, 1982): 470-475.
- Winston, Roger B., Jr. and Theodore K. Miller. Student Developmental Task and Lifestyle Inventory Manual. Athens, Georgia: Student Development Associates, Inc., 1987.
- Zunker, Vernon G. Career Counseling Applied Concepts of Life Planning. California: Wadsworth, Inc., 1990.

## APPENDIX

## Questionnaire on Life Choices

Please circle "Y" for Yes and "N" for No in answering the following questions.

- Y N 1. Have you decided on your a major?
2. Would you describe yourself as:  
       \_\_\_\_\_ Reluctant to learn or  
       \_\_\_\_\_ Eager to learn
- Y N 3. Are you quite knowledgeable about careers that interest you?
4. What will be the main factor on which you base your career decision?
- Y N 5. Do you talk with others about your career decision?
6. Where do you expect to get information about your career options?
7. About which of the following areas of life have you made definite decisions?
- |                          |                          |
|--------------------------|--------------------------|
| _____ volunteer activity | _____ number of children |
| _____ goals              | _____ income level       |
| _____ close friends      | _____ religion           |
| _____ values             | _____ material goods     |
| _____ marriage           |                          |
8. How do you care for your physical health and mental well-being?
9. How do you organize your time to meet your needs?
10. How do you handle your personal finances?
11. How do you solve problems or plan activities?
12. How are you making a contribution to society?

13. Which of the following do you regularly enjoy?
- |                          |                      |                          |                   |
|--------------------------|----------------------|--------------------------|-------------------|
| <input type="checkbox"/> | hobbies              | <input type="checkbox"/> | lectures          |
| <input type="checkbox"/> | leisure reading      | <input type="checkbox"/> | plays or concerts |
| <input type="checkbox"/> | organized activities | <input type="checkbox"/> | museums           |
- Y N 14. Do you have a special relationship with another person?
15. What is the most important factor in a love relationship?
- Y N 16. Do you usually keep your opinions to yourself?
17. How do you handle people who disagree with you?
- Y N 18. Do you keep some secrets even from friends?
- Y N 19. Do you try to live up to your friends expectations?
- Y N 20. Are you open to new ideas and activities?
21. What decisions would you consult your parents about?
- Y N 22. Do you perform in class less well than you could?
- Y N 23. Do you have difficulty concentrating for long periods of time?
- Y N 24. Do you procrastinate doing school work?
- Y N 25. Are you reluctant to ask your instructors for help at school?
- Y N 26. Do you expect instructors to remind you of due dates and to check on your progress?
- Y N 27. Do you use stereotypes for or against any groups of people?
- Y N 28. Would you room with a person of another race?
- Y N 29. Do you think people in the U. S. should speak English?

## VITA

NANCY ANN WOLTHUIS OLTHOFF  
NORFOLK, VIRGINIA

Birthplace: Kalamazoo, Michigan, April 26, 1947

Education: 1991 Old Dominion University  
Norfolk, Virginia  
Doctor of Philosophy in Urban Services

1976 Western Michigan University  
Kalamazoo, Michigan  
Master of Arts of Teaching in the  
Community College

1970 Calvin College  
Grand Rapids, Michigan  
Bachelor of Arts in Psychology,  
English and Secondary Education

Positions: Coordinator, Disability Services  
Old Dominion University  
Norfolk, Virginia

Director, Hospitality House for Women  
Norfolk, Virginia

Teacher, Creston-Mayfield Christian School  
Grand Rapids, Michigan

Teacher, Applied Gerontological Education  
Grand Rapids Public Schools  
Grand Rapids, Michigan

Membership: Phi Kappa Phi Honor Society  
Virginia Alliance of Higher Education Association  
for Disabilities  
Board of Westminster House Ministry  
Royster Memorial Presbyterian Church Choir

Honors: Virginia Association of the Blind--  
1991 Service Award  
Graduated with Honors--Western Michigan  
University

Publications:

- "Can We Witness Silently?" The Banner. CRC Board  
of Publications: Grand Rapids, Michigan  
(October, 1988).  
"Male and Female Distinguish We Them." Christian  
Educator's Journal. Christian Schools  
International: Denver, Colorado (February-  
March, 1979).  
"Labeling" (A curriculum study guide).  
Calvinettes: Grand Rapids, Michigan (1977).  
"More With Less: Review." The Banner. CRC Board  
of Publications: Grand Rapids, Michigan  
(November, 1975).