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Analysis of Generality or Specificity of Level of Aspiration in Selected Psychomotor and Cognitive Tasks.

Larry James Chaloupka

Louisiana State University and Agricultural & Mechanical College

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ANALYSIS OF GENERALITY OR SPECIFICITY OF LEVEL OF ASPIRATION
IN SELECTED PSYCHOMOTOR AND COGNITIVE TASKS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Education

in

The Department of Health, Physical and Recreation Education

by

Larry James Chaloupka
B.S., Sam Houston State College, 1962
M.Ed., Sam Houston State College, 1965
January, 1969
For her understanding, sacrifices, and spirit of loving encouragement, this study is dedicated to my loving wife, Sandra.
ACKNOWLEDGMENTS

The author wishes to express his sincere gratitude to the members of the supervisory committee and to his major professor, Dr. Helen Fant, for the assistance and encouragement received during the completion of this study.

Special appreciation is extended to the administrators of the Houston Independent School District, Houston, Texas, and the students who volunteered to participate as subjects in the study.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ACKNOWLEDGMENTS</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>ix</td>
</tr>
</tbody>
</table>

## CHAPTER

<table>
<thead>
<tr>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
</tr>
<tr>
<td>Statement of Problem</td>
</tr>
<tr>
<td>Purposes of the Study</td>
</tr>
<tr>
<td>Definition of Terms</td>
</tr>
<tr>
<td>Delimitations of the Study</td>
</tr>
<tr>
<td>Limitations of the Study</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
</tr>
<tr>
<td>Development of the Concept of Level of Aspiration</td>
</tr>
<tr>
<td>Level of Aspiration in Physical Education</td>
</tr>
<tr>
<td>Basic Research on Level of Aspiration in Physical Education</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
</tr>
<tr>
<td>Level of Aspiration as a Motivation Factor in Physical Education</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
</tr>
<tr>
<td>Level of Aspiration and Academic Achievement</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
</tr>
</tbody>
</table>
### TABLE OF CONTENTS (continued)

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generality or Specificity of Level of Aspiration</td>
<td>33</td>
</tr>
<tr>
<td>Generality in Level of Aspiration</td>
<td>34</td>
</tr>
<tr>
<td>Specificity in Level of Aspiration</td>
<td>40</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
<td>42</td>
</tr>
<tr>
<td>Level of Aspiration and Personality Characteristics</td>
<td>43</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
<td>51</td>
</tr>
<tr>
<td>Influences Affecting Level of Aspiration</td>
<td>52</td>
</tr>
<tr>
<td>Influence of One's Own Group on Level of Aspiration</td>
<td>52</td>
</tr>
<tr>
<td>Influence of Other Groups on Level of Aspiration</td>
<td>54</td>
</tr>
<tr>
<td>Influence of Performance on Level of Aspiration</td>
<td>57</td>
</tr>
<tr>
<td>Influence of Success and Failure on Level of Aspiration</td>
<td>59</td>
</tr>
<tr>
<td>Influence of Instructions on Level of Aspiration</td>
<td>61</td>
</tr>
<tr>
<td>Influence of Prearranged Performance Scores, Socio-economic Factors, Sex and Age on Level of Aspiration</td>
<td>63</td>
</tr>
<tr>
<td>Summary of Related Studies</td>
<td>65</td>
</tr>
<tr>
<td>III. DESCRIPTION OF PROCEDURE</td>
<td>67</td>
</tr>
<tr>
<td>Overview</td>
<td>67</td>
</tr>
<tr>
<td>Selection of Subjects</td>
<td>67</td>
</tr>
<tr>
<td>Selection and Description of Tests</td>
<td>68</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Fine Psychomotor Tasks</td>
<td>70</td>
</tr>
<tr>
<td>Cassel Group Level of Aspiration Test</td>
<td>70</td>
</tr>
<tr>
<td>Minnesota Rate of Manipulation Test</td>
<td>72</td>
</tr>
<tr>
<td>Gross Psychomotor Tasks</td>
<td>73</td>
</tr>
<tr>
<td>Standing Triple Broad Jump</td>
<td>74</td>
</tr>
<tr>
<td>Bar-Snap for Distance</td>
<td>74</td>
</tr>
<tr>
<td>Cognitive Task</td>
<td>75</td>
</tr>
<tr>
<td>Academic Ability Tests</td>
<td>77</td>
</tr>
<tr>
<td>Science Research Associates Achievement Series</td>
<td></td>
</tr>
<tr>
<td>Form C</td>
<td>78</td>
</tr>
<tr>
<td>Academic Promise Test Form A</td>
<td>78</td>
</tr>
<tr>
<td>Otis Quick-Scoring Mental Ability Test Beta Form</td>
<td>79</td>
</tr>
<tr>
<td>Grade Point Average</td>
<td>80</td>
</tr>
<tr>
<td>Motor Ability</td>
<td>80</td>
</tr>
<tr>
<td>General Procedure for Level of Aspiration Testing</td>
<td>80</td>
</tr>
<tr>
<td>Statistical Design</td>
<td>82</td>
</tr>
<tr>
<td>IV. ANALYSIS OF DATA</td>
<td>83</td>
</tr>
<tr>
<td>Psychomotor and Cognitive Tests Reliability</td>
<td>83</td>
</tr>
<tr>
<td>Means, Standard Deviations, and Ranges for Total Aspiration Discrepancy Scores and Mean Aspiration Discrepancy Score Per Test on Psychomotor and Cognitive Tasks</td>
<td>84</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (continued)

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercorrelations Among Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks</td>
<td>86</td>
</tr>
<tr>
<td>Intercorrelations Among Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks, Motor Ability, and Academic Ability</td>
<td>88</td>
</tr>
<tr>
<td>Correlations Between Total Performance Scores and Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks</td>
<td>88</td>
</tr>
<tr>
<td>Intercorrelations Among Four Academic Ability Measures and Motor Ability</td>
<td>91</td>
</tr>
<tr>
<td>V. SUMMARY, FINDINGS, DISCUSSION, AND CONCLUSIONS</td>
<td>93</td>
</tr>
<tr>
<td>Summary</td>
<td>93</td>
</tr>
<tr>
<td>Findings</td>
<td>94</td>
</tr>
<tr>
<td>Discussion</td>
<td>95</td>
</tr>
<tr>
<td>Discussion of the Findings</td>
<td>95</td>
</tr>
<tr>
<td>Conclusions</td>
<td>98</td>
</tr>
<tr>
<td>SELECTED BIBLIOGRAPHY</td>
<td>100</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>110</td>
</tr>
<tr>
<td>A. Cassel Group Level of Aspiration Test</td>
<td>111</td>
</tr>
<tr>
<td>B. Means, Standard Deviations and Ranges for Motor Ability and Academic Ability Scores for Ninety Eighth Grade Males</td>
<td>115</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (continued)

APPENDIXES

<table>
<thead>
<tr>
<th>APPENDIXES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Means, Standard Deviations and Ranges of Psychomotor and Non-Motor Tasks for Ninety Eighth Grade Males</td>
<td>116</td>
</tr>
<tr>
<td>VITA</td>
<td>117</td>
</tr>
<tr>
<td>TABLE</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>I. Means, Standard Deviations and Ranges for Total Aspiration Discrepancy Scores and Mean Aspiration Discrepancy Score Per Test on Psychomotor and Cognitive Tasks for Ninety Eighth Grade Males</td>
<td>85</td>
</tr>
<tr>
<td>II. Intercorrelations Among Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks for Ninety Eighth Grade Males</td>
<td>87</td>
</tr>
<tr>
<td>III. Intercorrelations Among Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks, Motor Ability, and Academic Ability for Ninety Eighth Grade Males</td>
<td>89</td>
</tr>
<tr>
<td>IV. Correlations Between Total Performance Scores and Total Aspiration Discrepancy Scores on Psychomotor and Cognitive Tasks for Ninety Eighth Grade Males</td>
<td>90</td>
</tr>
<tr>
<td>V. Intercorrelations Among Four Academic Ability Measures and Motor Ability for Ninety Eighth Grade Males</td>
<td>92</td>
</tr>
</tbody>
</table>
ABSTRACT

The purposes of this study were to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks and to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. It was a secondary purpose of this study to determine the relationship between level of aspiration and performance on psychomotor and cognitive tasks.

Ninety male eighth grade students participated as volunteer subjects in the study during June and July, 1968, in Houston, Texas.

All subjects were tested for levels of aspiration on two gross psychomotor tasks, two fine psychomotor tasks, and a cognitive task. Each subject was given three successive performance tests on each task. Upon completing each performance test, subjects privately indicated on their score cards their levels of aspiration for the next attempt at the task. Three performances and three levels of aspiration test scores were obtained for each task.

Subjects' motor ability scores were determined by use of the Barrow Motor Ability Test. Academic ability scores were obtained from subjects' permanent school records, which included Science Research Associates Achievement Series Form C scores, Academic Promise Test Form A scores, Otis Quick-Scoring Mental Ability Test Beta Form scores, and grade point average.
Pearson Coefficient of Correlation based on test-retest data was used to determine the reliability of the four psychomotor and one cognitive tasks testing procedure. Zero order correlation was employed to study the extent of generality of specificity of levels of aspiration in the selected psychomotor and cognitive tasks and to study the extent of generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. Correlation was also employed to determine the relationship between levels of aspiration and performance on the selected psychomotor and cognitive tasks.

The findings of this study were as follows:

1. When total aspiration discrepancy scores for two gross and two fine psychomotor tasks and one cognitive task were intercorrelated, significant but low correlations were found to exist among all tasks except for the Standing Triple Broad Jump.

2. Academic ability was not significantly related to level of aspiration on any of the gross and fine psychomotor tasks nor on the cognitive task.

3. Barrow Motor Ability Test did correlate significantly with level of aspiration scores on the Standing Triple Broad Jump, but not to aspiration levels on any of the other psychomotor and cognitive tasks.

4. Nonsignificant correlations were found between aspiration
discrepancy scores and performances for two gross and two fine psychomotor tasks and a cognitive task.

5. Generally, no significant correlations were found between motor ability as measured by the Barrow Motor Ability Test and Academic Ability measures. A low, but significant negative correlation was found between Barrow Motor Ability Test and Otis-Beta Mental Ability Test.

Within the limits of this study the following conclusions were justified:

1. There is some evidence of generality of levels of aspiration in psychomotor and cognitive tasks.

2. There is specificity of levels of aspiration for psychomotor and cognitive tasks as related to motor ability or academic ability.

3. There is no relationship between levels of aspiration and performances on psychomotor and cognitive tasks.

4. When motor ability and four measures of academic ability were intercorrelated, conflicting evidence was found. Standardized measures of academic ability were highly interrelated, whereas, a nonstandardized measure, grade point average, was not highly related to the standardized measures. Motor ability was generally not related to academic ability.
A teacher will never succeed in giving proper guidance to a child if he doesn't learn to understand the psychological world in which that individual child lives.¹

Scholars of human behavior with its multitudinous phenomena have been concerned with the question of what causes man to behave as he does. Finding out why man behaves as he does is not the only goal of these scholars; they are also interested in the phenomena that drive man to the ultimate heights of performance which he occasionally achieves whether in scientific discovery, intellectual pursuits, the arts or athletic accomplishments.

In attempting to determine factors which enable man to achieve outstanding psychomotor performances, physical educators should be concerned with the sundry factors affecting psychomotor performance. Drury² stated that an individual's ability to perform is based upon the physiological condition of the person, his mechanical skill and his desire to perform well.

Physical educators have concentrated on investigating the


first two of Drury's criteria for efficient psychomotor performance. Many studies may be found that deal with such areas as the cardiorespiratory, metabolic rate, chemical changes, strength increase and other essentially physiological functions of the human body. Many studies may also be found dealing with methods of developing and teaching the mechanical skills of a psychomotor task. Relatively small amounts of research by physical educators have been found to focus on the possibility that an individual's maximum proficiency in a psychomotor task may not be determined by physiological condition and mechanical skill alone. It may be that strong psychological factors may be at work whenever all-out physical performance is undertaken. It may be also asserted that many individuals stop far short of ultimate physical performance because of certain psychic factors which limit the level of performance. Ikai and Steinhaus, who have written on this subject, have stated:

Physiologic factors set the relatively fixed and outermost limits, psychological factors, the more proximate ones. In this sense it is appropriate to speak of a physiologic and psychologic limit. Capacity is the always undetermined measure of the former. Performance is always limited by the latter.3

In other words, during physical effort, all other factors being equal, psychologic rather than physiologic factors may determine the limits of performance.

Lee and Wagner\(^4\) stated that physiological limits are rarely, if ever, attained because of the psychological limit which causes an individual to stop with the early signs of fatigue. An individual's psychological limit is "conditioned by slight aches, respiratory distress, and many mental factors such as fear of overdoing, parental warnings and boredom."\(^5\) When these psychological limits are removed, Kozman and others\(^6\) stated that the aspiration of an individual to perform is unbelievably extended.

Ulrich, in referring to research studies in the area of stress, stated:

Many of these studies have treated the physiological work of the subject in sport as the main or only stressor. While there is no evidence to prove the inadequacy of this assumption, there is cause to suspect that physical work, as such, may not be the main, and certainly is not the only stressor involved in sport. Re-interpretation of earlier studies and recent research both indicate that the psychic aspects of sport may indeed be the most powerful stressors operating in the situation.\(^7\)

Level of aspiration is one of many psychological factors which may determine the limits of performance not only in psychomotor

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\(^5\)Ibid.


tasks but in intellectual or cognitive tasks. Since individuals consciously or unconsciously set levels of aspiration, physical educators should have a knowledge of this psychological concept. However, the concept of level of aspiration is relatively new to physical education. Few studies have been done in physical education bearing primarily upon level of aspiration. Cratty\(^8\) pointed out the need for research concerning level of aspiration in physical education when he stated: "Research relating aspiration level and self-estimations of performance to motor ability has also been neglected by teacher educators in physical education."

Knowledge of the aspiration levels that an individual sets for himself is important for a true appraisal of his behavior and performance, and for an understanding of his reactions to environmental stresses or conditions. Levels of aspiration may be formulated by an individual himself or they may be formulated by the environment which prescribes a standard of achievement which the individual has to attain. Under these conditions, do levels of aspiration remain stable from one environmental stress or condition to another or do they vary as the individual perceives the situation? In a discussion of generality or specificity of level of aspiration, Cratty stated:

> It is believed that a low or high aspiration level will generalize from performance tasks, both intellectual and

physical, during the years in which physical skill is most valued and in which one is more likely to be socially punished by one's peer (from 5-18 years in boys).§

Since Cratty made the above statement in a speculative sense and a review of literature has shown some contradiction as to a generality or specificity concept of level of aspiration, this study was undertaken in the expectation of learning more about level of aspiration in physical education and an understanding of the relationships of level of aspiration behavior to motor ability and academic ability.

I. STATEMENT OF PROBLEM

To what extent is there generality or specificity of level of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability?

II. PURPOSES OF THE STUDY

The primary purposes of this study were: to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks and to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability.

A secondary purpose of this study was to determine the relationship between level of aspiration and performance on psychomotor and cognitive tasks.

§Ibid., p. 27.
III. DEFINITION OF TERMS

Level of aspiration. For the purpose of this study, level of aspiration was defined as "the level of future performance in a familiar task which an individual, knowing his level of past performance in that task, explicitly undertakes to reach."¹⁰

Psychomotor task. For the purpose of this study, psychomotor task was defined as "a muscular action ensuing directly from a mental process."¹¹

Gross psychomotor task. For the purpose of this study, gross psychomotor task was defined as a reasonably complex motor performance resulting from an integration of body movements involving large muscle groups.¹²

Fine psychomotor task. For the purpose of this study, fine psychomotor task was defined as a relatively simple motor performance resulting from body movements involving small muscle groups.¹³

Cognitive task. For the purpose of this study, cognitive task was defined as a non-motor task which deals with the recall or


¹³Ibid.
recognition of knowledge. "Knowledge refers to the psychological
process of remembering."\textsuperscript{14}

**Motor ability.** For the purpose of this study, motor ability
was defined as "the present acquired and innate ability to perform
motor skills of a general or fundamental nature, exclusive of
highly specialized sports or gymnastic techniques."\textsuperscript{15}

**Academic ability.** For the purpose of this study, academic
ability was defined as "a combination of abilities useful in higher
education in which verbal or linguistic accomplishment and numerical
or mathematical facility are emphasized."\textsuperscript{16}

**Aspiration discrepancy score.** For the purpose of this study,
aspiration discrepancy score was defined as the difference between
level of aspiration score and the previous performance score. Goal
discrepancy score is used by some investigators in referring to
this aspiration measure.

**Positive aspiration discrepancy score.** An aspiration
discrepancy score was said to be positive when the aspiration score
was greater than the subject's preceding performance score.

**Negative aspiration discrepancy score.** An aspiration

\textsuperscript{14}Benjamin S. Bloom, *Taxonomy of Educational Objectives* (New

\textsuperscript{15}Harold Barrow and Rosemary McGee, *A Practical Approach
to Measurement in Physical Education* (Philadelphia: Lea and Febiger,
1966), pp. 122-123.

\textsuperscript{16}Carter V. Good, *Dictionary of Education* (New York: McGraw-
discrepancy score was said to be negative when the aspiration score was less than the subject's preceding performance score.

IV. DELIMITATIONS OF THE STUDY

This study was delimited to ninety male eighth grade students enrolled in the Houston Independent School District, Houston, Texas.

The design of this study restricted its efforts to four psychomotor tasks and one cognitive task. Each task was limited to three performance and three level of aspiration tests.

V. LIMITATIONS OF THE STUDY

The measurement of the subjects' levels of aspiration was limited specifically to the results of the tests used in this study.

Since the subjects were volunteers and participated in the experiment at their convenience, it was not possible to have identical testing time segments for every subject.
CHAPTER II

REVIEW OF LITERATURE

The literature reviewed was divided into six categories. These categories included: (1) development of the concept of level of aspiration; (2) studies related to level of aspiration in physical education; (3) studies related to level of aspiration and academic achievement; (4) studies related to generality or specificity of level of aspiration; (5) studies related to level of aspiration and personality characteristics; and (6) studies related to influences affecting level of aspiration.

I. DEVELOPMENT OF THE CONCEPT OF LEVEL OF ASPIRATION

In the late 1920's during an investigation of anger, Dembo, who was a student of Kurt Lewin, first formulated the concept of "Anspruchsniveau" which, translated into English, means "Level of Aspiration." Dembo's study employed frustration as a means of evoking anger. Subjects were required to perform a task which was either extremely difficult or completely impossible. Although not a primary purpose of her study, it was discovered that when a required goal was too difficult, subjects would set an intermediate goal which

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1T. Dembo, "Der Arger als Dynamisches Problem," Psychologie Forschung, XV (1931), 1-144.
was easier than, but a step toward, the required goal. Momentary level of aspiration was the term used by Dembo to identify this intermediate goal.

Hoppe followed Dembo's study with the first systematic experimental investigation specifically concerned with the new concept of level of aspiration. For his study Hoppe defined the term level of aspiration:

The subject . . . always undertakes the task with certain demands (Anspruchen), which can change in the course of the activity. The totality of these constantly shifting, now indefinite, now precise, expectations, goal-setting or demands in connection with one's own future performance, we shall term the level of aspiration of the subject.3

Hoppe's study was concerned with the effects of success and failure on level of aspiration. Adult subjects were presented with simple motor and intellectual tasks such as hanging sixteen rings upon as many hooks as they passed upon a rapidly moving belt, and solving puzzles. During each trial within a task, each subject was secretly observed by Hoppe. Completion of each task was followed by a personal interview with the subject. Hoppe found that subjects experienced a feeling of success if they attained their intermediate or momentary levels of aspiration; but they experienced a feeling of failure if they did not attain their momentary level of aspiration. It was also found that subjects tended to shift their level of


3Ibid.
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\(^3\)Ibid.
aspiration upward when their performance came up to their aspiration level and downward when they failed to reach their expressed aspiration level. Hoppe concluded that marked differences were present in individual levels of aspiration and some subjects set intermediate levels of aspiration far above their levels of performance while others set aspiration levels within easy reach. Based on his conclusions, Hoppe suggested that individual differences in levels of aspiration revealed differences in personality.

Since Hoppe's evaluation of the level of aspiration behavior was essentially qualitative, Frank attempted to provide a more precise method of dealing with levels of aspiration. Frank introduced a quantitative method of evaluation. In the quantitative technique, subjects were informed of their performance scores from the preceding trial and were asked to indicate "how well they intended to do" on the next trial. This technique required Frank to redefine level of aspiration as follows:

The term level of aspiration . . . is defined as the level of future performance in a familiar task which an individual, knowing his level of past performance in that task, explicitly undertakes to reach.5

In developing his definition for level of aspiration, Frank assumed that the relationship of level of aspiration to level of past performance at any time depended primarily on the relative strength of


5Ibid., p. 119.
the following needs: (1) need to keep the level of aspiration as high as possible, regardless of the level of performance, (2) need to make the level of aspiration approximate the level of future performance as closely as possible, and (3) need to avoid failure.

Frank used two principal scores to evaluate level of aspiration behavior. One was the goal discrepancy score which was the difference between the previous performance and the subsequent level of aspiration. The goal discrepancy score was positive if the goal was higher than the previous performance, and negative if the goal was lower than the previous performance. The average goal discrepancy score of an individual was based upon the mean discrepancy score of the separate trials of a task. Frank's second means of evaluating level of aspiration behavior was to measure the percentage of typical reactions to success and failure. Thus, the responsiveness of the level of aspiration to changes in the level of performance was a measure of stability in the setting of levels of aspiration.

Although experimentation by students of Lewin into the concept of level of aspiration started in the late 1920's, little space was devoted to this topic in research literature. It was not until the appearance in 1935 of Lewin's Dynamic Theory of Personality that other researchers began to devote their energies to developing the concept of level of aspiration.

In his book, Lewin6 cited studies by Hoppe, Jucknat, Fajans,

Frank, and Rosenfeld. From the time of the reporting of these early studies many other researchers have investigated the various facets of level of aspiration. In 1944 Lewin, Dembo, Festinger, and Sears stated that studies concerned with level of aspiration had dealt primarily with the following facets: (1) those dealing with generality of level of aspiration; (2) those dealing with patterns of level of aspiration behavior; and (3) those dealing with the relationship of aspiration responses to personality traits.

II. LEVEL OF ASPIRATION IN PHYSICAL EDUCATION

Basic Research on Level of Aspiration in Physical Education

In 1949, Smith reported the first study dealing directly with level of aspiration in physical education. His study examined the effects of athletic success and failure upon levels of aspiration. Smith interviewed fifty-nine freshman football members prior to each of their five season games. During the interviews the subjects expressed their immediate and ultimate levels of aspiration. Immediate level of aspiration was the number of minutes they thought they would play in the coming game. Ultimate level of aspiration was the number of minutes the subjects thought they would play in


some game before the season ended. A player's performance was
determined by the amount of time he actually played in each game.
The players were classified as successful or unsuccessful players
on the basis of the number of minutes they played throughout the
season. Smith concluded the following: (1) successful individuals
tended to raise their levels of aspiration while those who were
unsuccessful tended to lower their levels of aspiration; (2) indivi-
duals with extremely low levels of aspiration tended to escape a
failure situation by overt action; (3) some individuals repeatedly
maintained high levels of aspiration following repeated experiences
of failure; (4) individuals with the highest levels of aspiration
continued to raise their levels after success and still met with
success; (5) ultimate levels of aspiration were not correlated with
ultimate accomplishments; (6) the immediate level of aspiration was
correlated with the immediate accomplishment and attempts to escape
from a failure situation; and (7) in real-life athletic situations
a considerable number of players are forced to experience failure
repeatedly and consistently.

Hooley\(^9\) investigated the level of aspiration of good and poor
performing elementary and high school girls in selected physical
activities. Twenty fifth and sixth grade girls and twenty eleventh

\(^9\)Agnes Marie Hooley, "Level of Aspiration of Good and Poor
Performing Elementary and High School Girls in Selected Physical
Education Activities," (microcarded Doctoral dissertation, University
and twelfth grade girls were tested for levels of aspiration in physical activities stressing the elements of power and control and the skills of jumping and throwing. It was found that good performing high school girls and poor performing elementary school girls set similar positive levels of aspiration, that is, aspiration levels above their previous performance, regardless of failure. Also, a similarity was found between the poor performing high school girls and the good performing elementary school girls in that they set negative levels of aspiration, that is, aspiration levels below their previous performance, following success. Hooley concluded that there was no stability in the setting or attaining of levels of aspiration.

Price correlated the performances of twenty-six college women in eight motor tasks with their levels of aspiration. The motor tasks were basketball throw, wall pass, softball throw, vertical pull, jump reach, and penny cup. Subjects stated their level of aspiration prior to each of four performance trials on each task. Correlations between level of aspiration and performance on the eight motor tasks were found to range from .567 for basketball foul shooting to .954 for the jump-reach test. A significant positive relationship was found between level of aspiration and performance; however, what determines the setting of the level of aspiration and

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its consequent effect on the performance of an individual was not
determined.

One hundred ten nine-year-old boys were tested by Stratton11
to determine methods of effectively grouping them according to their
levels of aspiration based on a maximum grip strength effort test.
Three trials were given on the grip strength test. Subjects were
grouped on the basis of their different performance scores,
aspiration scores, and scores derived from performance and aspiration
scores. It was found that: (1) the second discrepancy, that is, the
difference between the subject's second trial and his prediction
of his third trial, was the most meaningful score in terms of high
correlations with other scores derived from the test; (2) subjects
with large second aspiration discrepancies, either highly positive
or highly negative, generally had higher grip strength than subjects
with small second aspiration discrepancies; and (3) subjects whose
predictions of their second and third grip strength trials were
generally low or negative in comparison with their first performance
trial, were higher in grip strength than those subjects who made
high positive predictions. Stratton concluded that the second
aspiration discrepancy score best differentiated the nine-year-old
subjects into the following three basic aspiration groups: High-
positive, Low-positive to Low-Negative, and High-negative.

11Stephen Stratton, "Methods of Grouping Boys Nine Years of
Age According to Their Level of Aspiration Based on Grip Strength
Efforts," (microcarded Master's thesis, University of Oregon, Eugene,
1960).
Utilizing a level of aspiration test based on grip strength, Clarke and Clarke\textsuperscript{12} investigated the relationship between levels of aspiration and selected physical factors of boys nine years old. Ninety-eight subjects were divided into high, low and zero aspiration discrepancy groups on the basis of differences between their first grip strength scores and their level of aspiration of second test trial. This procedure was repeated to form high, low and zero aspiration discrepancy groups on the basis of differences between second grip strength scores and level of aspiration on a third test trial. When the first three groups were compared in regard to the measures of physical factors, the means of the high group were significantly higher than the means of the zero group in height, weight, McCloy's Classification Index, and Rogers' Physical Fitness Index. Also, the high group mean was significantly superior to the low group in Rogers' Physical Fitness Index. This was the only significant difference found in comparisons made between the high and low groups or the low and zero groups. No significant relationships were found between the second three discrepancy groups and measures of selected physical factors. Clarke and Clarke concluded that subjects who expressed higher levels of aspiration were physically superior in size and strength to those who expressed neither an increase nor a decrease in their levels of aspiration.

Using seventy-eight ten-year-old boys as subjects, Greene\textsuperscript{13} studied the interrelationships between measures of personal-social status and the relationships of these measures to selected physical factors. Personal-social status was measured by the following: (1) ratings by teachers, (2) personal acceptance by peers, (3) level of aspiration, and (4) questionnaire-type answers about self. Physical measures were skeletal maturity, anthropometric tests of body structure, gross and relative (to weight) muscular strength, and selected measures of explosive muscular power, speed and agility. Level of aspiration was determined by the grip strength test procedure used by Stratton. Only the magnitude of the second discrepancy score was utilized in this study. There were found to be no correlations between this measure of level of aspiration and the other measures of personal-social status. Magnitude of aspiration discrepancy score was found to be positively related to body weight and gross strength, as measured by composite cable tension strength scores, and negatively related to relative strength, as measured by Rogers' Physical Fitness Index.

Greene\textsuperscript{14} investigated peer status and level of aspiration of


boys as related to their maturity, physique, structural, strength, and motor ability characteristics. Personal-social status was measured by a sociometric questionnaire and a level of aspiration test based upon Stratton's grip strength test procedure was used. Physical tests employed were skeletal age, Sheldon's somatotype components, Wetzel physique channel, body weight, standing height, upper arm girth, cable-tension strength (average of eleven tests), Rogers' Physical Fitness Index, sixty-yard shuttle run, and standing broad jump. Two hundred seventy-nine elementary school boys were divided into two groups. Group one was called the original sevens and were tested at ages seven through ten years. Group two was called the original nines and were tested at ages nine through twelve years. There was found to be little relationship between level of aspiration measures and sociometric measures. Correlations between level of aspiration measures and physical factors also were generally low and insignificant. Greene substantiated Stratton's conclusion that the second aspiration discrepancy was the most meaningful score in terms of relatively high correlations with other level of aspiration scores.

One hundred eighty-six nine and eleven-year-old boys were tested by Stratton\textsuperscript{15} to determine the reliability of level of

aspiration scores and their relationship to growth and developmental factors. Level of aspiration measures were determined by a grip strength test procedure previously developed by Stratton. Measures of the growth and developmental factors of the subjects were maturity, body structure, strength, motor ability (standing broad jump), reaction time, interests, peer status, scholastic achievement (grade point average), and athletic ability. It was found that the most reliable aspiration measures were the second aspiration discrepancy score, average aspiration discrepancy score, and average variability of discrepancy, respectively. However, experience in aspiration testing and maturity caused a significant reduction in the previous measures. In the analysis of the relationship between level of aspiration measures and growth and developmental factors, it was found that: (1) individuals who came closest to having common interests with their peers set their aspiration level above their strength ability level; (2) individuals with low motor ability set their level of aspiration at a significantly greater distance from their grip strength ability and with significantly greater variance than did individuals with high motor ability; and (3) individuals with high grip strength had significantly greater variance in the difference between aspiration and ability than individuals with low grip strength. Stratton concluded that level of aspiration had no marked relationship to growth and developmental factors. He substantiated his earlier finding that the second aspiration discrepancy
measure was the most significant, reliable, and meaningful one of the level of aspiration measures.

Summary of related studies. The foregoing eight studies were basic research on levels of aspiration in physical education. Three studies found nonsignificant relationships between level of aspiration and personal-social status, sociometric measures, and growth and developmental factors. Two studies found level of aspiration significantly related to strength. Three studies found second aspiration discrepancy score the most reliable level of aspiration measure. One study found level of aspiration significantly related to performance. Two studies found level of aspiration an unstable trait and influenced by previous performance success or failure.

Level of Aspiration as a Motivation Factor in Physical Education

Several investigators have studied the feasibility of level of aspiration as a motivation factor in physical education. Results of these studies are reported in six studies.

The effects of knowledge of results and stated expressions of level of aspiration on measures of strength and motor performance of seventh and ninth grade girls were examined by Ellis.16 Within each

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grade there were twenty-four subjects who were assigned to one of
the following three groups: (1) with knowledge of results, (2)
without knowledge of results, and (3) with knowledge of results
supplemented with verbal expression of level of aspiration. Strength
and motor performance were measured by the standing broad jump and
grip strength tests. It was found that knowledge of results and
stated level of aspiration, respectively, were not significantly
different from each other or from groups tested under conditions of
no knowledge of results. The importance of success or failure in
influencing the direction of subsequent levels of aspiration was
demonstrated by the tendency of performers to raise their levels of
aspiration after experiencing success in meeting stated levels of
aspiration.

Strong\textsuperscript{17} studied the effects of six motivating conditions on
the performances of sixth grade children on seven physical fitness
test items. Four hundred thirty-four boys and girls were divided
into six motivation groups and one control group. The six motivating
conditions were competition against self, team competition, level of
aspiration, competition to establish class records, competition
against someone of markedly different ability, and competition
against someone of nearly equal ability. Physical fitness test items
were 50-yard dash, shuttle run, sit-ups, 600-yard run-walk, bent arm

\textsuperscript{17}Clinton H. Strong, "Motivation Related to Performance of
Physical Fitness Test," (microcarded Doctoral dissertation, State
University of Iowa, Iowa City, 1961).
hang, standing broad jump, and softball throw for distance. Three administrations of the test items were given. It was concluded that motivation by level of aspiration and team competition was more effective than competition against self, competition to establish class records, and competition against someone of nearly equal ability.

Hesse\textsuperscript{18} studied the effects of self competition and team competition upon the performance and stated goals of sixth, eighth and ninth grade girls in the standing broad jump and 30-yard dash. Subjects' performances on the two tasks were tested under the following conditions: (1) in a normal testing situation, (2) in a situation of self competition, and (3) under conditions of team competition. It was found that performance scores in the standing broad jump and the 30-yard dash were not significantly affected by the conditions of self and team competition. However, self competition was found to act as a greater incentive for achievement than was the case in a situation of team competition.

Wilkinson\textsuperscript{19} studied the effects of three motivational techniques, namely, verbal encouragement, verbal disparagement, and


level of aspiration, upon the ability of boys of four different age levels to perform muscular work to exhaustion. Eighty subjects were drawn from each of the following four age levels: seven and eight-year-olds, ten and eleven-year-olds, thirteen and fourteen-year-olds, and sixteen and seventeen-year-olds. Muscular work to exhaustion of the forearm flexors was performed on the Kelso-Hellebrandt ergograph. It was found that verbal encouragement, verbal disparagement, and level of aspiration were highly effective motivators for seven-eight and ten-eleven year olds. The other two groups were not significantly affected by the motivational variables. Level of aspiration and verbal disparagement were more effective motivators at the sixteen and seventeen-year-old level. All three forms of motivation were effective in producing significant improvement in performance.

Dudley\textsuperscript{20} compared two methods of motivating the learning of motor skills of junior high school girls. Goal for achievement set by the teacher and level of aspiration were the motivating methods. Two hundred twenty-seven subjects were administered the Scott Motor Ability Test Battery to measure their present status in general motor ability. After participation in a fundamental skills unit, the subjects were readministered the motor ability test. It was found that both methods of motivation produced significant gains in motor ability. But the method where the teacher set the level of

achievement made significantly greater gains than when the subjects set their own levels of aspiration.

Waterman\textsuperscript{21} attempted to determine whether individual motivation would produce results that were different from results produced by group motivation as measured by the performances of elementary school pupils on a physical fitness test. One hundred two fourth-grade pupils were given the Washington State Physical Fitness Test. Based on the pretest results, a group section and an individual section were formulated. During a twelve-week circuit training physical fitness drill, the sections were retested three times. Prior to each training retest the subjects stated a level of aspiration for the test. The group section results were reported in gross totals. Individual section results were reported on an individual basis. At the end of the twelve-week training period a post-test was given. It was found that a group setting was superior to an individual setting when level of aspiration was used as a technique of motivation. Also, the group-motivated and the individually-motivated sections achieved significant increases in performance.

\textbf{Summary of related studies}. The aforesaid studies were in disagreement as to the value of level of aspiration in physical education as a motivation factor. Four studies found level of

aspiration motivation to render significant gains in performance. Two studies found level of aspiration motivation significantly superior to other techniques of motivation while two studies contradicted these findings. One study found nonsignificant differences among levels of aspiration motivation and other techniques of motivation.

III. LEVEL OF ASPIRATION AND ACADEMIC ACHIEVEMENT

In this section the writer has attempted to bring together those studies dealing with the relationship between level of aspiration and academic achievement. Twelve studies pertinent to this study are reported.

It was Freer's purpose to study the effect of scholastic success and failure on the relationship among self-concept, ideal self, and level of aspiration. He found that the relationship between level of aspiration and actual grades for both successes and failures was not related. However, there was found a very slight degree of relationship between self-predicted grades and actual grades for successful persons. This relationship was not found for failures.

Red, McCary, and Johnson attempted to study the relationship

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between aspirational levels and academic achievement. One hundred one freshman and sophomore students were administered the Cassel's Level of Aspiration Test, Otis Gamma and Revised Beta Intelligence Test, and a grade point average was found for each subject. A nonsignificant correlation was found among aspiration levels and academic achievement measures.

Muthayya\(^2^4\) tested two groups of high achievers and low achievers of thirty boys to determine the relationship between level of aspiration and intelligence in a scholastic area. Nonsignificant relationships were found between scholastic achievement and level of aspiration, between intelligence and aspiration levels, and between achievement and intelligence.

Using fifty high school juniors, Ausubel and others\(^2^5\) studied the relationship between "real-life" measures of academic and vocational aspiration to laboratory measures of level of aspiration and general adjustment, anxiety level, and sociometric status. They found that those subjects who tended to over-estimate past academic accomplishments also tended to have relatively high academic aspirations for the future based on past performance. A


nonsignificant relationship was found between academic and vocational levels of aspiration. They also found that subjects who expressed high academic aspirations tended to be judged by teachers as relatively non-competitive, possessing low academic aspirations and non-persistent in their strivings.

Schultz and Ricciuti\textsuperscript{26} conducted an investigation in 1954 using fifty-three college undergraduate male students to determine the relationship between level of aspiration measures and scholastic success in college. Level of aspiration measures were obtained from two group tests and regular course examinations. Scholastic success was determined by a scholastic aptitude test and grade point average. There was found to be a nonsignificant relationship between level of aspiration and previous college academic achievement.

Walter and Marzolf\textsuperscript{27} determined the relationship of sex, age and school achievement to level of aspiration. Ten boys and ten girls from the fourth, sixth, eighth, and twelfth grades were tested on the Rotter Aspiration Board. Based on achievement test scores, the subjects were grouped into high and low achievement groups. A nonsignificant relationship was found between scholastic achievement


\textsuperscript{27}L. M. Walter and S. S. Marzolf, "Relations of Sex, Age and School Achievement to Levels of Aspiration," \textit{Journal of Educational Psychology}, XL (1951), 285-292.
level and level of aspiration. There was a significant sex difference in level of aspiration.

In 1959 Worell\textsuperscript{28} studied the utility of the level of aspiration method in prediction of college grades and attrition. Four hundred twenty-one college students estimated their position on a decile scale according to how hard they worked, previous performance, expected future performance, performance when working near the limits of capacity, and level of reasonable satisfaction. Level of aspiration measures were found to be related to academic success. Worell concluded that the level of aspiration method may be used in predicting academic performance and attrition among a superior group of students.

Goslin and Glass\textsuperscript{29} found that level of educational aspiration was positively related to a reading comprehension test which was used to indicate intelligence. They also found educational aspirations of brighter students to be considerably higher than those of students with low ability.

Garvin\textsuperscript{30} attempted to verify the relative magnitude of the

\begin{itemize}
\item\textsuperscript{28} Leonard Worell, "Level of Aspiration and Academic Success," \textit{Journal of Educational Psychology}, L (April, 1959), 47-54.
\end{itemize}
errors made by high and low ranking students in their initial predictions of final academic achievement. Sixty-three graduate education students were asked to predict their final quintile rank in an education course during its first session and again midway through the course without any intervening feedback of relative achievement. It was found that the high third of the subjects tended to underestimate their prospective achievement while the low third overestimated theirs. Both high and low ranking subjects tended to lower their predictions of final ranking as the event drew near. Also, both groups tended to make much lower predictions regarding a proximate task than a remote task. Garvin concluded that students' expectations of relative academic achievement has a tendency to decline over time.

Sears\(^3\) studied the level of aspiration of academically successful and unsuccessful children. Thirty-six fourth, fifth and sixth grade subjects were matched in socio-economic status, age and intelligence. The subjects had varying degrees of success in arithmetic and reading. Success, failure and differential groups of twelve subjects each were formed. The success group had a previous history of satisfactory work in both arithmetic and reading. The failure group had a history of unsuccessful work both in arithmetic and reading. The differential group had a history of success in one of the subjects and of failure in the other. Level

\(^3\)Pauline S. Sears, "Level of Aspiration in Academically Successful and Unsuccessful Children," *Journal of Abnormal and Social Psychology*, XXXV (October, 1940), 498-536.
of aspiration measures were obtained from arithmetic and reading tasks. Sears found that subjects who had experienced continual success set their aspirations at a realistic level, that is, at a level where success was frequently achieved. Subjects with a history of failure set their aspirations with little regard for their achievement. The failure group's disregard for their achievement indicated that the subjects apparently lived almost exclusively in terms of their aspirations, ignoring completely the fact that their achievements were entirely out of line with their expectations.

Byers32 studied the nature of level of aspiration behavior of academically successful and unsuccessful high school students. Past academic success or failure was determined by previous school grades. Eighty-four eleventh grade students in American history were asked to state levels of aspiration for each of five six-week grade periods. It was concluded that past academic success was associated with realistic goal setting and past academic failure was associated with high, unrealistic goal-setting behavior. Also, success on immediate tasks was associated with realistic goal setting and failure on immediate tasks was associated with unrealistic goal setting. However, some students with past histories of academic success set goals that were low and unrealistic. Byers stated that this was probably due to the subject's desire to conform to group norms.

Pennington\textsuperscript{33} investigated shifts in aspiration levels after success and failure in the college classroom. Three hundred fifty subjects were asked to indicate their levels of aspiration as to final grade and mid-term grade in a psychology course. The following results were indicated: (1) failure among college students frequently resulted in a downward swing in levels of aspiration; (2) the greater the number of failures for each student, the greater the likelihood that a downward shift in levels of aspiration would occur; and (3) success resulted in an upward swing in the levels of aspiration.

Davids and Sidman\textsuperscript{34} compared levels of aspiration on a motor-manipulation task between a group of high achievers who were academically successful and a group of bright under-achievers. The Minnesota Rate of Manipulation Form Board was utilized to test the motor-manipulation task. There were ten high achievers and twenty under-achievers. All subjects were secondary school males. It was found that the bright under-achiever group performed less effectively on their first approach to the motor-manipulation task and evidenced a lower initial level of aspiration than the high

\textsuperscript{33}L. A. Pennington, "Shifts in Aspiration Level After Success and Failure in the College Classroom," \textit{Journal of General Psychology}, XXIII (1940), 305-313.

achievers. However, when their second motor performance attained or surpassed their level of aspiration, the underachievers then set a level of aspiration that was similar to the level aspired to by the subjects who were accustomed to high academic achievement.

Summary of Related Studies

Of the twelve studies reported, five found level of aspiration nonsignificantly related to academic achievement while two studies found significant relationships. One study found level of aspiration nonsignificantly related to vocational aspiration. One study found academic level of aspiration to decline with the passing of time. Two studies found successful academic experiences related to realistic aspiration levels and failure experiences related to unrealistic aspiration levels. One study found bright academic under-achievers initially setting low levels of aspiration scores but with continued trials reaching an aspiration level score equivalent with that of bright academic over-achievers.

IV. GENERALITY OR SPECIFICITY OF LEVEL OF ASPIRATION

Numerous factors have been found to have a tendency to influence levels of aspiration. However, one question that remains to be answered is to what extent do these factors influence general or specific patterns.

The question of generality of level of aspiration is one of determining within what limits the same aspiration factors will be
found playing a significant role in different situations. Diametri-
cally opposite to the question of generality is the question of
specificity, which is that of determining whether aspiration levels
play specific roles in different situations.

Investigators have studied the problem of generality or
specificity of levels of aspiration through studying the relation-
ships among aspiration levels for different tasks. Some of their
findings are reported in this section.

Generality in Level of Aspiration

In 1935 Frank\textsuperscript{35} reported the first study dealing directly with
generality of level of aspiration. He tested three groups of twelve
college students on a printing task, a spatial relations task, and
a quoits task. All subjects were retested one week later. Frank
found coefficients of correlation between discrepancy scores for the
two testing sessions to range from .57 to .75 for two of the tasks.
The quoits task scores correlated .26 and .63. Correlations within
each session ranged from .50 to .65, except for quoits which was
either zero or slightly positive. It was concluded that generality
of level of aspiration was significant except when the task involved
a "play" situation.

The behavior of the level of aspiration in one task as a

\textsuperscript{35}Frank, loc. cit.
function of performance in another task was also studied by Frank.\textsuperscript{36}

Levels of aspiration of eight college subjects were measured on a small letter letter printing task, a capital letter printing task, a peg board design task, a logical word relations task, and a spatial relations task. It was found that changes in level of performance in one task affected the height of the first level of aspiration and the average height of the level of aspiration in another task. The extent of this effect depended on the degree to which the two tasks were objectively similar. It was concluded that level of aspiration represented an objective estimate of the future levels of performance on the basis of past levels of performance while remaining a means of protecting the ego-level when ego is involved in the task.

Gardner\textsuperscript{37} conducted an investigation using thirty-one college male students to determine generality in level of aspiration. Level of aspiration was tested on a card-sorting task, digit-symbol substitution task, multiple choice test of opposites task, and a cancellation task. Identical prearranged performance scores were reported to each subject. Gardner found a significant degree of generality in level of aspiration.

\textsuperscript{36}J. D. Frank, "The Influence of the Level of Performance in One Task on the Level of Aspiration in Another," \textit{Journal of Experimental Psychology}, XVIII (April, 1935), 159-171.

\textsuperscript{37}J. W. Gardner, "Level of Aspiration in Response to a Pre-arranged Sequence of Scores," \textit{Journal of Experimental Psychology}, XXV (1939), 601-621.
Heathers\textsuperscript{38} examined the hypothesis that the more similar the experimental situations in terms of scale values used for reporting performance scores, shapes of learning curves formed by performance scores, and subject's motivation, the greater would be the degree of generality of the levels of aspiration for different tasks. One hundred fifty-four college and high school students were tested for levels of aspiration on a digit symbol substitution task, a letter-code substitution task, a mental multiplication task, an addition task, and a card-sorting task. Prearranged performance scores were reported to each subject. Generality in level of aspiration was found to be a part of a function of objective similarities in the situations within which the aspirations are set. Also generality of an individual's level of aspiration in two tasks was found to be a function not only of the individual's personality structure, but also of the objective similarity of the two tasks themselves.

Preston and Bayton\textsuperscript{39} studied the generality factor in three different levels of aspiration on three different tasks. The three different levels of aspiration were: (1) the best the subject expected to do, (2) the actual performance the subject expected to do, and (3) the least the subject expected to do. Aspiration was


tested on an addition task, a symbol-digit task, and a cancellation task. Identical prearranged performance scores were reported to each subject. Generality of the three different levels of aspiration from task to task was found. Preston and Bayton concluded that the subject's attitude was an important factor in determining the degree of generality. It appeared that generality among levels of aspiration expressed on different tasks was conditioned by the extent to which the subject's ego was involved in the task set.

Sears and Levin studied the levels of aspiration of preschool children. Nineteen four and five-year-old children were tested for levels of aspiration on six separate tasks. Each task was graded into five levels of difficulty. It was found that subjects who attained their levels of aspiration generally chose aspiration levels that insured continued success while those who had failure experiences showed no consistent patterns of responses.

MacIntosh studied the effects hypothetical scores of Negroes had on different levels of aspiration of sixty Caucasian college males. The different levels of aspiration were: (1) the best that the subjects expected to do, (2) the performance actually expected, and (3) the least the subjects expected to do. The

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40 Pauline Sears and Harry Levin, "Levels of Aspiration in Pre-School Children," Child Development, XXVI (September, 1957), 317.

subjects were tested on a symbol digit task, a cancellation task, and an addition task. There was found a significant generality of levels of aspiration. Generality before introduction of information of competing group was exceeded by generality after competing group information.

It was Chance's\textsuperscript{42} purpose to study the hypothesis that levels of aspiration would generalize to a greater extent in situations where subjects saw two behaviors as leading to the same goal as contrasted with situations in which the two behaviors were seen as leading to different goals. It was found that levels of aspiration generalized to the extent that subjects perceived different tasks to be similar or parts of a larger unit of behavior. Chance concluded that similarity of goal was a significant factor in mediating generalization of levels of aspiration from one situation to another. Generality was related to the size of the difference between the initial level of aspiration and the performance scores obtained.

In 1960 Dean\textsuperscript{43} studied the hypothesis that if the physical similarity of different tasks was held constant, the generality of level of aspiration on the different tasks would be significantly

\textsuperscript{42}J. E. Chance, "Generalization of Expectancies Among Functionally Related Behavior," \textit{Journal of Personality}, XXVII (June, 1959), 228-238.

\textsuperscript{43}S. J. Dean, "Generality of Expectancy Statements as a Function of Situation Definition," \textit{Journal of Consultant Psychology}, XXIV (December, 1960), 558.
higher when the definitions or purposes of the tasks were similar.

Sixty-six college students were tested on two levels of aspiration tasks: word identification and card-sorting. The word identification task was defined as a short form test of intelligence. The card-sorting task was defined as a motor-speed test and another short form intelligence test. Generality of level of aspiration was found to vary with the psychological situation as defined by the instructions.

Hilgard and Sait asked fifty college students to estimate their past and future performance scores on a card sorting and a pursuit learning task. Correlations between these scores were determined. It was concluded that subjective distortion entered into estimates made of both past and future performance, that is, goal strivings were not only oriented toward the future, but also influenced an individual's perception of his past. These influences were not consistent in direction for different individuals, but showed considerable generality. Generality referred to the direction of distortion for the same individual appearing consistent from task to task.

Specificity in Level of Aspiration

Gould investigated the extent of generality of levels of aspiration. Eighty-two college students were tested on six unrelated tasks. The tasks measured their verbal, arithmetic, rote learning, and motor abilities. Intercorrelations among the tasks on level of aspiration were found to range from .04 to .44. It was concluded that generality of levels of aspiration could not be substantiated.

Gould and Kaplan studied the relationship of levels of aspiration to academic and personality factors. Levels of aspiration for eighty-two college students were measured on an addition task, a symbol-digit task, a words task, a steadiness task, a cancellation task and a washer tossing task. Academic performance was measured by the subject's average grade point. Personality factors were measured by Maslow's Social Personality Inventory and Guilford and Guilford Personality Test. A nonsignificant relationship was found between level of aspiration and academic and personality factors. It was also concluded that there was specificity in levels of aspiration. Although specificity of levels of aspiration was evident, Gould and Kaplan also concluded that this evidence does not contribute to a theory of specificity of personality traits.


Gardner\textsuperscript{47} investigated the relationship of selected personality factors to level of aspiration. Fifty-one high school male subjects' levels of aspiration were measured on a digit-symbol substitution test. Prearranged scores were reported to each subject. Subjective achievement level, dissatisfaction with status, general sense of security, importance attached to intellectual achievement, tendency to face failure frankly, fear of failure, realism, and motivation were the selected personality factors. Nonsignificant correlations were found among the personality factors studied and levels of aspiration. This finding indicated specificity of level of aspiration.

In a study by Hills\textsuperscript{48}, 189 college students' levels of aspiration were measured in five different areas to determine generality or specificity of levels of aspiration. The five areas measured were economic, social, academic, professional, and fine motor. It was concluded that level of aspiration was a specific trait.

Smith and Wing\textsuperscript{49} tried to determine whether preference for

\begin{thebibliography}{9}
\bibitem{SmithWing} Donald Smith and Lucy Wing, "Developmental Change in Preference for Goals to Attain," \textit{Child Development}, XXXII (1961), 29-36.
\end{thebibliography}
a goal more difficult to attain was a generalized trait which increased in proportion to increasing age. Groups of twenty boys from grades two, four, six and eight who were equated on intelligence and sociometric status were confronted with four tasks in which the subject was asked to make a choice between a difficult goal and an easy one. It was concluded that preference for difficult goals was not a simple generalized trait which increased with age.

Summary of Related Studies

A total of fifteen studies was reviewed which dealt with generality or specificity of level of aspiration.

Ten studies were concerned with generality. Three of the ten studies found significant generality of aspiration levels. Seven studies found generality dependent upon influencing factors. These influencing factors were similarity of tasks, individual ego-involvement in tasks, previous experience with tasks, and the psychological meaning of aspiration as defined by instructions to be followed in an aspiration task.

Five studies were concerned with specificity. All five studies found level of aspiration specific when aspirations in the following areas were compared: academic, personality, economic, social, professional, and fine motor. One of the five studies found that specificity of preference for difficult goals does not increase with age.

These studies indicate disagreement as to generality or
specificity of levels of aspiration. This disagreement may be due to the over-all differences in experimental designs employed. The experimental designs employed by a majority of the specificity studies were intercorrelations of levels of aspiration scores on a number of different tasks and different measures of personality factors.

V. LEVEL OF ASPIRATION AND PERSONALITY CHARACTERISTICS

In a study to develop a general picture of the personality of an individual, Sears\(^50\) tested thirty-six subjects on an integrated profile of ratings for various aspects of personality. Aspects of personality studied were resolutions of conflict and frustrations, general reactions to success and failure, degree of self-competition, strength of ego-involvement in various types of activities, social adjustment, dominant interests, and characteristic modes of approach to life goals. The following aspiration patterns and characteristics were found: (1) low-positive aspiration patterns were found in individuals who felt a confident security in their own achievement; (2) high-positive aspiration patterns were found in individuals who felt insecure about their own achievement and who in addition were by reason of the structuring of their personalities able to admit failure without too serious damage to self-esteem; and (3)

negative aspiration patterns were found in individuals who felt some insecurity with respect to their achievement and who showed a general self-protective, defensive reaction to situations in which they could have failed in the sight of other people. Sears concluded that level of aspiration responses formed a part of a cluster of associated personality attributes which may function as a whole in a number of different situations.

Frank\textsuperscript{51} established that the size of the difference between the average level of aspiration and the median level of past performance was due to the involvement of the ego-level of an individual in a task. Ego-level was found to strengthen either the need to avoid failure or the need to keep the level of aspiration high. The fear of failure was found to dominate ego-level as a result of an individual's desire to conceal involvement in a task. This led to over-compensation of the need to keep the level of aspiration high. The need to keep the level of aspiration high also influenced aspiration scores when the task was perceived as "unrealistic," that is, a play situation.

Feather\textsuperscript{52} tested male and female subjects in traditional levels of aspiration situations to determine the relationship between


level of aspiration and controlled performance. A subject's performance was controlled so that it was either high, medium or low. Personality factors measured were need-achievement, debilitating or facilitating anxiety, tolerance or ambiguity, and category width. It was found that under high performance conditions subjects whose motive to achieve success was stronger than the motive to avoid failure tended to set higher levels of aspiration, showed smaller shifts in levels of aspiration following success and failure, and made fewer atypical aspiration responses. Under low performance conditions there were found nonsignificant relationships between levels of aspiration measures and personality factors. It was concluded that relationships between levels of aspiration and personality factors would more likely appear under high performance conditions.

Rotter attempted to identify patterns of level of aspiration discrepancy scores as a means of studying personality factors. He identified seven patterns of level of aspiration responses which were described as: medium high-positive pattern, the achievement following pattern, the step pattern, the very high-positive pattern, the high-negative pattern, the rigid pattern, and the confused or breakdown pattern. These patterns were based on such findings as some subjects' experiencing a painful situation when their desire to

maintain a low level of aspiration and protect themselves against failure conflicted with an increasing cultural pressure to raise their levels of aspiration following one or more successes.

Rotter\(^{54}\) also examined the basis for individual differences in levels of aspiration. Two hundred five subjects were grouped into a normal college student group, a crippled college student group, and a prison inmate group. It was found that when individuals were placed in groups on the basis of their attitudes and past behavior, significant group differences appeared in the spread of level of aspiration scores. There was also found a non-linear relationship between personality traits and particular level of aspiration scores.

Escalona\(^{55}\) studied the concept of level of aspiration and its application to the study of personality. Nineteen overtly maladjusted subjects and nineteen overtly well-adjusted subjects were tested for levels of aspiration based on the selected levels of difficulty of a jig-saw task which each subject wished to perform. Escalona found that overtly maladjusted subjects lowered their levels of aspiration less frequently after controlled failure than did the overtly well-adjusted subjects.

\(^{54}\) Julian Rotter, "Level of Aspiration as a Method of Studying Personality III. Group Validity Studies," Character and Personality, XI (1943), 254-274.

Gruen studied the relation of level of aspiration to personality adjustment in adolescents. Seventy-four subjects were grouped into well-adjusted and maladjusted groups. Personality adjustment was determined by the Rogers Test of Personality Adjustment. Level of aspiration was tested on a modified symbol substitution task. A significant difference was found between the well-adjusted and maladjusted groups. The maladjusted group's reaction to failure was characterized by a tendency toward compensation and a fear of failure. The well-adjusted group was characterized by a greater realism of adjustment to failure. It was concluded that level of aspiration behavior reflected an underlying personality need and that this need might be used as another measure of personality adjustment.

Chance studied level of aspiration behavior as it was related to two independent dimensions of maladjustments in personality functioning. The two types of persons were sensitizers and repressors. A sensitizer was an individual who anticipated and feared failure and criticism and who dealt with the situation by "admitting it first." A repressor was an individual who avoided discomfort by denying negative things about himself. One hundred


forty-five male college students were classified as sensitizers or repressors. A level of aspiration testing situation was so arranged that subjects experienced failure on each level of aspiration tasks. It was found that the sensitizers employed a level of aspiration closer to their previous performance than did repressors. Repressors were found not to employ high patterns of levels of aspiration.

Himmelweit\(^5\) conducted a comparative study of the levels of aspiration of normal and of neurotic persons. Level of aspiration tests were administered to twenty normal males and thirty-three normal females, and to one hundred male and thirty-two female neurotic patients. It was found that both normals and neurotics overestimated future performance and underestimated past performance. Normal subjects were found to set a more conservative level of aspiration than did the neurotic subjects.

Klugman\(^5\) studied emotional stability and level of aspiration. No relationship was found between magnitude of level of aspiration and stability, but a slight relationship was found between the level of aspiration range and stability. Subjects who were stable tended to have a narrower level of aspiration range than did the less stable subjects. Stable subjects were also found more frequently to shift their level of aspiration from one level to another.

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Yacorzynski\textsuperscript{60} studied the relation between degree of effort expended on a task and the direction of the aspiration level. Forty subjects were tested on tapping, substitution, stringing beads, and free word association level of aspiration tasks. Level of aspiration was found inversely related to the degree of effort, that is, an increasing degree of effort was associated with a decreasing number of predictions that the scores would improve. It was concluded that confidence in one's own ability may increase predictions of improved scores on successive trials and also decrease the amount of effort shown.

Harvey and Sheriff\textsuperscript{61} studied level of aspiration as a case of judgmental activity in which ego-involvement operated as a factor. They found that level of aspiration on an objective task showed no significant effects if two subjects were strongly ego-involved in a positive way. If competition, however friendly, existed, small discrepancies appeared in the level of aspiration of both competitors. However, if two subjects were antagonistically involved, wide and significant discrepancies were found in setting levels of aspiration.

\textsuperscript{60}G. K. Yacorzynski, "Degree of Effort: III. Relationship to the Level of Aspiration," \textit{Journal of Experimental Psychology}, XXX (1942), 407-413.

\textsuperscript{61}O. J. Harvey and M. Sheriff, "Level of Aspiration as a Case of Judgmental Activity in Which Ego-involvement Operated as Factors," \textit{Sociometry}, XIV (1951), 121-147.
McGehee\textsuperscript{62} found that level of aspiration behavior was psychologically different from that involved in establishing judgment of future performance. This difference was credited to the individual's ego-level's being more involved in setting levels of aspiration than judgments of future performance.

Martire\textsuperscript{63} studied the relationship between self-concept and differences in the strength and generality of achievement motivation. Fifty-three subjects were classified into four groups based on their strength and generality of achievement motivation. Subjects having strong generalized achievement motivation and being anxious about failure when in a stressful achievement situation were found to report low wishful and realistic levels of aspiration for a specific task. There was found a nonsignificant relationship between level of aspiration and self-concept.

In a study by Cassel and Vanvorst,\textsuperscript{64} it was their purpose to determine the effectiveness of a group level of aspiration test in discerning between two groups of individuals. Five hundred seventeen prisoners constituted an "in-prison" group while 298 high school

\begin{footnotesize}
\begin{itemize}
    \item \textsuperscript{62}W. McGehee, "Judgment and Level of Aspiration," \textit{Journal of General Psychology}, XXII (1940), 3-15.
    \item \textsuperscript{63}J. G. Martire, "Relationship Between the Self-concept and Differences in the Strength and Generality of Achievement Motivation," \textit{Journal of Personality}, XXIV (June, 1956), 364-375.
\end{itemize}
\end{footnotesize}
seniors were in an "out-of-prison" group. Subjects' levels of aspiration were tested by the Cassel Group Level of Aspiration Test. It was found that the two experimental groups could be differentiated by a level of aspiration measure.

Summary of Related Studies

The foregoing studies were concerned with level of aspiration and personality characteristics. Fifteen studies were reviewed concerning this area. From these studies it was concluded:

1. Level of aspiration behavior reflects the personality need of an individual.

2. Level of aspiration responses may be employed to differentiate personality groups.

3. Well-adjusted individuals are more conservative and stable in setting levels of aspiration than are mal-adjusted individuals.

4. Ego-level and confidence in one's own ability influences the need to avoid failure and strengthens the need to keep the level of aspiration high.

5. Relationship between level of aspiration and personality factors is dependent upon high performance conditions.

6. Level of aspiration is not related to an individual's self-concept.

7. Friendly or antagonistic competition affects the magnitude of aspiration levels.
VI. INFLUENCES AFFECTING LEVEL OF ASPIRATION

While there are numerous influences which affect levels of aspiration, the studies presented in this section were limited to areas which have some bearing on this study. Studies related to these areas are presented under the following subject headings:

(1) Influence of One's Own Group on Level of Aspiration; (2) Influence of Other Groups on Level of Aspiration; (3) Influence of Performance on Level of Aspiration; (4) Influence of Success and Failure on Level of Aspiration; (5) Influence of Instructions on Level of Aspiration; (6) Influence of Prearranged Performance Scores, Socio-economic Factors, Sex and Age on Level of Aspiration.

Influence of One's Own Group on Level of Aspiration

Anderson and Brandt65 studied the relationship between level of aspiration and achievement when group standing was known to the individual. They found that subjects who found themselves performing above the mean of the group tended to have a negative discrepancy score; those subjects who found themselves close to the mean of the group tended to have a slight positive discrepancy score; those subjects who found themselves below the mean of the group tended to have a very large positive discrepancy score. It was concluded

that individuals set aspiration levels or goals toward the mean performance level of their group.

Hilgard, Sait and Magaret\(^\text{66}\) studied whether level of aspiration was affected by relative standing of subject in an experimental social group. They found that subjects ranking superior in relation to their social group tended to set levels of aspiration too low, while those subjects ranking inferior tended to set levels of aspiration too high. These findings were in agreement with those of Anderson and Brandt.

Hertzman and Festinger\(^\text{67}\) found that when subjects were told the aspirations and the performances of their own group, the general trend was to change subsequent estimates of level of aspiration in the direction of the group's estimate. The majority of subjects shifted their explicit goals from their own previous estimates to those of the group estimates.

In a study of 154 Navaho Indians, Bruner and Rotter\(^\text{68}\) found that the Navaho subjects changed their levels of aspiration in the


direction of the aspirations of the group once the group norms were
made known to them.

Influence of Other Groups on Level of Aspiration

Chapman and Volkman\(^6\) studied the effect upon level of
aspiration of one social determinant which was knowledge of the
performance of other groups. It was found that in advance of actual
performance of a task, knowledge of other groups' achievements
significantly influenced the level of aspiration. However, under
prior performance and knowledge of this performance level of
aspiration was not influenced by knowledge of another group's
achievements.

In a study by Gould and Lewis,\(^7\) 180 college students were
tested to determine the influence of knowledge of another group's
performance on an individual's level of aspiration. They found
that knowledge of another group's performance had significant
influence on an individual's level of aspiration.

Festinger\(^7\) studied the effects which knowledge of group

\(^6\)Dwight W. Chapman and John Volkman, "A Social Determinate
of Level of Aspiration," Journal of Abnormal and Social Psychology,
XXXIV (April, 1939), 225.

\(^7\)Rosalind Gould and H. B. Lewis, "An Experimental Investigation
of Changes in the Meaning of Level of Aspiration," Journal of
Experimental Psychology, XXVII (October, 1940), 422.

\(^7\)L. Festinger, "Wish, Expectation and Group Standards as
Factors Influencing Level of Aspiration," Journal of Abnormal and
Social Psychology, XXXVII (April, 1942), 184.
standards would have on the level of aspiration of an individual. It was found that an individual's levels of aspiration were influenced by knowledge of group standards. The size and direction of aspiration change depended on whether the subject perceived his performance as either inferior or superior to the comparison groups.

Frank\(^{72}\) found that hearing the scores of someone else tended to make the level of aspiration behave more like a random guess.

In 1959, Kausler\(^{73}\) studied the effect of reference group performance scores upon level of aspiration. Three groups of subjects performed on a simple arithmetic test under the three following conditions: without instructions to express a level of aspiration, with instructions to express a level of aspiration, and with instructions to express a level of aspiration but with the additional information of a reference score. It was found that the knowledge of the reference score increased the level of expressed aspirations. Kausler concluded that the frame of reference encompassing the expression of the aspirational level was a significant influence on the degree and direction of aspiration.

Zander and Medow\(^{74}\) examined the effects of certain conditions


upon the selection of a collective level of aspiration and the occurrence of related phenomena. Teams of two different sizes and individual subjects were tested on a series of trials on the Rotter Aspiration Board. Before each trial prearranged scores of another similar group were reported to the subjects. Group levels of aspiration from one task trial to the other were found to operate in accordance with individual aspiration levels. When influenced by another group's scores, subjects stated unrealistically high levels of aspiration if other group scored better, and unrealistically low levels of aspiration if other group scored worse.

Zander, Medow and Efron\textsuperscript{75} studied the effect of the social environment upon the levels of group aspiration. Group members were informed of the score which those in another group expected the performing group to attain. Forty-eight teams performed ten trials of a task while being observed by forty-eight groups of observers. It was found that performers selected unattainable aspirations when observer's expectations were at a high level and attainable aspirations when observer's expectations were at a low level. In contrast, performers selected aspirations they achieved or failed to achieve in about equal degree when observers provided no expectations.

\textsuperscript{75}A. Zander, Herman Medow and Ronald Efron, "Observers Expectations as Determinants of Group Aspiration," \textit{Human Relations}, XVIII (1965), 273-287.
Cope and Sigall\textsuperscript{76} studied the influences of winning or losing in a competitive situation on levels of aspiration. Level of aspiration was measured in two two-person-competitive situations. Subjects received predetermined performance scores. Performance scores were so arranged that one subject won on each of three performance trials, while his competitor lost on every trial. It was hypothesized that subjects who lost, but whose performance improved, would have a higher level of aspiration than their competitors and higher than subjects who lost and did not improve. The hypotheses were partially supported.

\textbf{Influence of Performance on Level of Aspiration}

Fryer's\textsuperscript{77} purpose was an attempt to determine whether incorporating levels of aspiration into a training procedure would enhance learning performance. One hundred male freshman and sophomore college students were taught the International Morse Code, utilizing the code-voice method of instruction. It was found that level of aspiration had superior performance results over knowledge of results alone. Level of aspiration training procedure was found beneficial with material of high difficulty.


Locke reanalyzed data from Fryer's study on level of aspiration as a training procedure to test Fryer's hypothesis that having individuals set levels of aspiration would lead to a higher performance level than giving knowledge of results alone. Locke concluded that effects of setting levels of aspiration as compared to knowledge of results alone would be dependent upon the level at which the aspiration levels were set. Higher aspiration levels in relation to initial ability would produce greater improvement.

Locke found a significant linear relationship between intended level of achievement and actual level of performance.

Three hundred Negro female college subjects were tested by Bayton for levels of aspiration on arithmetic problem solving and cancellation aspiration tasks. Performance was found related to the relative height or influence of the preceding explicit level of aspiration.

Friedman found a nonsignificant relationship between the


effects of varying the probabilities of obtaining a reward on the level of aspiration and performance. Level of aspiration and performance were also nonsignificantly related.

Holt\(^8^2\) tested 168 undergraduates who were about to take examinations in college courses for their levels of aspiration on the examinations. A nonsignificant correlation was found between aspiration and achievement when level of achievement was partialled out.

Influence of Success and Failure on Level of Aspiration

Bayton and Whyte\(^8^3\) studied the effects of success-failure sequence on levels of aspiration using contrived scores on the Minnesota Rate of Manipulation Test. It was found that goal discrepancies were much lower for subjects experiencing success-following-failure than for subjects experiencing failure-following-success. Actual performance was better for those subjects working under initial success than for those with initial failure.

Child and Whitney\(^8^4\) concluded that success generally led to raising of the level of aspiration, whereas failure had the opposite

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\(^{8^3}\)J. A. Bayton and E. Whyte, "Personality Dynamics During Success-Failure Sequences," *Journal of Abnormal and Social Psychology*, XLV (1950), 583-591.

effect. Further, the greater the degree of success, the more likely the inflation of the level of aspiration. The effects of failure were more varied than were the effects of success.

Snedden\textsuperscript{85} studied the effects of success and failure on levels of aspiration. She found that a positive correlation existed between the effects of success and failure and the average difference between performance and level of aspiration.

In a study by Smith,\textsuperscript{86} it was his purpose to determine if subjects in whom motivation for success was stronger than motivation to avoid failure would have greater preference for tasks of intermediate difficulty than would subjects in whom motivation to avoid failure was stronger than motivation for success. A level of aspiration task under three different conditions was administered to 125 male college students. The three conditions were: (1) neutral—no special instructions other than those relevant to the task; (2) extrinsic—instructions to work fast in order to finish in time for dinner; and (3) relaxed—instructions that tasks were of little importance, and there was no need to try hard. The motive for success was measured by Thematic Appreceptive Need for Achievement scores. Motive to avoid failure was measured by test anxiety scores.


The hypothesized relationship between achievement-related motives and levels of aspiration was found to occur only under relaxed conditions.

Influence of Instructions on Level of Aspiration

Preston and Bayton\textsuperscript{87} systematically compared three levels of aspirations: (1) maximum level—the score which the subject felt represented his ultimate ability using the "hope" instruction method; (2) actual level—the score which the subject expected to make on the next performance using the "expect" instruction method; and (3) least level—the score below which the subject was certain he would not fall. All three instructions were found to elicit different levels of aspiration, with a very substantial relationship between maximum and actual levels, but the least level had a low correlation with the other two. It was concluded that actual levels were closer to maximum than to least levels of aspiration.

Irwin and Mintzer\textsuperscript{88} investigated the effects that instructional variables would have on levels of aspiration. A group exposed to "hope" instruction for stating the aspiration level was compared to a group given "expect" instruction. The mean goal discrepancy score


of the "hope" group was significantly larger than the mean goal discrepancy score of the "expect" group. The instructional variables also resulted in two other differences in goal-setting behavior. The "expect" group had twice as many negative goal discrepancy scores as the "hope" group, and to a significant degree changed their aspiration levels from trial to trial more frequently than the "hope" group.

Fryer\textsuperscript{89} found nonsignificant differences between "expect" and "hope" instructions and between private and public expression of the level of aspiration.

Mischel\textsuperscript{90} investigated the relationship between the public-private nature of the situation in which level of aspiration was elicited and the amount of change in related aspiration levels following negative reinforcement for performance on a first task. Under both private and public conditions, the subjects wrote their estimates of levels of aspiration on a paper. The public condition was a direct, face-to-face relationship with the experimenter who saw the estimates written in an individual testing situation. The private condition was the testing of groups in which the subjects, ranging from five to fifteen, were seated at desks widely separated from each other and from the experimenter. The public-private

\textsuperscript{89} Fryer, \textit{loc. cit.}

\textsuperscript{90} W. Mischel, "The Effect of the Commitment Situation on the Generalization of Expectancies," \textit{Journal of Personality}, XXVI (1958), 508-516.
nature of the situation under which levels of aspiration were elicited, was found to affect significantly the subsequent levels of aspiration. Following failure, subjects were found more likely to lower their aspiration levels if the first aspiration had been private than if it had been public. It was also found that estimates of levels of aspiration were more resistant to change when the subject was in direct, face-to-face contact with the experimenter or when the subject inferred that the experimenter could view his performance.

Influence of Prearranged Performance Scores, Socio-economic Factors, Sex and Age on Level of Aspiration

Utilizing a modified bowling game with a curtain hiding the target which facilitated the reporting of false performance scores, Simon, Shaw and Gilchrist\(^1\) investigated the effects of prearranged performance scores upon level of aspiration. The prearranged performance scores were a decreasing series, a combination of first increasing and then decreasing series of scores, and a combination of first decreasing and then increasing series. Mean goal discrepancy scores of an increasing sequence of scores were found to be significantly smaller than the mean goal discrepancy scores of a decreasing sequence of scores.

Gould\textsuperscript{92} found that subjects from an inferior socio-economic background tended to set their aspiration levels farther above their abilities than did those from higher socio-economic backgrounds. She also found that German subjects had a greater tendency than Americans to lower their levels of aspiration after failure on paper and pencil tests.

Himelstein\textsuperscript{93} studied sex differences in the number of times changes were made in aspiration levels. White males and females from the American culture were found to be the same in their level of aspiration shifting behavior.

In a study of sex differences in level of aspiration and in self-estimates of performance in a classroom situation, Summer and Johnson\textsuperscript{94} found that females tended to set lower levels of aspiration than males did.

Muthayya\textsuperscript{95} studied the influence of age on levels of aspiration among adolescents who were thirteen to seventeen years old. The mean


goal discrepancy score was found to increase with age; this finding suggested a consistent increase in the level of aspiration.

**Summary of Related Studies**

Thirty-one studies related to influences affecting levels of aspiration were reviewed.

Four of these studies were concerned with the influence of one's own group on level of aspiration. All four studies found individuals setting aspiration levels toward the mean performance level of their group.

Eight studies concerning influence of other groups on level of aspiration were reviewed. Seven studies found other group scores to influence magnitude and direction of aspiration levels. Aspiration levels tended to change toward the mean performance levels of other groups and were found dependent on whether individuals perceived their performance as either inferior or superior to the comparison groups. One study found that hearing scores of another person caused level of aspiration to become random guessing.

Six studies concerning influence of performance on level of aspiration were reviewed. Four studies found performance and level of aspiration positively related. Two studies contradicted this finding.

Four studies concerning influence of success and failure on levels of aspiration were reviewed. From these studies it was concluded that success generally led to raising of the level of aspiration, whereas failure had the opposite effect.
Four studies concerning influence of instruction on level of aspiration were reviewed. Three studies found different instructions for eliciting levels of aspiration significantly influenced aspiration level responses. One study contradicted this finding.

Five studies were reviewed concerning the influence of prearranged performance scores, socio-economic factors, sex and age on level of aspiration. From these studies it was concluded:

1. As prearranged performance scores increased in value, individuals became more conservative in setting aspiration levels.

2. Individuals from inferior socio-economic backgrounds set less realistic aspiration levels than do those of higher socio-economic background.

3. Females tend to set lower levels of aspiration than do males, whereas no difference was found in shifting behavior.

4. Levels of aspiration increase with age.
CHAPTER III

DESCRIPTION OF PROCEDURE

I. OVERVIEW

This study was designed to determine the extent of generality or specificity of level of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. Ninety male eighth grade students from the Houston Independent School District, Houston, Texas, participated as volunteer subjects. The study was conducted during the summer of 1968.

All subjects were tested for level of aspiration on four psychomotor tasks and one cognitive task. The four psychomotor tasks were comprised of two fine and two gross tasks. Three performance and three level of aspiration scores were obtained for each task.

Subjects' motor ability was determined by use of the Barrow Motor Ability Test. Academic ability scores were obtained from subjects' permanent school records, which included Science Research Associates Achievement Series Form C scores, Academic Promise Test Form A scores, Otis Quick-Scoring Mental Ability Test Beta Form scores, and grade point average.

II. SELECTION OF SUBJECTS

During June and July of 1968, ninety male eighth grade students
from the Houston Independent School District, Houston, Texas, volunteered to participate as subjects for this study. The subjects were members of Black Junior High School and Long Junior High School student bodies. All subjects were participants either in a summer recreation program or a summer school program.

Prior to conducting this experiment, the researcher obtained permission to conduct the study from the administrators of the Houston Independent School District and the principals of the cooperating schools. In compliance with a Houston school policy, students who expressed a willingness to participate were required to have their parents sign a permission letter which was returned to the researcher.

Of the ninety subjects tested, twenty-one were from Black Junior High School and sixty-nine from Long Junior High School. Thirteen of the subjects were summer school members, and seventy-seven subjects were participants in the summer recreation program. The subjects ranged in age from twelve years seven months to fourteen years ten months. The average age of the subjects was thirteen years nine months. Any volunteer subject incapacitated due to any disability was not included in the study.

III. SELECTION AND DESCRIPTION OF TESTS

There are available many different psychomotor and cognitive measures that may be used in the evaluation of an individual's ability and performance. However, this number was narrowed when the
test or task must also be acceptable to the framework within which level of aspiration may be evaluated.

Price,\(^1\) Sears and Levin,\(^2\) and Rotter\(^3\) have listed a number of criteria that should be considered essential to the development of tasks utilized in the measurement of level of aspiration. Himmelweit summarized the criteria for level of aspiration test as follows:

1. The method of scoring should be unidimensional to enable the subject to appreciate readily any improvement or deterioration in his performance.

2. The tasks should not be associated with a specific occupational proficiency and thus introduce a bias for some subjects.

3. The task must be within a given range of difficulty. No ego-involvement occurs when tasks are either too easy or too difficult.

4. The test should allow for improvement on successive trials.

5. Successive scores should show moderately high intercorrelations to make approximate anticipation of future scores possible.

6. The test should possess a certain interest value.\(^4\)

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\(^2\)Pauline Sears and Harry Levin, "Levels of Aspiration in Pre-School Children," Child Development, XXVI (September, 1957), 317.


These criteria were utilized as guidelines for selecting the level of aspiration tasks administered in this study.

Fine Psychomotor Tasks

A number of tests using small muscle groups were reviewed. The two tests selected were used by Cassel and Vanvorst,\(^5\) Red, McCary, and Johnson,\(^6\) Davids and Sidman,\(^7\) and Bayton and Whyte\(^8\) in previous studies of level of aspiration. These tests also met the general level of aspiration test criteria.

Cassel Group Level of Aspiration Test.\(^9\) The Cassel Group Level of Aspiration Test is a standard form test consisting of twelve separate parts, all precisely alike. Only three of these parts were utilized in the test administration for this study. Each part of the test consists of four lines of capital X's that are double spaced. The four lines contain thirty capital X's, respectively. The task is to draw a small circle at the top and bottom of each X as rapidly as possible for thirty seconds of time.

The standard test form recommends the Hausmann Scoring Technique. This technique instructs the subject that his scores for

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\(^5\) Cassel and Vanvorst, loc. cit.

\(^6\) Red, McCary, and Johnson, loc. cit.

\(^7\) Davids and Sidman, loc. cit.

\(^8\) Bayton and Whyte, loc. cit.

\(^9\) Cassel Group Level of Aspiration Test. Western Psychology Services, Los Angeles, California.
each part will not be greater than his bid or expected score, and will be two points less than his performance score for each expected X not completed.

Gould\textsuperscript{10} has published criticism of the Hausmann Technique on three points. These points are: (1) There may be a tendency to reduce individual differences to a minimum; (2) The subject may only feel success when he makes his exact goal. Scoring over this can be considered as a failure; (3) Whatever individual differences do occur are rather an index of the subject's poor judgment than are basic personality trends.

Therefore, for the design of this study, performance score on the Cassel Group Level of Aspiration Test was the total number of completed X's for the thirty second time limit. A half-completed X was not included in the computation of the final performance score.

The nature of this test enabled the experimenter to administer the test in group sessions. A four page test booklet was compiled. (Appendix A) Each page of the test booklet contained one part of the total aspiration test.

This test was administered to the subjects in a regular classroom environment. The equipment needed for the test were test booklets and pencils. After subjects were seated, the examiner distributed the test booklets and pencils. Distribution of booklets was followed by a brief explanation of the purpose of the test and

how it was to be taken and scored. During the administering of the
test subjects were not permitted to talk. For each test, the
examiner started and stopped the subjects by giving the signals
"Ready Go" and "Stop." Upon the signal "Stop," subjects were
instructed to raise their pencils into the air. Subjects were
allowed to score their own tests.

**Minnesota Rate of Manipulation Test.** The Minnesota Rate
of Manipulation Test is a series of five tests intended to measure
rapidity of movement of the hands, fingers and arms. The five
tests are called: (1) Placing, (2) Turning, (3) Displacing, (4) One-
hand Turning, and (5) Two-hand Turning and Placing. For this study,
only the Turning Test was administered.

The Minnesota Rate of Manipulation Test consists of a
formboard which is approximately thirty-five inches long, ten
inches wide, and one inch thick. The formboard contains four rows
of identical holes, with fifteen holes in each row. Sixty identical
discs, each somewhat larger than a checker, fit into these holes,
the thickness of the discs being greater than that of the formboard
so that they may be readily grasped while in place. So that a ready
check may be made in the Turning Test, the flat sides of the discs
are painted differently. The painted discs also contrast in color
with the formboard.

The Turning Test was administered individually, with the

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**Minnesota Rate of Manipulation Test.** American Guidance
Service, Inc., Minneapolis, Minnesota, publisher.
subject standing at a table of normal height. The formboard was presented parallel to the subject and three inches from the front edge of the table with the discs in place. Subject was instructed to pick up each disc with one hand, turn the disc over by a two-handed operation and replace the disc in its original hole with the other hand. Preferred right hand subjects started the test in the upper left-hand corner of the formboard using their preferred right hand to pick up the discs and their nonpreferred hand to replace the disc. Preferred left hand subjects started the test in the upper right-hand corner of the formboard and proceeded in the same manner as described for the preferred right hand subjects. With each change of rows the movement changed and the hands exchanged functions.

Subjects were instructed to turn over as many discs as they could during a thirty second time limit. Following each performance test, subjects recorded on their score card the number of discs turned and privately stated their level of aspiration for the next test.

Gross Psychomotor Tasks

In an attempt to keep to a minimum subjects' inhibitions toward the gross psychomotor tasks, the research chose only tasks which involved manipulation of the total body. Excluded were those tasks which had to be performed by employing the use of external equipment. Following experimentation with several gross psychomotor
tasks, the two tasks selected were found to involve the total body in reasonably complex motor movements resulting from an integration of body movements involving large muscle groups.

**Standing Triple Broad Jump.** Subjects assumed a starting position with both feet just behind a take-off mark. Subjects' feet were several inches apart and parallel. Preliminary to jumping, subjects dipped their knees and swung their arms backward. Subjects then jumped forward by simultaneously extending their knees, swinging their arms forward, and having both feet simultaneously leave the floor. Subjects made three successive forward jumps, landing on both feet each time and performing the entire event without a pause between jumps. Total distance covered by the three jumps was measured from the nearest point where the subjects' feet touched the floor after the third jump to the inside edge of the take-off mark and at right angles to it. All distances were measured in feet and inches to the nearest inch. Subjects were not allowed any practice trials prior to performing the task. In the subjective judgment of the examiner, any jump by subject not done according to instructions was repeated.

**Bar-Snap for Distance.** A horizontal bar was placed four

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feet six inches above the floor. Each subject grasped the bar with an overhand grip, body erect, feet nearer the vertical plane of the bar than the shoulders, and legs and arms straight. With a take-off on both feet, the subject jumped slightly in the air, quickly flexing his hips so that the insteps of his feet came close to the bar. As his flexed body swung under the bar, he thrust his feet upward, arched his back and let go of the bar at the right moment to throw his body to the feet at a distance beyond the bar. Total distance covered by the snap was measured at a right angle to the vertical plane of the bar and from the vertical plane of the bar to the nearest point where the subject's feet touched the floor. Distances were measured in feet and inches to the nearest inch. Subjects were not allowed any practice trials prior to performing the task. In the subjective judgment of the examiner, any jump by subject not done according to instructions was repeated.

Cognitive Task

The purpose of the cognitive task was to obtain an aspiration level measure for a nonmotor task. After reviewing several cognitive tests, personal experimentation, and personal interviews with individuals in the experimental psychology profession, the nonmotor task selected was the learning of twenty three-letter nonsense syllables. The nonsense syllables consisted of two consonants and a vowel. The following nonsense syllables and their order of presentation to subjects were developed according to Postman and
Egan's rules for the construction of nonsense syllables: QAT, DOJ, NUY, GIK, XEB, ZAC, MUV, ROH, FIP, ZOQ, BUK, JAF, SEY, NID, TUH, MEW, FOC, RAX, YIL, CEF. Thirty-five millimeter slides of each nonsense syllable were made for use in the presentation of syllables to subjects.

Since the nature of the cognitive test made it feasible to use group testing, subjects were tested in a relatively dark classroom. A four page test booklet and pencils were distributed to each subject. Each page of the test booklet contained twenty numbered blank spaces for use in recording the learned syllables. Below the numbered blank spaces were these statements for the subject to answer:

"(1) The number of syllables I learned on this test was ___.
(2) The total number of syllables I expect to have learned by the next test is ___."

A thirty-five millimeter automatic slide projector was employed to present the twenty nonsense syllables. Each slide was exposed for viewing for five seconds. Exposure time was automatically controlled by the time-exposure setting on the projector.

The following procedure was employed three consecutive times in testing cognitive aspiration levels. Prior to each written test, the complete sequence of twenty syllables was reviewed twice by the

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subjects. Following the two review presentations, subjects were allowed two minutes to recall and record syllables which they may have learned. Subjects were not required to recall the syllables in any particular sequence. Scoring of the test was done by the subjects from a list of the syllables read to them by the examiner. After scoring each performance and prior to the next two review presentations, subjects privately stated their level of aspiration for the next test.

**Academic Ability Tests**

In a review of other studies in reference to measures of academic ability, it was found that several different methods of determining academic ability had been employed. Since all subjects had been administered academic ability tests as part of the normal testing procedure of the Houston Independent School District, academic ability scores were obtained from subjects' permanent school records. Thus, the researcher had no prior control over the types of academic ability scores available for use in this study. The academic ability scores available were Science Research Associates Achievement Series Form C scores, Academic Promise Test Form A scores, Otis Quick-Scoring Mental Ability Test Beta Form scores, and grade point average scores. Since various measures of academic ability were available, the researcher chose to use all the measurements as a means of obtaining a more precise evaluation of the subjects' academic ability. They were also used to obtain as much information
as possible concerning the relationship between level of aspiration and academic ability.

Science Research Associates Achievement Series Form C. This standardized test is designed to measure academic ability of students in grades four through nine in five major areas, including social studies, science, language arts, arithmetic and reading, the latter three areas being subdivided into two to three categories. Scores for the different areas are reported as percentile scores or national grade equivalent scores. Also, a composite score which indicates over-all achievement level in all the areas is reported. For this study the composite national grade equivalent score was utilized. All subjects had been administered this test in the latter part of the 1968 spring semester as part of the normal testing procedure of the Houston Independent School District.

Academic Promise Test Form A. This standardized test is designed to appraise a student's all-around scholastic aptitude or intellectual power and indicate separate areas of academic ability in which the student is relatively strong or weak. The test is comprised of four test areas. They are abstract reasoning, numerical, verbal, and language usage. The abstract reasoning test measures the ability of the student to see relationships and recognize concepts presented in the form of diagrams or symbols rather than in words or numbers. The numerical test measures the capacity of the students to think in quantitative terms and to understand and use numerical
relationships. The verbal test measures the student's ability to understand word meanings and his ability to use words in reasoning. The language usage test measures the student's understanding and appreciation of good English.

Ninety minutes of testing time is needed to administer the test. Raw score on each of the four tests is the number of right answers. The maximum possible raw score on any test is sixty. The maximum possible Academic Promise Test total score is 240. This test was administered to all subjects in the latter part of the 1968 spring semester.

**Otis Quick-Scoring Mental Ability Test Beta Form.** The purpose of this standardized test is to measure mental ability of students in grades four through nine. Mental ability, as it applies to this test, is defined as thinking power or the degree of maturity of the mind. Specific purposes of the test are to discover which students are capable of doing better school work than they are doing and to discover which pupils may be attempting work beyond their capacity.

The test is comprised of eighty test items which include measurements of word meaning, verbal analogies, scrambled sentences, interpretation of proverbs, logical reasoning, number series, arithmetic reasoning and design analogies. Thirty minutes of testing time is required to administer the test. Results of the test are reported as a single composite raw score. Reliability of the test is
.91 with a standard error of four points. This test was administered to all subjects during the 1966 fall school term.

**Grade Point Average.** The grade point average was based on each subject's final grades in required courses from the previous school year. Required courses were English, reading-writing-spelling, mathematics, and history-geography. The grade point average was found by alloting four points for an A, three points for a B, two points for a C, one point for a D, and zero points for a failure. Averages were computed to the nearest hundredths.

**Motor Ability**

Motor ability was determined by use of the Barrow Motor Ability Test.\(^{15}\) This test battery consists of the standing broad jump, medicine ball put, and zigzag run. It has a reliability of .92.

For each of the test items a T-Score was established. The final motor ability test score for each subject was a Composite T-score obtained by adding the T-score obtained on each test item.

**IV. GENERAL PROCEDURE FOR LEVEL OF ASPIRATION TESTING**

Simply stated, level of aspiration as defined by Frank\(^{16}\) is

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the level of performance on a familiar task which an individual undertakes to reach. Based on Frank's definition of level of aspiration, the level of aspiration testing procedure for this study was designed.

In this study all subjects were tested for level of aspiration on four psychomotor tasks and one cognitive task. The four psychomotor tasks were comprised of two fine and two gross tasks. Two of the five tasks were administered to the subjects in a group situation. The remainder of the tasks were administered individually. All individually tested tasks were tested in an area closed to outside observation with only the subject and examiner present. Subjects were not allowed any practice trials prior to performing the tasks.

Each subject was given a separate score card for each task. The score cards contained the following statements: (1) The score I made on this test was ___; and (2) The score I expect to make on the next test is ___. Performance score results were known both to the subject and examiner, but level of aspiration scores were known only to the subject. Each subject was instructed not to inform the examiner of his level of aspiration scores.

Each subject was given three successive performance tests on each task. Upon completing each performance test, subjects indicated on their score cards what they expected to make on their next attempt at the task. Three performance and three level of aspiration test scores were obtained for each task. This general testing procedure was followed for each task throughout the study.
By employing this testing procedure, each subject received three performance scores and three aspiration discrepancy scores for each task. An aspiration discrepancy score was the difference between the level of aspiration score and the previous performance score. A positive value was recorded when the aspiration score was greater than the subject's preceding performance score, and a negative value was given when it was less. The subject's final performance and aspiration measures on each task were the sums of the negative and positive aspiration discrepancy scores of each of the three trials taken for each measure.

V. STATISTICAL DESIGN

Pearson Coefficient of Correlation based on test-retest data was used to determine the reliability of the four psychomotor and one cognitive tasks testing procedure. Zero order correlation was employed to study the extent of generality or specificity of levels of aspiration in the selected psychomotor and cognitive tasks and to study the extent of generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. Also, correlation was employed to determine the relationship between level of aspiration and performance on the selected psychomotor and cognitive tasks.
CHAPTER IV

ANALYSIS OF DATA

I. PSYCHOMOTOR AND COGNITIVE TESTS RELIABILITY

The statistical procedure used in the determination of reliability was the Pearson Coefficient of Correlation based on test-retest data. Correlations were computed between the performance test results from the first and second administration of each test. This resulted in reliability coefficients of .876 for Standing Triple Broad Jump Test, .674 for Bar Snap Test, .821 for Cassel Group Level of Aspiration Test, .678 for Minnesota Rate of Manipulation Test, and .834 for the Cognitive Test.

As guidelines for interpreting the significance of coefficients of reliability for tests, Bookwalter\(^1\) classified coefficients of reliability as follows: very high, .90 or above; high, .80 to .89; average, .60 to .79; considerable, .40 to .59; and insignificant, .39 or below. Using Bookwalter's guidelines, three of the five tests were highly reliable. Two of the tests were of average reliability. These coefficients of reliability were sufficiently high to warrant the use of the obtained data for further statistical treatment.

II. MEANS, STANDARD DEVIATIONS, AND RANGES FOR TOTAL ASPIRATION DISCREPANCY SCORES AND MEAN ASPIRATION DISCREPANCY SCORE PER TEST ON PSYCHOMOTOR AND COGNITIVE TASKS

As shown in Table I, the total aspiration discrepancy score range for three tests on the Standing Triple Broad Jump task was -104 inches to 92 inches with a mean of 10.71 inches. Mean aspiration discrepancy score per test was 3.6 inches.

Total aspiration discrepancy score range for three tests on the Bar Snap task was -12 inches to 78 inches with a mean of 18.03 inches. Mean aspiration discrepancy score per test was 6.0 inches.

Total aspiration discrepancy score range for three tests on the Cassel Group Level of Aspiration task was -5 to 24 with a mean of 9.52. Mean aspiration discrepancy score per test was 3.17.

Total aspiration discrepancy score range for three tests on the Minnesota Rate of Manipulation task was -10 to 25 with a mean of 8.78. Mean aspiration discrepancy score per test was 2.93.

Total aspiration discrepancy score range for three tests on the Cognitive task was -6 to 19 with a mean of 7.99. Mean aspiration discrepancy score per test was 2.66.

All psychomotor and cognitive mean aspiration discrepancy scores were positive. Thus, in general subjects reflected an air of confidence for improving their task performances.
TABLE I
MEANS, STANDARD DEVIATIONS AND RANGES FOR TOTAL ASPIRATION DISCREPANCY SCORES AND MEAN ASPIRATION DISCREPANCY SCORE PER TEST ON PSYCHOMOTOR AND COGNITIVE TASKS FOR NINETY EIGHTH GRADE MALES

<table>
<thead>
<tr>
<th>EXPERIMENTAL VARIABLES</th>
<th>Mean</th>
<th>3-Test Range</th>
<th>Mean 3-Test Deviation</th>
<th>Mean Aspiration Discrepancy Score per Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Psychomotor Tasks:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing Triple Broad Jump</td>
<td>-104&quot; to +92&quot;</td>
<td>+10.71&quot; 21.08&quot;</td>
<td>+3.6&quot;</td>
<td></td>
</tr>
<tr>
<td>Bar Snap</td>
<td>-12&quot; to +78&quot;</td>
<td>+18.03&quot; 14.31&quot;</td>
<td>+6.0&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Fine Psychomotor Tasks:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassel Group Level of Aspiration</td>
<td>-5 to +24</td>
<td>+9.52 7.20</td>
<td>+3.17</td>
<td></td>
</tr>
<tr>
<td>Minnesota Rate of Manipulation</td>
<td>-10 to +25</td>
<td>+8.78 5.88</td>
<td>+2.93</td>
<td></td>
</tr>
<tr>
<td><strong>Nonmotor Tasks:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>-6 to +19</td>
<td>+7.99 4.20</td>
<td>+2.66</td>
<td></td>
</tr>
</tbody>
</table>
III. INTERCORRELATIONS AMONG TOTAL ASPIRATION DISCREPANCY SCORES ON PSYCHOMOTOR AND COGNITIVE TASKS

In order to give an indication of the extent of generality or specificity of level of aspiration, intercorrelations among total aspiration discrepancy scores were computed for psychomotor and cognitive tasks. Significant correlation coefficients indicated generality of level of aspiration. This meant that the same aspiration factors were found playing significant roles in the different tasks being tested. Nonsignificant correlation coefficients indicated specificity of level of aspiration. This meant that the level of aspiration traits were specific for the task being tested.

As shown in Table II, intercorrelation coefficients among total aspiration discrepancy scores for two gross psychomotor, two fine psychomotor and one cognitive tasks ranged from .154 to .378. Six of the ten intercorrelations were significant at or above the .05 level of significance. Low significant correlations were found between the two fine psychomotor tasks; between both fine psychomotor tasks and the cognitive task; and among one of the gross psychomotor tasks and the fine psychomotor and cognitive tasks. These findings suggested some evidence of generality of level of aspiration, however, the correlations, though significant, were too low to be of predictive value.

Nonsignificant correlations were found between the standing triple broad jump, a gross psychomotor task, and all other tasks.
III. INTERCORRELATIONS AMONG TOTAL ASPIRATION DISCREPANCY SCORES
ON PSYCHOMOTOR AND COGNITIVE TASKS

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Nonsignificant correlations were found between the standing triple broad jump, a gross psychomotor task, and all other tasks.
TABLE II
INTERCORRELATIONS AMONG TOTAL ASPIRATION DISCREPANCY SCORES ON PSYCHOMOTOR AND COGNITIVE TASKS FOR NINETY EIGHTH GRADE MALES

<table>
<thead>
<tr>
<th>Experimental Variables</th>
<th>Gross Psychomotor Tasks</th>
<th>Fine Psychomotor Tasks</th>
<th>Nonmotor Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standing Triple Bar</td>
<td>Cassel Group</td>
<td>Cognitive</td>
</tr>
<tr>
<td></td>
<td>Broad Jump Snap</td>
<td>Minnesota Level of</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Rate of Aspiration</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manipulation</td>
<td></td>
</tr>
<tr>
<td>Standing Triple Bar</td>
<td>.199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad Jump Snap</td>
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</tr>
<tr>
<td>Cassel Group</td>
<td>.157</td>
<td>.294**</td>
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</tr>
<tr>
<td>Level of Aspiration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota Rate of</td>
<td>.184</td>
<td>.378**</td>
<td>.368**</td>
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<tr>
<td>Manipulation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cognitive</td>
<td>.154</td>
<td>.299**</td>
<td>.289* .286*</td>
</tr>
</tbody>
</table>

* r needed for significance at the .05 level of significance, .226
** r needed for significance at the .01 level of significance, .291
These findings indicated specificity of level of aspiration for this gross psychomotor task.

IV. INTERCORRELATIONS AMONG TOTAL ASPIRATION DISCREPANCY SCORES ON PSYCHOMOTOR AND COGNITIVE TASKS, MOTOR ABILITY, AND ACADEMIC ABILITY

Intercorrelation coefficients among total aspiration discrepancy scores on psychomotor and cognitive tasks, motor ability, and academic ability are presented in Table III. The correlation coefficients ranged from -.252 to .227. Only one of the twenty-five intercorrelations was significant at or above the .05 level of significance. The significant correlation was between motor ability and aspiration discrepancy scores on the Standing Triple Broad Jump, a gross psychomotor task. Academic ability was found not to be related to level of aspiration on any of the psychomotor and cognitive tasks.

V. CORRELATIONS BETWEEN TOTAL PERFORMANCE SCORES AND TOTAL ASPIRATION DISCREPANCY SCORES ON PSYCHOMOTOR AND COGNITIVE TASKS

Coefficients of correlation between total performance scores and total aspiration discrepancy scores on psychomotor and cognitive tasks are presented in Table IV, page 90. These coefficients ranged from -.134 to .196. All five of the correlations were nonsignificant.
TABLE III
INTERCORRELATIONS AMONG TOTAL ASPIRATION DISCREPANCY SCORES ON PSYCHOMOTOR AND
COGNITIVE TASKS, MOTOR ABILITY, AND ACADEMIC ABILITY
FOR NINETY EIGHTH GRADE MALES

<table>
<thead>
<tr>
<th>Experimental Variables</th>
<th>Motor Ability</th>
<th>Academic Ability</th>
<th>Academic Ability</th>
<th>Otis-Beta Mental Ability Test</th>
<th>Grade Point Average</th>
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<tr>
<td></td>
<td>Barrow Test</td>
<td>S.R.A. Academic Achievement Test</td>
<td>Academic Promise Test</td>
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<tr>
<td>Standing Triple Broad Jump</td>
<td>.227*</td>
<td>-.165</td>
<td>-.201</td>
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<tr>
<td>Bar Snap</td>
<td>-.048</td>
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<td>-.188</td>
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<td>Cassel Group Level of Aspiration</td>
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<td>Minnesota Rate of Manipulation</td>
<td>.054</td>
<td>-.102</td>
<td>-.037</td>
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<td>Cognitive</td>
<td>-.108</td>
<td>.089</td>
<td>-.043</td>
<td>-.188</td>
<td>-.012</td>
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</table>

*p needed for significance at the .05 level of significance, .226 (*);
for the .01 level, .291 (**).
<table>
<thead>
<tr>
<th>Experimental Variables</th>
<th>Gross Psychomotor Tasks</th>
<th>Fine Psychomotor Tasks</th>
<th>Nonmotor Tasks</th>
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<tr>
<td></td>
<td>Standing</td>
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<td>Triple Broad Jump</td>
<td>Snap</td>
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<td>Rate of</td>
</tr>
<tr>
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<td>Manipulation</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Cognitive</td>
</tr>
<tr>
<td>Total Aspiration</td>
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<td>-.017</td>
<td>-.123</td>
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<tr>
<td>Discrepancy Scores for</td>
<td></td>
<td></td>
<td>-.134</td>
</tr>
<tr>
<td>Each Task</td>
<td></td>
<td></td>
<td>.196</td>
</tr>
</tbody>
</table>

r needed for significance at the .05 level of significance, .226 (*); for the .01 level, .291 (**).
Thus, it may be stated that levels of aspiration and performances on psychomotor and cognitive tasks were not related.

VI. INTERCORRELATIONS AMONG FOUR ACADEMIC ABILITY MEASURES AND MOTOR ABILITY

As shown in Table V, four of the six intercorrelation coefficients among academic ability measures were significant at or above the .05 level of significance. All standardized measures of academic ability were significantly and positively intercorrelated. Grade point average, a nonstandardized measure of academic ability, was not significantly correlated to Academic Promise Test scores and Otis-Beta Mental Ability Test scores.

Of the four intercorrelation coefficients among motor ability and academic ability measures, one was significant at the .05 level of significance. The significant relationship ($r = -.252$) was obtained between motor ability and the Otis-Beta Mental Ability Test scores. This negative correlation, though low, showed that individuals high in motor ability scored low on the Otis-Beta Mental Ability Test. However, the three other nonsignificant correlations indicated that motor ability and academic ability were not related.
TABLE V
INTERCORRELATIONS AMONG FOUR ACADEMIC ABILITY MEASURES AND MOTOR ABILITY FOR NINTY EIGHTH GRADE MALES

<table>
<thead>
<tr>
<th>EXPERIMENTAL VARIABLES</th>
<th>Academic Ability</th>
<th>Motor Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S.R.A. Academic</td>
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<td>Academic Promise</td>
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<td></td>
<td>Achievement Test</td>
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<td>Otis-Beta Mental Ability Test</td>
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<td></td>
<td>Grade Point Average</td>
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<td></td>
<td>Barrow Test</td>
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<td>.888**</td>
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<td>Academic Ability</td>
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<td>.227*</td>
<td>.149</td>
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<tr>
<td>Motor Ability</td>
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<td></td>
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<tr>
<td></td>
<td>-.144</td>
<td>-.018</td>
</tr>
</tbody>
</table>

* needed for significance at the .05 level of significance, .226 (*);
for the .01 level, .291 (**).
CHAPTER V

SUMMARY, FINDINGS, DISCUSSION AND CONCLUSIONS

I. SUMMARY

The purposes of this study were to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks and to determine generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. It was a secondary purpose of this study to determine the relationship between level of aspiration and performance on psychomotor and cognitive tasks.

Ninety male eighth grade students from the Houston Independent School District, Houston, Texas, participated as volunteer subjects. Subjects ranged in age from twelve years seven months to fourteen years ten months. The average age of the subjects was thirteen years nine months. The data were collected during June and July, 1968, in Houston, Texas. The subjects used in this study were either participants in a summer recreation program or a summer secondary school program.

All subjects were tested for levels of aspiration on two gross psychomotor tasks, two fine psychomotor tasks, and a cognitive task. Each subject was given three successive performance tests on each task. Upon completing each performance test, subjects privately
indicated on their score cards their level of aspiration for the next attempt at the task. Three performance and three level of aspiration test scores were thus obtained for each task.

Subjects' motor ability scores were determined by use of the Barrow Motor Ability Test. Academic ability scores were obtained from subjects' permanent school records, which included Science Research Associates Achievement Series Form C scores, Academic Promise Test Form A scores, Otis Quick-Scoring Mental Ability Test Beta Form scores, and grade point average.

Pearson Coefficient of Correlation based on test-retest data was used to determine the reliability of the tests of four psychomotor tasks and one cognitive task. Zero order correlation was employed to study the extent of generality or specificity of levels of aspiration in the selected psychomotor and cognitive tasks and to study the extent of generality or specificity of levels of aspiration in selected psychomotor and cognitive tasks as related to motor ability and academic ability. Correlation was also employed to determine the relationship between levels of aspiration and performance on the selected psychomotor and cognitive tasks.

II. FINDINGS

The findings of this study were as follows:

1. When total aspiration discrepancy scores for two gross and two fine psychomotor tasks and one cognitive task were intercorrelated, significant but low correlations were found
to exist among all tasks except for the Standing Triple Broad Jump.

2. Academic ability was not significantly related to level of aspiration on any of the gross and fine psychomotor tasks nor on the cognitive task.

3. Barrow Motor Ability Test did correlate significantly with level of aspiration scores on the Standing Triple Broad Jump, but not to aspiration levels on any of the other psychomotor and cognitive tasks.

4. Nonsignificant correlations were found between aspiration discrepancy scores and performances for two gross and two fine psychomotor tasks and a cognitive task.

5. Generally, no significant correlations were found between motor ability as measured by the Barrow Motor Ability Test and Academic Ability measures. A low but significant negative correlation was found between Barrow Motor Ability Test and Otis-Beta Mental Ability Test.

III. DISCUSSION

Discussion of the Findings

Cratty\(^1\) reported a hypothesis that low or high aspiration levels for boys five to eighteen years of age would generalize from performance tasks, both intellectual and physical. This concept of generality of aspiration levels was based on the rationale that

\(^{1}\text{Cratty, loc. cit.}\)
during this period of a male's life, the development of psychomotor skills were highly valued. Furthermore, it was stated that during this period an individual was more likely to be subjected to social punishment by his peers which may be a contributing factor to the concept of generality of aspiration levels.

The first finding in this study, in general, indicated some evidence of generality of levels of aspiration for both gross and fine psychomotor tasks and a cognitive task. This finding was in agreement with Cratty's stated hypothesis. However, rationale for this generalization must be subjected to some qualifications. In view of the following qualifications, caution should be taken in interpreting the significance of generality of levels of aspiration.

The first qualification which required discussion concerned the low numerical value of the intercorrelation coefficients for total aspiration discrepancy scores on the psychomotor and cognitive tasks. It should be noted that although the coefficients were not numerically high, they were statistically significant at or beyond the .05 level of significance and, therefore, did indicate some degree of relationship between the tasks. Thus, they were of slight predictive value.

A second qualification to the acceptance of generality of aspiration levels was the specificity of levels of aspiration that was shown by the Standing Triple Broad Jump, one of the gross psychomotor tasks. The correlation coefficients for this task with the others ranged from .154 to .199. Since the Standing Triple Broad
Jump was the only task not to significantly correlate with any other, it was believed that the nonsignificance could have been attributed to the fact that it was the first test to be administered. This order of presentation may have influenced the subjects' ego-involvement in the task. Preston and Bayton\(^2\) concluded that generality among levels of aspiration expressed on different tasks was conditioned by the extent to which the subjects' egos were involved in the task set. Since the subjects were not familiar with experimental research, their apprehension toward the initial task being tested may have influenced their degree of ego-involvement for the task. A lack of ego-involvement would have influenced the probability of generality of level of aspiration occurring.

Also, Frank\(^3\) stated that generality of levels of aspiration was significant except when the task involved a "play" situation. Although the experimenter was of the opinion that the Standing Triple Broad Jump Test was a relatively unpracticed task, the subjects may have interpreted the task as a "play" situation done during their early childhood. As is usually the case, small children often imitate the motor patterns of animals. The Standing Triple Broad Jump Test did resemble the basic motor patterns of a hopping rabbit. This association may have caused the subjects to interpret the task as a "play" situation.

\(^2\)Preston and Bayton, \textit{loc. cit.}

\(^3\)Frank, \textit{loc. cit.}
A review of the related literature indicated a degree of controversy between the relationship of levels of aspiration and academic ability. Five studies had found levels of aspiration nonsignificantly related to academic achievement while two studies found significant relationship. The second finding of this study supported the findings of a nonsignificant relationship between levels of aspiration and academic ability. A subjective observation of the data revealed all the coefficients except one to be negative. Although no predictive interpretation may be drawn from the negative coefficients, it may be speculated that some form of a negative trend may be anticipated for this relationship.

The third finding of this study, in general, indicated that levels of aspiration for psychomotor and cognitive tasks were not related to motor ability. This finding was in keeping with findings of previous studies.

Related literature findings concerning the influence of levels of aspiration on performances were found to be conflicting. Five studies found performances and levels of aspiration positively related. Two studies contradicted this finding. This study indicated that levels of aspiration and performances on psychomotor and cognitive tasks were not related.

IV. CONCLUSIONS

Within the limits of this study, the following conclusions were justified:
1. There is some evidence of generality of levels of aspiration in psychomotor and cognitive tasks.

2. There is specificity of levels of aspiration for psychomotor and cognitive tasks as related to motor ability or academic ability.

3. There is no relationship between levels of aspiration and performances on psychomotor and cognitive tasks.

4. When motor ability and four measures of academic ability were intercorrelated, conflicting evidence was found. Standardized measures of academic ability were highly interrelated, whereas, a nonstandardized measure, grade point average, was not highly related to the standardized measures. Motor ability was generally not related to academic ability.
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SELECTED BIBLIOGRAPHY

A. BOOKS


B. PERIODICALS


103

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C. UNPUBLISHED MATERIALS


D. MICROCARDS


APPENDIX A

CASSEL GROUP LEVEL OF ASPIRATION TEST

TEST I

X X X X X X X X X X X X X X X X X X X X X X X X X X X X (30)
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X (60)
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X (90)
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X (120)

The number of X's I completed on this test was _____.

The number of X's I expect to complete on the next test is _____.

APPENDIX A (continued)

TEST II

X X X X X X X X X X X X X X X X X X X X X X X X X X X X (30)
X X X X X X X X X X X X X X X X X X X X X X X X X X X (60)
X X X X X X X X X X X X X X X X X X X X X X X X X X X (90)
X X X X X X X X X X X X X X X X X X X X X X X X X X X (120)

The number of X's I completed on this test was _____.

The number of X's I expect to complete on the next test is _____.

111
APPENDIX A (continued)

TEST III

X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X (30)
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X (60)
X X X X X X X X X X X X X X X X X X X X X X X X X X X (90)
X X X X X X X X X X X X X X X X X X X X X X X X X X X (120)

The number of X's I completed on this test was _____.

The number of X's I expect to complete on the next test is _____. 
APPENDIX A (continued)

TEST IV

X X X X X X X X X X X X X X X X X X X X X X X (30)
X X X X X X X X X X X X X X X X X X X X X (60)
X X X X X X X X X X X X X X X X X X X X X X X (90)
X X X X X X X X X X X X X X X X X X X X X X X (120)

The number of X's I completed on this test was _____.

The number of X's I expect to complete on the next test is _____.

114
<table>
<thead>
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<th>Experimental Variables</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow Motor Ability Test (T-score)</td>
<td>104-205</td>
<td>151.49</td>
<td>23.25</td>
</tr>
<tr>
<td>S.R.A. Academic Achievement Test (Grade Equivalent)</td>
<td>4.1-12.1</td>
<td>9.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Academic Promise Test (Total Score 240)</td>
<td>65-204</td>
<td>136.16</td>
<td>32.05</td>
</tr>
<tr>
<td>Otis-Beta Mental Ability Test</td>
<td>90-134</td>
<td>104.23</td>
<td>9.99</td>
</tr>
<tr>
<td>Grade Point Average (4-point system; A=4)</td>
<td>.25-4.0</td>
<td>2.13</td>
<td>.94</td>
</tr>
</tbody>
</table>
APPENDIX C

MEANS, STANDARD DEVIATIONS AND RANGES OF PSYCHOMOTOR AND NON-MOTOR TASKS FOR NINETY EIGHTH GRADE MALES

<table>
<thead>
<tr>
<th>Experimental Variables</th>
<th>3-Test Range</th>
<th>3-Test Mean</th>
<th>3-Test Standard Deviation</th>
<th>Mean Performance Per Test</th>
</tr>
</thead>
</table>
| Gross Psychomotor Tasks | Standing Triple | 41'5" to 62'8" | 52'5" | 5'8" | 1'7'6"
|                         | Broad Jump   |             |                           |                           |
|                         | Bar Snap     | 6'6" to 13'10" | 9'8" | 1'6" | 3'3"
| Fine Psychomotor Tasks  | Cassel Group | 46 to 112 | 82.56 | 12.64 | 27.52 |
|                         | Level of Aspiration |             |                           |                           |
|                         | Minnesota Rate | 73 to 115 | 96.54 | 9.54 | 32.18 |
|                         | of Manipulation |             |                           |                           |
| Nonmotor Tasks          | Cognitive | 12 to 48 | 30.23 | 9.69 | 10.08 |
VITA

Larry James Chaloupka, the son of Henry J. and Edna M. Chaloupka, was born in Rosenberg, Texas, on June 27, 1941. The first two years of the author's elementary education was received in Guy, Texas. The remainder of the author's elementary education was received in Needville, Texas. The author graduated from Needville High School, Needville, Texas, in 1959.

In September of 1959 the author entered Sam Houston State College, Huntsville, Texas. He earned the Bachelor of Science Degree in 1962, with a major in physical education and a minor in mathematics. The Master of Education Degree was awarded the author in 1965 from San Houston State College.

The author taught physical education, mathematics, and coached at Royal High School in Brookshire, Texas, in 1962-1963. Following his tenure at Royal High School, the author taught physical education, mathematics, and coached at John Foster Dulles Junior High School in Stafford, Texas, during 1963-1966. In the summer of 1966 the author began his doctoral program at Louisiana State University. The Doctor of Education with a major in physical education and a minor in administrative education was awarded the twenty-fourth of January, 1969.

Larry Chaloupka is married to the former Sandra Lee of Houston, Texas. They have one son, Larry James Chaloupka, Jr.
EXAMINATION AND THESIS REPORT

Candidate: Larry James Chaloupka

Major Field: Physical Education

Title of Thesis: Analysis of Generality or Specificity of Level of Aspiration in Selected Psychomotor and Cognitive Tasks

Approved:

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Major Professor and Chairman

[Signature]
Dean of the Graduate School

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Francis A. Drury

Date of Examination:

January 8, 1969