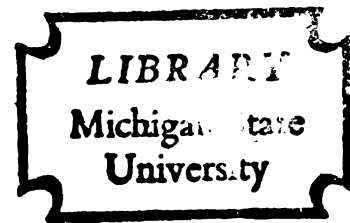


A COMPARATIVE ANALYSIS OF A SOCIAL-PSYCHOLOGICAL THEORY OF SCHOOL ACHIEVEMENT

Thesis for the Degree of M.A.
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James Charles Votruba
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ABSTRACT

A COMPARATIVE ANALYSIS OF A SOCIAL-PSYCHOLOGICAL THEORY OF SCHOOL ACHIEVEMENT

By

James Charles Votruba

This research project was designed to test the major hypothesis of a social-psychological theory of school achievement. Specifically, the author was concerned with a cross-cultural replication of the basic research done by Brookover, et. al., in their report entitled, Self-Concept of Ability and School Achievement, III.

Following the symbolic-interactionist theory of George Herbert Mead and Charles Cooley, Brookover et. al. postulated that academic achievement is limited by a student's self-concept of his own academic ability. Self-concept of academic ability results from the student's perceptions of the evaluations significant others hold of his academic ability. Seen in this context, self-concept of academic ability functions as an intervening variable between perceived evaluations of significant others and the student's academic achievement. A positive self-concept is seen as a necessary but not sufficient condition for

academic achievement.

Using the same theoretical and methodological framework employed in the Brookover project, the present study used data collected from Giessen, Germany to test Brookover's four basic hypotheses.

The results of this study provide strong positive support for the cross-cultural validity of the Brookover propositions. It was found that, among German eighth grade students, there existed a high correlation (.56) between self-concept of academic ability and subsequent school achievement. It was also found that self-concept of academic ability had a high correlation with the perceived evaluations of both parents (.81) and teachers (.78). The research showed that self-concept of academic ability intervenes between the independent variable, perceived evaluations of others, and the dependent variable, grade point average. Finally, substantive proof was found to suggest that self-concept of ability is a necessary but not sufficient condition for academic achievement.

A comparative analysis showed that, in every instance, the results found in this present study supported the findings of the original Brookover project.

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By
James Charles Votruba

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TABLE OF CONTENTS

	Page
List of Tables	iv
Chapter 1 THEORY AND OBJECTIVES.	1
Purpose of this Study	2
Theoretical Background.	3
Self-Concept of Ability	5
Hypotheses.	7
Chapter 2 REVIEW OF SELECTED LITERATURE.	10
Summary of the Literature Review. . .	25
Chapter 3 THE RESEARCH METHODOLOGY	27
Research Site, Population, and Sample	27
West German School System	27
Major Variables Operationally Defined.	29
Data Collection Procedures.	32
Data Analysis Procedures.	33
Chapter 4 ANALYSIS OF RESULTS.	34
Relation of Self-Concept of Academic Ability to Achievement. .	34
Relationship of Perceived Evaluations to Self-Concept of Academic Ability.	35
Self-Concept as an Intervening Variable	36
A Comparison of Results with the Brookover Self-Concept Study . . .	39
Summary	42

Chapter 5	SUMMARY	44
	BIBLIOGRAPHY.	47
APPENDICES		
	A. Self-Concept of Ability Scale	
	B. Perceived Evaluations of Student's Academic Ability by Others Questionnaires	
	C. Occupational Code	

LIST OF TABLES

Table		Page
4.1	CORRELATIONS BETWEEN PERCEIVED EVALUATIONS BY PARENTS AND TEACHERS, AND SELF-CONCEPT OF ACADEMIC ABILITY, AND BETWEEN SELF-CONCEPT OF ACADEMIC ABILITY AND ACHIEVEMENT	37
4.2	THE FIRST ORDER CORRELATIONS BETWEEN GRADE POINT AVERAGE AND SELF-CONCEPT OF ABILITY (SCA) COMPARED WITH CORRELATION BETWEEN GPA AND PERCEIVED EVALUATIONS OF PARENTS (PPEV), AND TEACHERS (PTEV)	38
4.3	CORRELATIONS BETWEEN PERCEIVED EVALUATIONS OF PARENTS AND TEACHERS AND SELF-CONCEPT OF ACADEMIC ABILITY, AND ACHIEVEMENT	41

CHAPTER I

Theory and Objectives

From the first moment that the behavioral scientist began to focus upon the educational process he has tended to place primary emphasis upon the individual learner. Concepts such as intelligence, aspiration level, aptitude, and sensory impairment have been created in order to explain the individual learning process. Until quite recently, very little research has been devoted to the area of social-psychological learning theory. More specifically, very few research scholars have chosen to focus upon learning as a social, rather than an individual, process. Studies that have attempted to focus upon the social context of learning have had considerable difficulty in translating social-psychological assumptions into testable propositions which could be used in educational research. Of the significant research done in this particular area, there is a need for replicative and cross-cultural studies which will further test the propositions of those researchers who espouse a primarily social-psychological view of the phenomena called learning. It is to this need that the present study is addressed.

In 1967 the third in a series of reports from the Self-Concept of Academic Ability research project at Michigan State University was published under the title, Self-Concept

of Ability and School Achievement, III.¹ This report was the culmination of a six year longitudinal project in which the authors, under the direction of Dr. Wilbur Brookover, tested the relationship between self-concept of academic ability and school achievement in one mid-western school class while in the seventh through the twelfth grades. Following the symbolic-interactionist theory of behavior posited by George Herbert Mead² and Charles Cooley³ they postulated that academic learning is limited by the student's self-concept of his own academic ability. They further postulated that self-concept results primarily from the expectations and evaluations held by significant others as perceived by the student. Seen in this context, self-concept of academic ability functions as an intervening variable between the perceived evaluations of significant others and the individual's academic achievement. Self-concept is seen as a necessary but not sufficient condition for academic achievement.

Purpose of this Study

This present study is a cross-cultural replication of the basic research described in Brookover's Self-Concept of Ability

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Wilbur Brookover, Edsel Erickson, Lee Joiner, Self-Concept of Ability and School Achievement, III. Human Learning Research Institute, Educational Research, Series Number 36, Cooperative Research Project, Number 2831, Michigan State University, 1967.

²

G. H. Mead, Mind, Self, and Society, Chicago: University of Chicago Press, 1934.

³

Charles H. Cooley, Social Organization, New York: Charles Scribners Sons, 1909.

and School Achievement, III. Its purpose is to test the major hypotheses of the self-concept project and to analyze the cross-cultural validity of the research by using data gathered from eighth grade classes of a community in the Republic of West Germany. Because of the replicative nature of this study, both the theoretical and methodological framework in which it is carried out are essentially the same as the Brookover study.

Theoretical Background

Brookover writes in Self-Concept of Ability and School Achievement, III, "Theoretical perspectives most pertinent to this study appear under the rubrics of role analysis, reference group theory, and symbolic interactionism. These works stress the influence of others in role decisions. From this point of view, students are influenced in their behavior by the expectations and approval of others. We contend, however, in the tradition of W. I. Thomas, John Dewey, George Herbert Mead, Alfred N. Whitehead, and others, that it is not the actual behavior of others which determines an individual's actions. Rather, it is the individual's interpretation of the expectations and acts of others which most influence his behavior. The individual's definition of self-other relationships is therefore the focus of this study."⁴

Essential to Brookover's theoretical framework is the basic assumption that learning in school does not require any

different processes than any other type of cognitive behavior. He also assumes that learning takes place in a social situation. In other words, what a student learns as well as the actual process of learning involves a social phenomenon. Learning varies from one social situation to another. The same person is quite likely to learn different things at different rates of speed as he changes his social context. If an analysis of a child's learning process is to be undertaken, then the particular social context in which he is expected to learn must be first examined.

Brookover accepts the premise that social norms define the appropriate behavior for people in a variety of social roles. People are culturated differently, both between societies and within them. For each role that a person performs, society defines the appropriate behavior. Groups and individuals with whom a person interacts are the carriers of the culture and it is they who define what norms of behavior apply to certain specific roles and to which people they apply. It follows that the behavior of an individual must be recognized and explained in terms of the role he is performing and its relationship to other roles with which he may be involved.

Brookover's theory asserts that the individual's perceptions of others expectations are the critical variables in defining one's own appropriate role behavior. It must be stressed that it is not the actual expectations of others but the perceived expectations which are relevant for the role player. In choosing appropriate behavior, a process that involves costs and

rewards goes on. A student might consider what will be the minimum costs for certain behavior as well as considering the maximum rewards.

Finally, if an individual defines his own skills as not being satisfactory to successfully perform a certain behavior then he will probably not attempt to perform it. In this respect, a negative self-concept of ability may serve as a limiting factor in achievement. Self-concept of ability is acquired the same way the individual acquires a conception of appropriate role behavior. He looks to those around him for expectations and evaluations concerning his own particular ability. Specifically, Brookover suggests that the student looks to the significant others in his life to provide a basis upon which to form his self-concept of ability.

Self-Concept of Ability

The terms "self-concept" and "self" have often been used in many different contexts and, because of this, it is important that its use in this particular research study be given an adequate definition. For the purpose of this study, self-concept is defined as symbolic behavior in which the individual articulates a program of action for himself as an object in relation to others.⁵ Brookover writes, "Mead's behavioristic use of 'self-reflective', 'self-attitude', 'self-consciousness', 'self-communication' and 'self-as-an-object' are most pertinent

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to our usage."

Self-concept of academic ability refers to behavior in which one indicates to himself his ability to achieve in academic tasks as compared to others involved in the same tasks. Self-concept of academic ability is conceived of as being only one of a number of self-concepts which an individual may have of himself. Other concepts of self refer to other areas of behavior which may vary from the area of school achievement. For instance, a student might have a very positive self-concept of himself as an athlete but a negative self-concept of his own academic ability. There is the possibility of a different self-concept for each of the roles which a person performs.

Self-concept of academic ability does not refer to some underlying mental structure such as phenomenological self, as defined by such theorists as Jersild⁷ and Maslow⁸. Rather it refers to symbolic behavior, and as such, to an empirical event. Since the process of self-definition is a language process, defining oneself is public in that it employs a shared symbolic system. Self-concept of academic ability is the individual's assessment of his ability as expressed in

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Ibid. 7

7

Arthur Jersild, In Search of Self, (New York: Bureau of Publications, Teachers College, Columbia University, 1952).

8

A. H. Maslow, "Self-Actualizing People: A Study of Psychological Health", Personality Symposium No. 1 (1950), 11-34.

the language of the community. Language behaviors which refer to one's ability in academic tasks are therefore classified as self-concept of academic ability behavior.

It was suggested earlier that self-concept is largely derived from the symbolic interactionist theory of human behavior. Within this frame of reference, Brookover refers to self-concept as an intervening variable. "In this context, the self is the intervening variable between the normative patterns of the social group or the role expectations held by significant others, on the one hand, and the learning of the individual on the other."⁹ Implicit in the proposition that self-concept of academic ability is an intervening variable is the further assumption that a student's perceptions of others only indirectly influences his academic achievement. Perceived evaluations of others are related to achievement only to the extent that they influence self-concept.

Hypotheses

In this study, as in the Brookover project, self-concept of academic ability is seen as being primarily dependent upon the perceived evaluations which the individual holds of the expectations and evaluations of significant others around him. The higher the perceived evaluations of others, the higher the self-concept. Self-concept of academic ability also has a relationship to academic achievement which is that of a threshold condition. That is, self-concept of ability is a necessary but not sufficient condition for academic achievement.

Based upon these propositions, the following principle hypotheses will be examined:

1. Self-concept of academic ability is associated positively with academic achievement.
2. Students' perceptions of the evaluations of their academic ability by others (parents, teachers) are associated positively with self-concept of academic ability.

Intervening Variable

The following hypothesis is based upon two basic assumptions. First, that self-concept of academic ability is dependent upon perceived evaluations of significant others. Second, that academic achievement is related to these perceptions only indirectly through the association of those perceptions to self-concept.

3. The magnitude of the positive associations between perceived evaluations and self-concept of academic ability are greater than the positive association between self-concept of academic ability and achievement.

Finally, if self-concept of ability "intervenes" between academic behavior and the perceived evaluations of others, then the following can also be hypothesized:

4. The association between self-concept of academic ability and achievement are greater than the associations between perceived evaluations and achievement.

These four hypotheses represent a restatement of the principle hypotheses tested in Brookover's Self-Concept

of Ability and School Achievement, III. In Chapter 2, selected literature which is pertinent to the research will be reviewed. Chapter 3 contains a discussion of the methodology used in this project. Chapter 4 concerns the research findings and conclusions derived from these findings. Finally, Chapter 5 provides a summary for this research project.

CHAPTER 2

Review of Selected Literature

The following represents a review of selected studies in the area of self-concept. The focus of this review will be the theoretical framework discussed in the preceding chapter. It should be recalled that this theoretical framework was identified as deriving from the symbolic interaction psychology of George Herbert Mead¹⁰ and Charles Cooley.¹¹ A concise statement of this theory has been made by John W. Kinch.¹² In this chapter, the primary concern will be with the way self-concept as a theoretical construct has been defined and used by various researchers. Particular attention will be paid to those publications which bear directly upon the basic hypotheses stated in Chapter 1 of this study. It should be noted that much of the critical evaluation of literature presented in this discussion is cited from Brookover's self-concept research project. Volumes II and III of Self-Concept of Ability and School Achievement provide a very comprehensive review of all but the most recent self-concept material.

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George H. Mead, Mind, Self, and Society, Chicago: University of Chicago Press, 1934.

11

Charles H. Cooley, Social Organization, New York: Charles Scribners Sons, 1909.

12

John W. Kinch, "A Formalized Theory of Self-Concept", American Journal of Sociology, 68 (1963), 481-486

One of the major problems of the self-concept literature is best described by Brookover. "Perhaps the best description of a large part of the self-concept literature is that it is verbally redundant or synonymous but nonreplicative. Literally hundreds of studies have been done on self-concept and reported in the educational, sociological, and psychological literature. Yet few of these studies can be replicated because of either poor methodology or unclear conceptualization, or usually both."¹³ Throughout much of the literature, "Self-concept" has remained a very vague theoretical construct. Very little of the self-concept research contains concise, testable hypotheses including well defined, relevant constructs.

The status of self-concept theory as it relates to social interactionism is well summarized by Ruth Wylie. She writes, "Conceivably there are a number of general ways in which social interaction and self-concept might be related. Perhaps the most obvious and important possibility is that one's self-concept is shaped through interaction with others....However, propositions of this kind have not been developed explicitly enough to point clearly toward definitive, empirical tests. Perhaps partly as a result of such vagueness, this theoretically crucial class of relationships between variables has been inadequately explored."¹⁴

¹³

Wilbur Brookover, op. cit. 20

¹⁴

Ruth C. Wylie, The Self-Concept: A Critical Survey of Pertinent Research Literature. Lincoln Nebraska: University of Nebraska Press, 1961.

It was hypothesized in Chapter 1 that self-concept of academic ability would be related to academic achievement. A number of studies have been written which argue that self-concept can affect performance and behavior. Renzaglia¹⁵ and Reeder¹⁶ both examined correlates of self structure and found that a positive general self-concept was significantly related to high academic achievement. Contrary to the present study, these researchers used general personality traits to determine self-concept. They did not directly tap the students' self-conception of themselves as learners. Roth¹⁷ also investigated the relationship between self-concept and achievement. His study attempted to test the proposition that there would be significant differences in the self-perceptions of those who improved, did not improve, and dropped out in a college reading program. He concluded that those who achieve as well as those who do not, do so as a result of the needs of their own self-esteem.

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G. A. Renzaglia, "Some Correlates of the Self-Structure as Measured by an Index of Adjustment and Values," (Doctors Thesis, University of Minnesota, 1952).

16

Thelma Adams Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement, and Classroom Adjustment", (Doctors Thesis, Denton: North Texas State College, 1955).

17

R. M. Roth, "Role of Self-Concept in Achievement", Journal of Experimental Education, XXVII, (June, 1959).

18

Helen Craig¹⁸ used the sociometric approach in order to assess the self-concepts of the deaf. Although her theoretical orientation, like Brookover's, places a Meadian emphasis upon the role of language in the development of self concept, Craig's measurement procedures present a number of problems. Concerning the sociometric method of measuring self-concept, Brookover writes, "As is true with many measures of self-concept, the sociometric method as commonly used supposedly assesses a general, affective self-concept where preference for certain people is the major subject. For Craig, the question was not how one evaluates himself, but rather whether one sees others as preferring to share his company or interact with him. And although this interpersonal attraction-aversion dimension may reflect the notion of self-evaluation and comparison, little specific information is gained regarding the characteristics, qualities, or abilities, that the person defines himself as possessing or lacking which led him to predict his own sociometric standing. In fact, it is quite possible that as a person moves from one social situation to another, he may view his immediate others as disliking what he thinks to be his strong points."¹⁹

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Helen B. Craig, "A Sociometric Investigation of Self-Concept of the Deaf Child", American Annals of the Deaf, CX, 4(1965).

19

Brookover, op. cit. 21-22.

20

Fiers and Harris studied the validity and reliability of a 140 item multiple factor self-concept scale. Moderate Kuder-Richardson formula 21 reliability coefficients of .78 and .88 were obtained for tenth grade girls and boys. A general downward trend in these reliability measures was noted from the tenth, to sixth, to third grades for both boys and girls. Validity estimates for third and sixth graders (correlations between self-concept scores and IQ) were .17 and .25 respectively. Responding to these results, Brookover writes, "Despite the correlations (which were relatively low) between self-concept, IQ, and achievement, the question of the theoretical utility of these multi-factor self-concept scales remains. It is difficult to understand why a person's IQ and academic achievement should be similarly related to a measure that has been shown to include separate factors such as social status, academic status, physical appearance, anxiety, popularity and happiness." ²¹

Another example of a multi-dimensional scale to test the relationship between general self-concept and school achievement was developed by Nash. ²² He described a set of

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Ellen V. Fiers and Dale B. Harris, "Age of Other Correlations of Self-Concept in Children", Journal of Educational Psychology, LV, 2(1964) 91-95.

21

Brookover, op. cit. 23.

22

Ralph J. Nash, "A Study of Particular Self-Perceptions as Related to Scholastic Achievement of Junior High School Age Pupils in a Middle Class Community", Dissertation Abstracts XXIV, 9(1964), 3837-3838.

100 items which included three dimensions of self-perceptions assumed to be important: importance of peer relationships, non-conformity, and satisfaction with self. It is interesting to note that the items most valuable in distinguishing between high and low achievement were those dealing with the student's perceptions of the quality of his performance in school.

The literature which has just been described is illustrative of a great majority of the self-concept research. Tests of general self-concepts, which contain a great number of dimensions, are correlated with academic performance. It seems reasonable to assume that the small observable associations between these two variables are actually only reflections of the association between academic self-concept and general self-perceptions. It is this proposition that leads Brookover to suggest that "if one controlled for the academic dimension of self-concept the association between general measures of self-concept and G.P.A. will drop to zero."²³

In his self-concept research project, Brookover used an eight item test developed at Michigan State University to measure self-concept of academic ability. As described in Chapter One, subjects were drawn from a midwestern school and were tested in the seventh through the twelfth grades. He found the correlations between self-concept of academic

²³
Brookover, op. cit. 24.

ability and grade point average ranged from .48 to .63 over the six year period of the study. It should be remembered that these correlations are based upon a test that measured specifically self-concept of ability (see Appendix A).

Growing out of the self-concept research project at Michigan State University, a number of other studies have been completed which involve the self-concept of ability test (SCA) and its relationship with academic achievement.²⁴ Ann Fatterson examined the reliability and construct validity of the SCA measure. She found that the SCA test was a better predictor of achievement in a specific subject than is any specific-subject scale other than the one in the parallel subject. She also found that the SCA measure scores were significantly and positively correlated with grade point average ($r=.57$ for each sex). A combination of high GFA and low SCA was significantly less likely to occur than a combination of high SCA and low GFA. This suggests that Brookover is correct in postulating high SCA as a necessary but not sufficient condition for academic achievement. Related studies involving the relationship of self-concept of academic ability and school achievement have been done by Morse²⁵

²⁴

Ann Fatterson, An Evaluation of an Instrument Designed to Measure the Construct, Self-Concept of Academic Ability, Ph.D. Dissertation, Michigan State University, 1966.

²⁵

Richard Morse, Self-Concept of Ability, Significant Others, and School Achievement of Eighth Grade Students: A Comparative Investigation of Negro and Caucasian Students, M.A. Thesis, Michigan State University, 1963.

26
Haarer, and Harding. 27 All of these researchers are connected with the Michigan State University self-concept research project.

In 1966 the U.S. Department of Health, Education, and Welfare published a study called Equality of Educational Opportunity. 28 In this study of U.S. education, Coleman et. al. underscored the important influence which personal attitudes have on the ability to perform in school. "If a child's self-concept is low, if he feels he cannot succeed, then this will affect the effort he puts into the task and thus his chances of success." 29 The report concluded that the family background is of great importance for achievement and that this importance does not diminish over the years of school. Throughout the study, Coleman repeatedly suggested that it is the social context of learning that harbors the inequality. He concluded, "One implication stands out above all: that schools bring little influence to bear on a child's achievement that is independent of his background and general social context; and that this very lack of an

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David L. Haarer, A Comparative Study of Self-Concept of Ability Between Institutionalized Delinquent Boys and Non-Delinquent Boys Enrolled in Public Schools. Ph.D. Dissertation, Michigan State University, 1964.

27

Kenneth L. Harding, A Comparative Study of Caucasian Male High School Students Who Stay in School and Those Who Drop Out, Ph.D. Dissertation, Michigan State University, 1966.

28

James S. Coleman and others, Equality of Educational Opportunity, National Center for Educational Statistics, U.S. Government Printing Office, Washington D.C., 1966.

29

Ibid. 325.

independent effect means that the inequalities imposed on children by their home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school."³⁰

It has been suggested that most self-concept research is vague in its interpretation of the relationship between self-definition and performance. The same is also true when trying to analyze literature which defines the relationship between self-concept and the influence of others. Many researchers seem to assume that others influence the development of self-conceptions, but they show little awareness of how this influence is exerted.

Videbeck performed a study which attempted to demonstrate significant changes in self-ratings in the hypothesized direction after one critique by an evaluator. He found that the study tended "to support the general view that self-conceptions are learned, and the evaluative reactions of others play a significant part in the learning process."³¹

Rosen, Levinger, and Lippitt,³² investigated the role of group relevant determinants of desires for change (rather than desires for change emanating from personality determinants).

³⁰

Ibid. 325.

³¹

Videbeck, Richard, "Self-Conception and the Reaction of Others," *Sociometry*, XIII (Dec. 1960).

³²

S. Rosen, G. Levinger, and R. Lippitt, "Desired Change in Self and Others as a Function of Resource Ownership." Human Relations, XIII, (1960), pp. 187-192.

A positive relationship was found between a person's desire for change in himself and other members' desire for change in him.

³³
Clark examined the relationship between college academic performance and expectations of others. He found a positive relationship between a student's academic performance and his perception of the academic expectations held for him by the significant others in his home and home community. Clark's data also suggested that the attitudes, feelings, and expectancies of certain individuals in the home community may be more important than others.

³⁴
Staines provided further evidence that others can influence self-concept. He demonstrated that teachers, through their roles as significant others, can alter the self-conceptions of their students by making positive comments to them as well as creating an atmosphere of greater psychological security. These findings support research done by Davidson and Lang ³⁵ who hypothesized

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W. E. Clark, "The Relationship Between College Academic Performance and Expectancies," (Doctor's Thesis, Michigan State University, 1960).

³⁴

J. W. Staines, "Self-Picture as a Factor in the Classroom," British Journal of Educational Psychology, XVIII (June 1959).

³⁵

H. H. Davidson, and G. Lang, "Children's Perceptions of Their Teachers Feelings Toward Them Related to Self-Perceptions, School Achievement, and Behavior." Journal of Experimental Education, XXIX, (1960).

that: 1) There exists a positive correlation between children's perception of their teacher's feelings toward them and the children's perception of themselves, 2) There exists a positive relationship between favorable perceptions of teacher's feelings and good academic achievement. Both of these hypotheses were substantiated by the data.

In a study involving parents' evaluations and their children's evaluations, Helper³⁶ found that there was a positive correlation between these two variables, demonstrating again that self-appraisals reflect the evaluations of significant others. Helper writes, "On the whole, then, the data do seem to point to the existence of a slight but real tendency toward similarity between parents' evaluations of their children and the children's self-evaluations."³⁷

In a comprehensive study entitled, The Antecedents of Self-Esteem,³⁸ Coopersmith suggests that "taken as a whole the results do indicate that favorable attitudes and treatment by persons significant to an individual, be they parents or peers, are likely to have enhancing effects upon self-judgements." He is quick to point out, however, that the most favorable self-judgements are not associated with

36

M. M. Helper, "Parental Evaluations of Children and Children's Self-Evaluations." *Journal of Abnormal and Social Psychology*, LVI, (1958).

37

Helper, *Ibid.* 91.

38

Stanley Coopersmith, The Antecedents of Self-Esteem, W. H. Freeman and Company, San Francisco and London, 1967.

uncritical, unrestricted, and totally favorable attitudes and treatment.

Speaking of the relationship between peer relationships and academic success, Brookover writes, "Using sociometric techniques to assess social adjustment, investigators have found some support for the idea that successful relationships with peers occur in conjunction with academic success."³⁹

It appears obvious that if high academic performance is viewed as dependent upon acceptance by classmates, then high academic achievement must generally be valued by classmates. In other words, classmates prefer that the student achieve at high levels of accomplishment.⁴⁰ Coleman concluded that the high school peer culture in the United States is more likely to accord honor and social acceptance on the basis of dating and sports rather than on the basis of academic achievement.

⁴¹Erickson supported this proposition. He found that high school students rarely make academic achievement a basis for friendship. Erickson writes, "A General conclusion is that all findings support the view that students perceive their relationships with their parents as involving

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Brookover, op. cit. 35.

⁴⁰

James Coleman, The Adolescent Society, (New York: The Free Press, 1961).

⁴¹

Edsel Erickson, "A Study of the Normative Influences of Parents and Friends Upon Academic Achievement," Doctoral Dissertation, Michigan State University, 1965.

achievement norms more than do their role relationships with their friends. In addition, friendship relationships⁴² are perceived to hold lower achievement expectations..."

Brookover suggests that one explanation for the observed association between peer choice and academic achievement is that some of the sociometric items assess the peers' evaluations of the academic ability of the student being rated. "Prior research...confirms an indirect relationship between perceived peer evaluations and academic achievement, but self-concept of ability functions as an intervening variable. Therefore, if the sociometric test taps evaluations of academic ability, a small but statistically significant association is expected between peer choice and academic performance."⁴³

Brookover's self-concept research project reports positive conclusions regarding the relationship between perceived evaluations of significant others (parents, teachers, friends) and student's self-concept of academic ability. In this study, significant others were identified by the students themselves. They were asked to respond to⁴⁴ the following question:

⁴²

Erickson, Ibid. 83.

⁴³

Brookover, op. cit. 36.

⁴⁴

Brookover, op. cit. 142.

"There are many people who are concerned about how well young people do in school. In the space below, list the names of the people you feel are concerned about how well you do in school. Please indicate who each person is."

Brookover found that the correlations between perceived evaluations of significant others and self-concept of academic ability ranged from .50 to .77 over the period of the study. He also found that the perceived evaluations of parents are more likely to affect self-concept of academic ability than are the perceived evaluations of peers or teachers.⁴⁵

⁴⁶
Luski and Schmuck studied 727 pupils drawn from 18 elementary, four junior high and five senior high schools. They postulated a circular process between the parents' attitude toward school and their child's achievement efforts in school, mediated by the child's perception of his parents' attitudes. Their research shows that pupils who perceive their parents as holding supportive attitudes toward their school life, utilize their abilities more fully, and make a more positive psychological adjustment to school than pupils who perceive less parental support. In this study, Luski and Schmuck suggest that indices for parental support of school, self-esteem, and school adjustment show that pupils

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Margaret Luski and Richard Schmuck, "Pupils Perceptions of Parental Attitudes Toward School," Mental Hygiene, II, 2(1965), 296-307.

⁴⁶

Brookover, op. cit. 43.

who view their parents as supporting school have higher self-esteem and more positive attitudes toward school than pupils who view less parental support of school. Evaluating this research, Brookover suggests that the impression was given that perceptions of parental support are necessary and sufficient conditions for eliciting better school performance. The powerful influence of parental evaluations was certainly well illustrated by the research. But the basic idea of the Brookover study (and the present replication) is that evaluations of significant others are only translated into action to the extent that they result in a parallel self-conception. For Brookover, this self-conception is a necessary but not sufficient condition for academic achievement.

In Chapter One, it was hypothesized that self-concept of academic ability acted as an intervening variable between perceived evaluations of others and academic achievement. Brookover⁴⁷ in his self-concept research project, finds that the correlation between perceived evaluations and grade point average was generally less than the correlations between each of these variables and self-concept of ability. The partial variables also substantiated the intervening variable proposition. The correlations between perceived evaluations and grade point average were significantly reduced by partially out the effect of self-concept of ability.

47

Brookover, op. cit.

SUMMARY OF THE LITERATURE REVIEW

The self-concept literature surveyed in this chapter has focused upon publications related to the major hypotheses stated in Chapter One. Because of this emphasis, the primary concern of this review has been with three areas of inquiry: the relationship between self-concept and performance, the relationship between self-concept and perceived evaluations of others, and the status of self-concept of ability as an intervening variable between perceived evaluations and academic achievement.

A number of researchers found a small but significant relationship between general self-concept and academic performance. Brookover suggested that these small correlations were simply the reflections of items in the general self-concept test which measured academic self-concept. Using a self-concept of academic ability scale (SCA), he found that the relationship between SCA and grade point average varied from .46 to .63 over the six year period of his longitudinal study.

It has generally been assumed that the evaluations of others have an affect upon an individual's self-concept, but it has never been clear just how this affect occurs. The literature concerning this relationship is less than impressive. Few authors have been able to pinpoint the nature of this relationship. Again, the most significant contributions seem to come from the self-concept research project at Michigan State University. In the project

entitled Self-Concept of Ability and School Achievement, III, it was found that the evaluations which students perceive parents, friends, and teachers hold for them are consistently correlated with self-concept of academic ability. The combined correlations ranged from .50 to .77 over the period of the study.

Finally, it was found that self-concept of academic ability intervenes between the independent variable, perceived evaluations, and the dependent variable, academic performance. The correlation between perceived evaluations and GPA was generally lower than the correlation between each of these variables and self-concept of ability.

CHAPTER 3

The Research Methodology

This chapter is divided into four main sections. The first section focuses upon the research site, the experimental population, and sample. Because of the cross-cultural nature of this research project, a brief description of the West German school system is also included in this first section. The second section operationally defines the major variables involved in the study. Reliability findings are discussed in this second section. The third section gives a brief description of data collection procedures. Section four is concerned with the procedures used in the data analysis.

Research Site, Population, and Sample

The data used in this study was collected from eighth grade school children in Giessen, Germany. Giessen is a city of approximately 64,000 people and is located just north of Frankfurt. The city has a large university and many types of industry. Major industrial enterprises include machine manufacturing, metal processing, leather goods, food processing, paper and printing. Giessen was chosen because of its similarity to the research site used for the Brookover, et. al., self-concept project.

West German School System

The secondary schools of the Federal Republic of Germany (West Germany) include the Hauptschule (main school),

the Realschule (secondary school), and the Gymnasium (secondary general school giving access to higher education). Because of the unique nature of the West German school system, a brief description of that system appears to be in order.

The Hauptschule is a school for general education, not vocational training. Essentially, it is the continuation of the German Grundschule (primary school). The Hauptschule (literal translation means "main school"), is as the name suggests, the school attended by the majority of 11-16 year olds. The Hauptschule is the school for those pupils with an aptitude for practical occupations. It gives them the fundamental knowledge and skills to enable them to "enter on a practical career which might include periodic vocational training."

The Realschule falls between the Hauptschule and the Gymnasium. It is a preparation for training at schools of engineering and higher vocational institutes. The Agreement of the Ministers of Education on December 17, 1953 outlines the aims of the Realschule as follows: "It prepares its pupils for duties in practical life requiring more specialized knowledge and greater social business responsibility, by giving them the necessary general education. Accordingly, it is intended to give the school background suitable for recruits in professional and practical employment in agriculture,

business, trades, industry, and administration...

The Gymnasium provides courses which lead to the qualifications necessary for entry into the universities. It provides the basic education for academic studies at the universities, colleges of technology, teacher training colleges, and other institutions of higher education. At the same time, the Gymnasium provides the qualifications for training in other professions which demand certain academic standards, even where a degree is not essential.

The transition from Grundschule (primary school) to Hauptschule takes place without any special selective procedure. The transfer from Grundschule to the Realschule and the Gymnasium depends upon selective examinations. These examinations include a report on each child by the Grundschule and several days of trial schooling in whichever secondary school the child has made application for.

All eighth grade classes in the Giessen area were included in the study. This included students from the Hauptschule, Realschule, and Gymnasium. Questionnaires were administered to each eighth grade student.

Major Variables Operationally Defined

Because of the replicative nature of this study, operational definitions of major variables are essentially

the same as those contained in the Brookover self-concept study.

Self-Concept

"General self-concept of academic ability refers to the evaluating definitions which an individual holds of himself in respect to his ability to achieve in academic tasks in general as compared with others in his school."⁴⁹

General self-concept of ability is operationally defined as the sum of the scored responses of a subject to the Michigan State General Self-Concept of Ability Scale. (See Appendix A) This scale consists of eight multiple choice questions and was developed under U.S.O.E. Cooperative Research Project No. 845. Each item is scored from 5 to 1 with the higher self-concept alternatives receiving the higher numerical value. Each question in the test asks the student to compare his academic ability with the ability of others in his social system. The General Self-Concept of Ability Scale (SCA) was not changed significantly when translated into German.

Using the Kruskal-Wallis test for reliability, it was found that the reliability coefficient of the German Self-Concept of Ability Scale was .860. This figure is based upon all of the collected German data.

Student Perceptions of the Evaluations of Others

Along with the SCA Scale, students were asked to indicate how their parents and teachers evaluated their

⁴⁹

Brookover, op. cit. 59.

academic ability. In keeping with the Brookover study, this was done in order to determine the effects of a student's perceptions of his academic ability by others on his own self-concept of academic ability. Two scales were used which were approximately the same as those used in the Brookover study. (Appendix B.) Each of these scales was composed of five multiple choice items and were referred to as:

1. Perceived Parental Evaluations of Ability (PFEV)
2. Perceived Teachers Evaluations of Ability (PTEV)

Using the Kruskal-Wallis analysis of variance, reliability coefficients were found to be .819 for the PFEV Scale and .853 for the PTEV Scale. These appear quite adequate for group comparisons and they are indeed well above those reliability scores typically reported for attitude measures.

Academic Achievement

Academic achievement was defined as the grade point average of four academic subjects. Respondents' academic achievement was based upon recorded grades in German, mathematics, biology, and social studies. Where one grade was missing, the average of the other three grades was substituted for it. If two or more grades were missing from any one subject, then they were dropped from the study. Six grades were possible in each subject, one being the best and six being the worst.

Socio-Economic Status

Socio-economic status was determined by using as occupational code with eight alternative choices ranging from "upper class" (1) to "underdog" (8). Respondents were asked to determine the social status of the main bread winner in their family by describing him in terms of this code. A copy of this occupational code is included in Appendix C.⁵⁰

Data Collection Procedures

In the fall of 1968, questionnaires were administered to all Giessen eighth grade students. The total number of respondents was 945. Of this number, nearly half (445) were Gymnasium students. The rest were divided equally between Hauptschule and Realschule.

The interviewer first copied the list of students from each of the eighth grade classes in the population. He then gave each of the students a pre-numbered copy of the questionnaires (SCA, PFEV, and PTEV) and recorded that number next to the student's name. The list of each class with the names of the students and the number of their questionnaire was then given to the director of the school. Several months later the grades of each student were added to this list. The names were then destroyed, leaving only a record of the questionnaire number and grades. This method provided for maximum anonymity to be maintained during the course of

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Occupational code adopted from: Moore and Kleinig, Das soziale selbstbild der Gesellschaftschichten in Deutschland, KZfSuS, 1960 (20. Jahrg.).

of the study.

Data Analysis Procedure

Data were coded and punched on IBM cards by the interviewer in Giessen, Germany. A total of 945 cards were used, representing the same number of respondents.

Before analysis of the data could take place, the researchers examined the data coding forms for missing data. The result of this examination was the pulling of 195 cards because of insufficient data. This left an "N" of 750.

The following represents a basic description of the analysis procedures used in this study:

1. Analysis of the data was performed by the CDC 3600 and CDC 6500 computers at the Michigan State University Computer Center.
2. Total scores were computed for the Self-Concept of Ability Scale (SCA), the Perceived Parental Evaluation Scale (PPEV), the Perceived Teachers Evaluation Scale (PTEV), and the grade point average of each of the respondents.
3. Pearson Product Moment Correlations were run to establish relationships between the major variables under consideration. Partial correlations were then run to analyze the effect of one variable on the relationship between two others.
4. Correlations were based upon raw scores.
5. A comparison was made between the correlations found by the Brookover study and those found using the present German data.

The focus of this research study now turns to an analysis of the results.

CHAPTER 4

Analysis of Results

The major hypothesis tested, and the results of the analysis are presented in this chapter. The first section restates the testable hypotheses and analyzes the findings. The second section provides a comparative analysis of the results of this study with the results of the Brookover, et. al., self-concept study.

Relation of Self-Concept of Academic Ability to Achievement

Basic to this research study is the hypothesized relationship between a student's own self-concept of academic ability and his actual achievement in the classroom.

Hypothesis One: Self-concept of academic ability is associated with academic achievement.

Using Pearson Product Moment correlations, this researcher found a relationship of .56 exists between the German eighth grade students' self-concept of academic ability and their academic achievement. This correlation of .56 is significant beyond the .01 level.

Socio-Economic Status

There are a number of competing variables which might very well influence this relationship between self-concept of academic ability and academic achievement. One such variable is socio-economic status. In order to examine the effect SES has upon the SCA-GPA relationship, partial correlations were run in order to isolate competing variables.

Control for variation in SES reduced the correlation between SCA and GFA from .56 to .54. This very small reduction indicates that variation in SES accounts for very little, if any, of the GPA-SCA relationship.

It is also interesting to note that control for variation in SCA substantially reduces the SES-GFA relationship. By controlling for SCA, the SES-GFA relationship is reduced from .17 to .016.

Relationship of Perceived Evaluations to Self-Concept of Academic Ability

Brookover writes, "Basic to the social-psychological theory underlying this research is the relation between the evaluations of others and self-concept of ability."⁵¹ The following hypothesis was designed to test this relationship.

Hypothesis Two: Student's perceptions of the evaluations of their academic ability by others (parents and teachers) are associated with self-concept of academic ability.

Pearson Product Moment Correlations between Perceived Parental Evaluations (PPEV) and Self-Concept of Ability (SCA) proved to be .81. This correlation is significant beyond the .05 level. Using the same statistical method, the correlations between Perceived Teacher Evaluations and Self-Concept of Ability proved to be .79. This also is significant beyond the .05 level.

It appears obvious from the magnitude of these correlations that students' perceptions of the evaluations

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Brookover, op. cit. 98.

of their academic ability by others (parents, teachers) are associated with self-concept of academic ability.

Self-Concept as an Intervening Variable

Essential to the theory stated in Chapter 1 is the assumption that self-concept of academic ability functions as an intervening variable between perceived evaluations of others and academic achievement. The following hypotheses three and four were designed to test this assumption.

Hypothesis Three: The magnitude of the associations between perceived evaluations and self-concept of academic ability are greater than the association between self-concept of academic ability and achievement.

Brookover writes, "This hypothesis is derived in part from the postulate....that self-concept of ability is a necessary but not sufficient factor in school achievement. In this context we hypothesize that some students who are evaluated by others as able to achieve and who believe that they are able to do so may not chose to perform in accord with either the perceived evaluations of others or their self-concept of ability. The correlation between SCA and GPA are therefore hypothesized to be lower than the perceived evaluation and SCA correlations."⁵²

The relationship between perceived evaluation of parents and self-concept of academic ability was shown to be .81. Perceived teacher evaluations and self-concept of

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Brookover, Ibid. page 118.

academic ability were shown to be associated at a level of .79. Both of these are greater than the association between self-concept of academic ability and achievement which was .56. Therefore, the hypothesis appears to be valid.

TABLE 4.1

CORRELATIONS BETWEEN PERCEIVED EVALUATIONS
BY PARENTS AND TEACHERS, AND SELF-CONCEPT
OF ACADEMIC ABILITY,
AND BETWEEN SELF-CONCEPT OF ACADEMIC ABILITY
AND ACHIEVEMENT

<u>Grade</u>	<u>PFEV x SCA</u>	<u>PTEV x SCA</u>	<u>SCA x GIA</u>
8	.81	.79	.56

Hypothesis Four: The magnitude of the correlation between self-concept of academic ability and academic achievement is greater than the correlation between perceived evaluations of academic ability and achievement.

This hypothesis is derived from the assumption that any variable intervening between independent and dependent variables should be more highly correlated with the dependent variable than the independent variable is with the dependent one.

This hypothesis is confirmed by the data. The association between self-concept of academic ability and academic achievement is .56. The associations between perceived parents and teachers evaluations and academic achievement are .52 and .50 respectively.

It has been suggested by Brookover, et. al., that a more refined test of this hypothesis is based upon a comparison

of the first order correlations in which variation in the perceived evaluations of others are partialled out of the correlations between SCA and GPA. Also, Self-Concept of Ability should be partialled out of the correlations between perceived evaluations of others and GPA. "It was hypothesized that the resulting first order correlations would differ in the same direction as the zero order correlations. It was further hypothesized that the correlations between the intervening variable, SCA, and the dependent variable, GPA, would be reduced less by controlling the independent variable, perceived evaluations, than would the correlations between the independent and dependent variables by controlling for the intervening variable."⁵³

As indicated in table 4.2, the evidence supports hypothesis four.

TABLE 4.2

THE FIRST ORDER CORRELATIONS BETWEEN GRADE POINT AVERAGE
AND SELF-CONCEPT OF ABILITY (SCA)
COMPARED WITH CORRELATION BETWEEN GPA
AND PERCEIVED EVALUATIONS OF
PARENTS (PFEV), AND TEACHERS (PTEV)

VARIABLES:			1. SCA
			2. GPA
			3. PFEV
			4. PTEV

First Order Correlation With SCA or Perceived Evaluations Controlled		
Grade		
8	r 12.3 = .28	r 12.4 = .32
	r 23.1 = .13	r 24.1 = .11

The first order correlations between perceived evaluations and GPA when controlling for SCA were smaller than the correlations between SCA and GPA when controlling for perceived evaluation. It should be further noted that first order correlations between Self-Concept of Ability and grade point average are .28 and .32. On the average, these correlations are only .26 less than the comparable zero order correlation (.56). On the other hand, the first order correlations between perceived evaluations and grade point average are .13 and .11. They average .39 below comparable zero order correlations. The correlation between GPA and SCA are not only larger than those between GPA and Perceived Evaluations but they are reduced less by controlling for perceived evaluations than are the latter correlations by controlling for self-concept. This analysis therefore supports the hypothesis that Self-Concept of Ability is an intervening variable between perceived evaluations of others and grade point average.

A Comparison of Results with the Brookover Self-Concept Study

The present study is a cross-cultural replication of the basic research done by Dr. Wilbur Brookover in his Self-Concept of Ability and School Achievement, III. The four hypotheses tested in the present research study are identical with the four hypotheses considered most basic to the Brookover project. For this reason, it seems essential to provide a brief comparative analysis of the Brookover findings with the findings of this replicative study.

Hypothesis One: Self-concept of academic ability is associated with academic achievement.

Brookover found that, among the eighth grade students in his sample, the correlation between SCA and GPA was .55. The present study, using German eighth grade students, found the association between SCA and GPA to be .56, thus supporting the Brookover findings.

When Brookover controlled for socio-economic status, the association between SCA and GPA dropped from .55 to .52. When the present study controlled for SES, the correlation between SCA and GPA dropped from .56 to .54. Neither drop is very significant.

Hypothesis Two: Student's perceptions of the evaluations of their academic ability by others (parents, teachers) are associated with self-concept of academic ability.

Brookover found that the correlation between Perceived Parental Evaluations and SCA was .71. The present study found an association of .81 between these same two variables. Between Perceived Teachers Evaluations and SCA, Brookover found a relationship of .59. The present replication shows a higher correlation of .79 between the same two variables, thus giving substantial support to the original Brookover hypothesis.

Hypothesis Three: The magnitude of the associations between perceived evaluations and self-concept of academic ability are greater than the association between self-concept of academic ability and achievement.

The following table represents a comparison between Brookover's findings and the findings of the present study for hypothesis three.

TABLE 4.3

CORRELATIONS BETWEEN PERCEIVED EVALUATIONS
BY PARENTS AND TEACHERS
AND SELF-CONCEPT OF ACADEMIC ABILITY,
AND BETWEEN SELF-CONCEPT OF ACADEMIC ABILITY
AND ACHIEVEMENT

	SCA x PFEV	SCA x PTEV	SCA x GPA
Brookover	.71	.59	.55
Present Study	.81	.78	.56

It appears obvious from the data that both the original Brookover study and the present research project provide strong positive support for the hypothesis.

Hypothesis Four: The magnitude of the correlation between self-concept of academic ability and academic achievement is greater than the correlation between perceived evaluations of academic ability and achievement.

Brookover found the association between SCA and GPA to be .55 for his study. He found the association between GPA and PFEV, PTEV to be .47 and .41 respectively. The present study found a relation of .56 between SCA and GPA. The relation between GPA and PFEV, PTEV was found to be .52 and .50 respectively. Although the difference is not extremely large in either the Brookover study or the present

research, nevertheless, the data provides substantial support⁵⁴ for the hypothesis.

Like the present study, Brookover went on to further test this hypothesis by using a comparison of first order correlations in which variation in the perceived evaluations of others was partialled out of the correlation between SCA and GPA, and Self-Concept of Ability was partialled out of the correlations between perceived evaluations of others and GPA. The data showed that the resulting first order correlations differed in the same direction as the zero order correlations. Likewise, it was also found that the correlations between the intervening variable (SCA) and the dependent variable (GPA) were reduced less by controlling the independent variable (perceived evaluations of others) than were the correlations between independent and dependent variables by controlling for the intervening variable. These findings are all supported by the present research project, thus giving further validity to the claim of SCA as an intervening variable.

SUMMARY

This concludes the testing of the four basic hypotheses and the analysis of results. Each hypothesis was given substantial support by the data. It was found that, among

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All of the statistics quoted from the Brookover project may be found in Chapter 4 of Self-Concept of Ability and School Achievement, III.

German eighth grade students, there was a high correlation between self-concept of academic ability and subsequent school achievement. It was also found that self-concept of academic ability had a very high association with perceived evaluations of both parents and teachers. The research showed that self-concept of academic ability intervened between the independent variable, perceived evaluations of others, and the dependent variable, grade point average. Finally, substantial proof was found to suggest that SCA is a necessary but not sufficient condition for academic achievement.

In a comparative analysis of the present findings with the Brookover study, it was found that the two studies were mutually supportative. The present replication provided support for each of the Brookover findings.

CHAPTER 5

Summary

This research project was designed to test the major hypotheses of a social-psychological theory of school achievement. Specifically, the author was concerned with a cross-cultural replication of the basic research done by Brookover, et. al., in their report entitled, Self-Concept of Ability and School Achievement, III.

Following the symbolic-interactionist theory of George Herbert Mead and Charles Cooley, Brookover, et. al., postulated that academic achievement is limited by a student's self-concept of his own academic ability. Self-concept of academic ability results from the student's perceptions of the evaluations significant others hold of his academic ability. Seen in this context, self-concept of academic ability functions as an intervening variable between perceived evaluations of significant others and the student's academic achievement. A positive self-concept is seen as a necessary but not sufficient condition for academic achievement.

Using the same theoretical and methodological framework employed in the Brookover project, the present study used data collected from Giessen, Germany to test Brookover's four basic hypotheses. The results of this study provide strong positive support for the cross-cultural validity of the Brookover propositions.

It was first hypothesized that there would be a strong positive relationship between a student's self-concept of

ability and his subsequent academic achievement. This hypothesis was supported by the research. It was found that, among German eighth grade students, a correlation of .56 existed between self-concept of academic ability and academic achievement.

It was next hypothesized that student's perceptions of the evaluations of their academic ability by others (parents and teachers) are associated with self-concept of academic ability. Again, this hypothesis was supported by the research. It was found that a student's self-concept of academic ability had a high correlation with the perceived evaluations of both parents (.81) and teachers (.78).

Essential to the theory presented by Brookover, et. al., is the assumption that self-concept of academic ability functions as an intervening variable between perceived evaluations of others and academic achievement. The present study supported this claim. It was found that the magnitude of the associations between perceived evaluations of others and self-concept of academic ability were greater than the association between self-concept of ability and academic achievement. Also, the magnitude of the correlation between self-concept of academic ability and academic achievement was found to be greater than the correlation between perceived evaluations of academic ability and achievement. These results lend strong support to the claim that self-concept of ability functions as an intervening variable.

Finally, a comparative analysis showed that, without exception, the results of this present study supported the findings of the Brookover research project.

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APPENDIX A
SELF-CONCEPT OF ABILITY

APPENDIX A.

SELF-CONCEPT OF ABILITY--GENERAL*
(FORM A)

Michigan State University
Bureau of Educational Research

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
 - a. I am the best
 - b. I am above average
 - c. I am average
 - d. I am below average
 - e. I am the poorest
2. How do you rate yourself in school ability compared with those in your class at school?
 - a. I am among the best
 - b. I am above average
 - c. I am average
 - d. I am below average
 - e. I am among the poorest
3. Where do you think you would rank in your class in high school?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
4. Do you think you have the ability to complete college?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. no
5. Where do you think you would rank in your class in college?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
 - a. very likely
 - b. somewhat likely
 - c. not sure either way
 - d. unlikely
 - e. most unlikely
7. Forget for a moment how others grade your work. In your own opinion, how good do you think your work is?
 - a. my work is excellent
 - b. my work is good
 - c. my work is average
 - d. my work is below average
 - e. my work is much below average
8. What kind of grades do you think you are capable of getting?
 - a. mostly A's
 - b. mostly B's
 - c. mostly C's
 - d. mostly D's
 - e. mostly E's

APPENDIX B.

Perceived Evaluations of Student's
Academic Ability by Others Scale

APPENDIX B.

Please answer the following questions as you think your PARENTS would answer them. If you are not living with your parents answer for the family with whom you are living.

Circle the letter in front of the statement that best answers each question.

1. How do you think your PARENTS would rate your school ability compared with other students your age?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
2. Where do you think your PARENTS would say you would rank in your high school graduating class?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
3. Do you think that your PARENTS would say you have the ability to complete college?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. definitely not
4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your PARENTS would say it is that you could complete such advanced work?
 - a. very likely
 - b. somewhat likely
 - c. not sure either way
 - d. somewhat unlikely
 - e. very unlikely
5. What kind of grades do you think your PARENTS would say you are capable of getting in general?
 - a. mostly A's
 - b. mostly B's
 - c. mostly C's
 - d. mostly D's
 - e. mostly E's

APPENDIX C.
Occupational Code

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occupational code (adopted from: Moore and Kleinig,
Das soziale Selbstbild der Gesellschafts-
schichten in Deutschland, KZfSuS, 1960
20.Jahrg)

<u>classification</u>	<u>examples</u>	<u>code</u>
upper class	big business people powerful politicians, aristocracy	1
uppermiddle	uppermanagement, professors, doctors, lawyers, judges	2
middle middle	middle management, engineer, teacher, businessmen with middle sized companies	3
lower middle	lower management, highly skilled workers, barbershop owner, etc.	4
upper lower	lowest clerks, waiter skilled worker	5
lower lower	hard physical work, unskilled work	6
	no sufficient information or probably misunderstood	7
underdog		8
	mother earns more money than father (this category applies only to cases in which the mother is main bread winner. In this case social status of mother is to be found in answer to question 28.)	9

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