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Cross-Cultural Comparison of Correlations of Self-Concept of Academic Ability and Self-Esteem

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CROSS-CULTURAL COMPARISON OF CORRELATIONS
OF SELF-CONCEPT OF ACADEMIC ABILITY AND SELF-ESTEEM

by

Sukaesinee Subhadhira

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
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Sukaesinee Subhadhira

ii

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<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>INTRODUCTION. ........................................... 1</td>
</tr>
<tr>
<td></td>
<td>Theoretical Background. .............................. 6</td>
</tr>
<tr>
<td></td>
<td>The Thai Social System. ............................... 16</td>
</tr>
<tr>
<td></td>
<td>General Objectives of the Study ................... 26</td>
</tr>
<tr>
<td>II</td>
<td>RESEARCH METHODOLOGY. ............................... 30</td>
</tr>
<tr>
<td></td>
<td>Sampling Characteristics and Procedures ........ 30</td>
</tr>
<tr>
<td></td>
<td>Instrumentation ........................................ 35</td>
</tr>
<tr>
<td></td>
<td>Analysis. .................................................. 37</td>
</tr>
<tr>
<td>III</td>
<td>FINDINGS. .................................................. 47</td>
</tr>
<tr>
<td>IV</td>
<td>SUMMARY, CONCLUSIONS, LIMITATIONS, AND LIMITATIONS, AND IMPLICATIONS. ............................... 58</td>
</tr>
<tr>
<td></td>
<td>Review of Problem and Method. ...................... 58</td>
</tr>
<tr>
<td></td>
<td>Summary of Findings ................................. 61</td>
</tr>
<tr>
<td></td>
<td>Conclusions and Discussions ....................... 63</td>
</tr>
<tr>
<td></td>
<td>Limitations and Implications ...................... 67</td>
</tr>
<tr>
<td></td>
<td>BIBLIOGRAPHY. ........................................... 71</td>
</tr>
<tr>
<td></td>
<td>APPENDIX A. ............................................. 75</td>
</tr>
<tr>
<td></td>
<td>APPENDIX B. ............................................. 82</td>
</tr>
<tr>
<td></td>
<td>APPENDIX C. ............................................. 87</td>
</tr>
</tbody>
</table>

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# LIST OF TABLES AND FIGURES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>American Students: Distribution of Sample by Gender and SES</td>
<td>31</td>
</tr>
<tr>
<td>2-2</td>
<td>Thai Students: Distribution of Sample by Gender and SES</td>
<td>33</td>
</tr>
<tr>
<td>2-3</td>
<td>Distribution of Sample by Gender and Ethnic Identity</td>
<td>34</td>
</tr>
<tr>
<td>2-4</td>
<td>Distribution of Sample by Gender and Religious Identity</td>
<td>34</td>
</tr>
<tr>
<td>3-1</td>
<td>American Students: The Magnitudes of Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of American Students, Controlling for SES.</td>
<td>48</td>
</tr>
<tr>
<td>3-2</td>
<td>Thai Students: The Magnitudes of Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of Thai Students, Controlling for SES.</td>
<td>50</td>
</tr>
<tr>
<td>3-3</td>
<td>Thai and American Students: Comparison of Magnitudes of Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of American and Thai Students, Controlling for SES.</td>
<td>50</td>
</tr>
<tr>
<td>3-4</td>
<td>American Students: The Magnitudes of Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of American Students, Controlling for SES and Gender.</td>
<td>52</td>
</tr>
<tr>
<td>3-5</td>
<td>Thai Students: The Magnitudes of the Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of Thai Students, Controlling for SES and Gender.</td>
<td>54</td>
</tr>
<tr>
<td>3-6</td>
<td>Thai versus Chinese Ethnicity: The Magnitudes of Correlations and Coefficients of Determination (r^2) of Self-Concept of Academic Ability and General Self-Esteem of Thai and Chinese Students, Controlling for SES.</td>
<td>56</td>
</tr>
</tbody>
</table>

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TABLE

3-7 Buddhist versus Moslem Students: The Magnitudes of Correlations and Coefficients of Determination \( (r^2) \) of Self-Concept of Academic Ability and General Self-Esteem of Buddhist and Moslem Students .......................... 57

FIGURES

2-1 Frequency Distribution of Self-Concept of Academic Ability Scores of American Data .................. 38
2-2 Frequency Distribution of Self-Concept of Academic Ability Scores of Thai Data ..................... 39
2-3 Frequency Distribution of Self-Esteem Scores of American Data ........................................... 40
2-4 Frequency Distribution of Self-Esteem Scores of Thai Data .................................................. 41
CHAPTER I

INTRODUCTION

Research and sociological theory has clearly established a link between how individuals view themselves intellectually and their general self-esteem (Brookover et al., 1967; Rosenberg, 1965; Rosenberg and Simmons, 1971). What has not been answered in the research literature is how the magnitudes of this link between self-conceptions of intellectual ability and general self-conceptions of worth are functions of the cultural contexts within which individuals function. For example, does a student's self-conception of academic ability affect his or her sense of general self-esteem differently depending on that student's socio-economic status and his or her cultural values within which that student is raised?

The purpose of this study is to test hypotheses that the correlations between self-concept of academic ability and general self-esteem vary by selected Eastern and Western types of cultures as well as by socio-economic status level within both cultures. There is a great variety within Eastern and Western cultures. In this study a culture of the East (Thailand) and one of the West (the United States of America) were selected because of assumed differences in emphasis on intellectual development. These hypotheses are supported by a number of sociological perspectives which will be elaborated upon in later discussion (Brookover et al., 1967; Coopersmith, 1967; Rosenberg, 1965; Depew, 1976).
Based on theory which, one might use to conjecture that a relation should be expected between self-concept of ability and general self-esteem, has been concerned with types of mental status variables (particularly literature dealing with the nature of depression). Some argue that one component of depression is one's self-esteem. For example, Rosenberg defines self-esteem as a positive or negative attitude toward a particular object, namely, the self. High self-esteem means that the individual respects himself, considers himself worthy. Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, self-contempt. The individual lacks respect for the self he observes. The self-picture is disagreeable, and he wishes it were otherwise.

Of course, this study is not concerned with the classification or measurement of depression. The literature dealing with depression is reviewed here merely because some scholars of mental health contend that levels of self-esteem and their development are important attributes of human behavior and may be heuristic utility for this study.

Perhaps more importantly for this study is the literature concerning self-concept theory, which like many theories in the social sciences, has been impeded by the almost provincial character of the bulk of its supportive research. North Americans doing research on self-concept have tended to study only students in the United States of America and Canada, while European scientists have limited most of their work to subjects in Europe. The same can be said for the few self-concept studies done in Asia and the Near East (Depew, 1976).

The limitation in cross-cultural research is particularly true
for relating self-concept theory to self-esteem. For example, self-concept development and its effects have only recently been studied in Thailand and other Eastern cultures. Hence it is difficult to defend principles of behavior, which assert that the same process of self-concept development and effect, function in all cultures in similar or particularly different ways.

This study attempts to explore the theoretical usefulness of one principle of human behavior proposed by Brookover and associates (1967), that one's conceptions of one's abilities in a student role would be related to other of his or her self-conceptions depending on the social context which they occur. Kaminski and Erickson (1979:5) following Brookover assert that, "... in cultures where students' academic achievement is highly valued, students who define themselves as academically inferior will have more personal problems than in cultures where academic achievement is not stressed as much."

Others have provided support for this view (Vogel, 1962; De Vos, 1962; Iga and Tatai, 1975).

In cultures like Japan, China and Thailand, it has been noted that development of intellectual skills is very strongly promoted as equivalent to social and moral worth (Vogel, 1962; De Vos, 1962; Iga and Tatai, 1975). In fact, it has become a national problem for students to commit suicide in Japan when they experienced failure in academic activities. If this is true, one should expect that the magnitude of correlations between self-concept of intellectual or academic ability and general self-esteem would be higher in such nations like Thailand than in nations like the United States of
America which seemingly place more emphasis on other kinds of skills. Of course, this is an empirical question which can and will be dealt with in this study.

Self-concept of academic ability which is viewed from the symbolic interactionist frame of reference may help to explain one type of mental status variable—self-esteem—which some mental health scholars have been concerned with (for example, Rosenberg, 1965; Coopersmith, 1967; French, 1969). Unfortunately, there is almost no research comparing the relationship (if any) from one culture to another of correlations between self-concept of academic ability and self-esteem. There is, however, some research, which will be discussed later, which finds that socio-economic status is related to self-conceptions of academic ability and self-esteem within cultures. Brookover and his associates (1967), for example, found in the population of American students, that self-esteem and self-concept of ability were each associated with socio-economic status. In another study, Depew (1976) found that self-concept of academic ability was associated with socio-economic status among German students. Rosenberg (1965) also found that self-esteem was associated with socio-economic status.

Accordingly, one may hypothesize that correlations between self-concept of academic ability and general self-esteem will be further found to be associated with socio-economic level in cross-cultural studies. Therefore, this study is also guided by the following general hypothesis:

There is a positive association between the magnitudes of the correlations of self-concept of academic ability
with general self-esteem and socio-economic status levels of students.

More specifically it is hypothesized that the correlations between self-concept of academic ability and self-esteem for students in the United States of America and Thailand will vary as follows:

$H_1$: The correlation between self-concept of academic ability and general self-esteem of Thai students is greater than that of American students.

$H_{2a}$: The correlation between self-concept of academic ability and general self-esteem of higher socio-economic status American students is greater than that of lower socio-economic status American students.

$H_{2b}$: The correlation between self-concept of academic ability and general self-esteem of higher socio-economic status Thai students is greater than that of lower socio-economic status Thai students.

Moreover, many studies, as will be discussed in the theory section of this chapter, have demonstrated that socialization results in gender differences in academic behavior or intellectual abilities. This study will attempt to investigate whether there are differences between men and women in the correlation they exhibit between their self-concept of academic ability and general self-esteem.

Prior researches also suggest the possibility that ethnic background and religion will affect the magnitudes of associations between self-concept of academic ability and general self-esteem (Brookover et al., 1967; Rosenberg, 1965; Rosenberg and Simmons, 1971; Coopersmith, 1967). This study also investigates whether there are differences in the magnitudes of the correlations of
self-concept of academic ability and general self-esteem in Thailand which are dependent on ethnic identity (Chinese heritage ethnic group versus Thai heritage ethnic group) and religious background (Moslem or Buddhist).

Theoretical Background

The general theoretical orientation most relevant to this study is symbolic interactionism which is an outgrowth of scholars like John Dewey, Charles Horton Cooley, and particularly George Herbert Mead. Mead (1934) argued that humans are unique because of their ability to see themselves as objects by taking the point of views of others. For Mead, the "self" and the larger society were interrelated such that the individual was neither isolated from, nor completely determined by, any abstract system. By claiming that the individual had a self or selves, George Herbert Mead meant that the person can be an object to oneself. That is, the person can conceive of self, communicate with self and act toward self. In short, the individual interacts with others in the external environment. It is through the symbolic process that conceptions of self are formed (Blumer, 1969).

In conjunction with Mead's writing, Cooley's discussion of the "looking-glass self" was also of crucial significance in revealing the importance of social others and the reflexive nature of one's self-characterization. Cooley (1902) conceived of the self as having three components: (1) imagination of one's appearance to another person; (2) imagination of the other person's appraisal of that appearance; and (3) some kind of self-value
feeling such as pride or shame. The idea of self, in this instance, is organized through self-awareness and imagination; the ability to visualize one's self through the eyes of others. This ability is not inborn, but is acquired through learning, reflection, and interpersonal relationships.

In other words, this study is specifically based on the work of Mead and Cooley, who maintain that self-conceptions are social in nature, arising out of the interactional patterns in which the individual locates himself with respect to a social frame of reference provided by others whose evaluations are important to him. As such, the individual's perceptions of the way others are evaluating him are paramount importance in affecting his behavior.

Within the symbolic interactionism, self-concept, along with a multitude of related and even overlapping constructs, have led to much theorizing and operationalizing of theoretical propositions. Many contemporary social scientists have ascribed to the self-concept complex a key role in the integration of personality, in influencing behavior and in achieving social and mental health. Although many social scientists have attempted to incorporate it into their theoretical models, there is not precisely delineated and universally accepted definition of one's self-characterizations in literature. For example, the conceptual disparity between terms such as "unitary self" (Goffman, 1959) and "multiple self" (James, 1890; Kinch, 1963; Brookover et al., 1967) has resulted in a certain degree of theoretical confusion. Furthermore, the interchangeability of terms such as "self," "self-concept," "self-esteem," and "self-regard," plus
the reference to self conceptions as both trait (Maslow, 1954 and Roger, 1951) and as process (Brookover and Erickson, 1975) has also contributed to the lack of conceptual clarity.

However, this study is concerned with self-concept of academic ability which derives from an emerging social psychological theory of Brookover and his associates at Michigan State University (Brookover, 1959; Brookover et. al., 1962; 1964; 1965; and 1967).

**Self-concept of academic ability**

The theory and research of Brookover and his associates are primarily based on the theories of George Herbert Mead and Charles Horton Cooley. The symbolic interactionists explain that people perform differently because of variation in their self-concept of academic ability with reference to given activities. Theorists have held this is to be true irrespective of biological differences in normally functional people (Brookover and Erickson, 1975). In the same respect that the process and function of breathing is considered essentially the same regardless of individual biological differences, the development of self-concepts and their functioning are held to be basically similar from one individual to another in all cultures (Depew, 1976).

Relevant to behavior in every culture is how each person views himself or herself with reference to a particular behavior. Although other factors, such as practice and attentiveness are involved in the determination of the quality of a performance, self-concept of academic ability is also an indicator of how well the
person will perform an academic act when called upon to do so. Many studies have found positive correlations between self-concept of ability and quality of student performance.

As a theoretical construct, self-concept of ability (SCA) is viewed by Brookover as a functionally limiting variable in relation to decisions as an individual makes about role tasks. It is a necessary but not sufficient causal force. There is no contention that self-concept of ability, in and of itself, is an antecedent condition sufficient to bring about any behavior. Unless individuals conceive that there is reasonable probability of their success at a task, they are not likely to decide to attempt that task.

Relevant to self-concept of ability, this study concerns self-concept of academic ability which is perceived as only one of many concepts of self, as an independent variable in relation to a general self-esteem. Self-concept of academic ability is referred to as verbal behavior in which one indicates to himself (publicly or privately), his or her ability to achieve in academic tasks as compared with others engaged in the same task. It is indicated that a person may also hold more than one self-concept of academic ability. These may vary with the person or persons to whom one is referring him or herself. Although self-concept of academic ability may vary from one situation to another and from one time to another, individuals tend to be relatively stable in their self-concept response.

Furthermore, self-concept of academic ability does not mean a personality trait, or an entity, or a phenomenological phenomenon, or that it has an existence apart from behavior. It is strictly a
reference to symbolic behavior, and as such, to empirical events which are constantly in a process of construction and reconstruction.

Brookover and his colleagues (1962) developed and validated an instrument designed to measure self-concept of academic ability which will also be used in this study: the Michigan State Self-Concept of Academic Ability (MSSCAA). Moreover, many researchers have conducted the cross-cultural validation studies on this scale in Japan, Lebanon (Sidani, 1970) and Germany (Depew, 1976).

**Self-esteem**

Self-esteem has been defined as "the sum of an individual's feeling or self-competence and a sense of personal worth." The nature of one's self-evaluation has profound influence on his thinking, emotions, values and aims. In other words, self-esteem can be defined in terms of evaluative attitude toward the self—a judgmental process whereby the individual examines his performance, or self capacities, and other attributes that lead to an acceptance or rejection of self in terms of general worthiness—conceptualized as general self-esteem (Coopersmith, 1967: 30-31):

Discussion of self-esteem has been closely associated with discussion of self-concept. Coopersmith (1967) and Rosenberg and Simmons (1971) have chosen to focus upon the evaluative dimension of self-concept conceptualized as self-esteem. A theoretical discussion of self-esteem necessarily must start with William James.

James (1890) divided the history of self into three parts:
(1) the constituents of self made up of the material self, social self, spiritual self and pure ego; (2) self-feeling; and (3) self perservation and self-seeking. These latter two aspects are especially relevant for a deterministic analysis of self-esteem. Self-feeling is subdivided into self-complacency and self-dissatisfaction. According to James (1890:306), there is a "certain average tone of self-feeling which each of us carries about with him, and which is independent of the objective reasons we may have for satisfactions of discontent." However, the "normal provocative of self-feeling is one's actual success or failure." To James (1890:310), our self-feeling in this world depends on what we make ourselves to be and do. It is determined by the ratio of our supposed potentialities, a fraction of which our pretensions are the denominator, and the numerator is our success; thus self-esteem

\[
\text{Self-esteem} = \frac{\text{Success}}{\text{Pretensions}}.
\]

He also notes three possible influences upon self-esteem:

1. Human aspirations and values play a cardinal role in positive self-evaluation;

2. achievements are measured against our aspirations for any given area of behavior; and

3. approximation of aspirations in a valued area results in high self-esteem while negative self-evaluations result from a wide divergence between aspirations and achievement.

Branden (1969) states that there is "no value-judgement more important to man . . . than the estimate he passes on himself."

Generally this estimate is constantly experienced in the form of a feeling which is part of every other feeling; and, it is involved
in man's every emotional response. Self-esteem has two interrelated components: a sense of personal efficacy, and a sense of personal worth. Self-confidence primarily results from cognitive efficacy. A second type of efficacy refers to a person's effectiveness in particular areas of endeavor which results from specific acquired knowledge and skills. An individual's sense of personal worth is a function of his judging himself by some standard. Personal worth decreases according to the extent that a person fails to satisfy that standard.

Branden identifies self-esteem as an independent variable:

"... productive achievement is a consequence and expression of healthy self-esteem, not its cause" (Branden, 1969:123).

Self-esteem to Coopersmith is:

The evaluative which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy. In short, self-esteem is a personal judgement of worthiness that is expressed in the attitudes the individual holds toward himself (Coopersmith, 1967:4-5).

Self-evaluation is a judgmental process whereby an individual examines his performance, capacities, and attributes according to his personal standards and values; and arrives at a decision regarding his personal worthiness (Coopersmith, 1967:7).

Coopersmith (1967) notes four major contributory factors to the development of self-esteem. They are:

1. The amount of respectful, accepting, and concerned treatment received by an individual from significant others in his life;
2. history of success in his life as related to the status of an individual and as indicated by the social approval he receives;

3. the endeavor made by the individual to live up to aspirations he regards as valuable and personally significant; and

4. the extent and degree to which an individual is able to respond to devaluation and minimize its effects upon his person, which in turn leads to a reduction in anxiety as well as helps to maintain personal equilibrium.

Adler (1972) notes three sources of self-esteem; first, what he terms "organ inferiorities" in which actual impairments such as blindness or bodily weakness may prove to be a source of low self-esteem; second, the impact of the acceptance, support and encouragement of the parents and other figures of the individual; and finally, the destructive effects of overindulgence shown by parents toward their children.

Rogers' (1951) formulations dealing with the therapeutic approach to personality problems center upon the clients, and hence, indirectly address themselves to the crucial variable of self-esteem in personality adjustment. To him, a greater degree of assurance can be enjoyed by a child if parents and significant others come to respect the views of the child.

The vast amount of literature available on self-esteem is clear evidence of the popularity of this concept. It has been used in studies dealing with academic achievement, juvenile delinquency, deviance and so forth.

In the study of self-attitudes in the stage of later adolescence, Morris Rosenberg's (1965) investigation of self-esteem
represents a major empirical effort, in that it attempts to explore the relationships of some important social variables to self-esteem. He defines self-esteem as a positive or negative attitude toward a particular object, namely, the self. It was indicated that self-esteem has two connotations. One connotation of high self-esteem is that the person thinks he is "very good"; a very different connotation is that he is "good enough." It is thus possible for a person to consider himself superior to most others but to feel inadequate in terms of certain standards he has set for himself. Conversely, an adolescent may consider himself an average person but be quite contented with the self he observes. In one sense a person's self-esteem may be high whereas in the other sense it may be medium or low.

High self-esteem, in Rosenberg's scale items, express the feeling that one is "good enough." The individual simply feels that he is a person of worth; he respects himself for what he is, but he does not stand in awe of himself. He does not necessarily consider himself superior to others.

Speaking of high self-esteem, the individual respects himself, considers himself worthy; he does not necessarily consider himself worse; he does not feel that he is the ultimate in perfection but, on the contrary, recognizes his limitations and expects to grow and improve.

Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, self-contempt. The individual lacks respect for the self he observes. The self-picture is disagreeable, and he wishes it were otherwise.
Rosenberg (1965:18) also stated that it is a familiar clinical observation that depression often accompanies low self-esteem. In his study of the normal volunteers, the finding revealed a significant association between the individual's self-esteem and the likelihood that he will appear depressed to others but they are more likely to express a feeling of unhappiness, gloom, discouragement, etc. There was a very strong consistent relationship between self-esteem scale and a Guttman scale of depressive effect. Moreover, the presence of low self-esteem among neurotics is commonly observed in clinical practice. Some clinicians go so far as to characterize low self-esteem as one of the basic elements of neurosis.

French (1969:14) indicated that self-esteem fits into the major criteria of mental health as an important attitude toward the self. Many students of personality and mental health have emphasized the importance of self-esteem, although it has received many other labels such as self-regard, self-satisfaction, self-acceptance, and congruence between self and ideal self.

French (1969:143) also indicated that various measures of self-esteem typically relate to other measures of mental health in the predicted way: depression, anxiety and tension, irritation, feeling burdened, retardation, sadness, low sense of social support and a number of other symptoms.

French (Kasl and French, 1962) conducted a number of studies indicating the usefulness of self-esteem as a variable in trying to understand the effects of the social environment on mental health. For example, he studied the variables of social class and status in an organization which are known to be related to many measures of
mental health and physical illness. The research showed that men with lower status and lower occupational self-esteem had poor mental health according to French's criteria of mental illness and illness behavior.

However, in this study, self-esteem describes the extent to which an individual examines his or her performance, or self capacities, and other attributes that lead to an acceptance or rejection of self in terms of general worthiness—conceptualized as general self-esteem.

Perhaps, in a society—such as Thailand—which places a considerable emphasis on academic competency as an index of personal worthiness, students' self-conceptions of academic ability are related to general self-esteem. Essentially, in cultures where academic achievements are highly valued, students' self-concept of academic ability should be more closely related to general self-esteem than in cultures in which academic achievements are not as highly valued.

The Thai Social System

In order to investigate the correlation between self-concept of academic ability and general self-esteem in relation to socio-economic status variations within Thai cultures, this study also attempts to examine whether there is a variation in the correlation between self-concept of academic ability and general self-esteem when controlling for ethnic identity and religious difference.
Accordingly, a brief description of Thai society is attempted in this section in order to understand how these particular abstract concepts apply to Thailand. The specific consideration is to characterize potential subcultural ethnic and religious differences, and the orientation toward academic achievement as way for achieving social status and as index of personal worthiness in Thailand.

Compared with other nations of Southeast Asia, Thailand is remarkably homogenous. Of Thailand's 44 million inhabitants, 82% are ethnically Thai (Kuriann, 1978). The Thai language is used throughout with only minor dialects; the people are essentially all Buddhist; and the strong central government has resulted in similar administrative policies in all provinces. Local and regional differences exist, but language, culture and physical type make the majority of the population unmistakably one people. A minority—altogether about 18% of the total population—is made up of Malay, Khmer (Cambodian) and Mon communities, small enclaves of Westerners and of South and Southeast Asians, and most notably some million persons of Chinese. In addition to these minority groups there are an estimated number of persons belonging to various non-Thai hill tribes, who are found in Northern Thailand and along the Western border with Burma. All of the various Thai groups share physical as well as cultural similarities. Race prejudice is not a characteristic Thai attitude. The minor discriminations that are sometimes made are more based on observable cultural and social criteria than on actual physical trait.
Since Chinese are the largest ethnic minority in Thailand, this study proposes to test whether there are differences in the magnitudes of the correlation between self-concept of academic ability and general self-esteem between Thai and Chinese students.

With this purpose, the Chinese subculture is briefly discussed in this section. The vast majority of this group are Thai citizens because citizenship is given automatically to all persons born in the country and naturalization proceedings are encouraged for all permanent immigrants. In the past, there were sharp distinctions between Chinese and Thai in their way of life, speech and behavior (particularly along occupational lines). Most Chinese speak one of several Chinese dialects used in Thailand and conform to Chinese cultural and behavior patterns. In Chinese philosophy and Confucian religion a strong emphasis is placed on shared social relationships at all levels of society.

One important aspect of the Chinese community is the values attached by the family and web of relationships founded on family ties. One consequence is large and cohesive groups of Chinese people, bound together by loyalty and mutual obligations. The Chinese family in Thailand is potentially capable of much more cohesiveness than its Thai counterpart, and there is evidence to show that it remains the strongest force to preserve the Chinese way of life.

The focus of economic power in the Chinese community of Thailand is not in individual firms but in business combines by which a limited number of individuals control a large number of...
different firms. In establishing these combines, closeness understood in Chinese terms (kinship, clanship, local origin in China, speech-group, etc.) plays an important part. Marriage plays a major role in sealing business alliances.

In the Chinese community as a whole, one finds that this native Chinese propensity of social grouping manifests itself by a complex pattern of formal associations which characterize the community at this level. There are hundreds of associations grouping together individuals with similar familial, economic, social, and religious interests. In their totality, they direct the life of the whole community. They control business competition, regulate prices, mediate disputes, provide social security, community centers and recreational facilities, hospitals and clinics, places of worship and cemeteries. The Chinese associations contribute to the social unity and cultural strength of the Chinese community. They give shape to its structure, mold public opinion and attitudes, encourage Chinese nationalism, and are not without perpetuating distinctions between Chinese and Thai.

Furthermore, along the occupational lines, Thais formally concentrated on growing rice and filling the expanding ranks of government bureaucracy and related service organizations; Chinese by royal consent and personal inclination were traders, middlemen and craftsmen. Distinctions are no longer so clearcut but proportions are still influenced by the past. Thais are a clear majority among government officials and clerks, professionals and semi-professionals, industrial and administrative specialists. There
are many Thai businessmen and artisans, but they are still a minority. Thais are, of course, in the vast majority among farmers and fishermen.

However, Thailand has been more successful than most in the handling of her ethnic relation problem with the Chinese at both popular and official levels. There was and is a great deal of tolerance of ethnic differences, and even of cultural nationalism. The Chinese have a few rigid in-group boundaries to overcome in order to relate to Thais. Thai social grouping is fluid and open. Personal relationships tend to be worked out on an individual basis. However, some prejudice against Chinese is present in the Thai population and when it is, it tends to follow to a stereotype of resentment against Chinese economic domination. However, the prejudices are directed more against the group than against individuals, more against a style of life than against an ethnic group, and they do not run very deep. There is considerable mixing instances of genuine, disinterested friendship. This varies according to the degree of assimilation.

In the self-view of Thai, Thainess is defined mainly in linguistic and cultural terms: a Thai is a person who speaks a Thai dialect without accent and who lives in a Thai urban or rural style of life. It is easy for a Chinese born in, or with many years of residence in Thailand to become a Thai in this sense. At the present time, it is unusually difficult in many instances to distinguish the Chinese from the Thais. Most of them have Thai names, and their speech and behavior are identical with that of the Thais.
The number of individuals of Chinese descent who have achieved positions of eminence in Thai society today is impressive.

Complete assimilation of course implies more than an ability to cope with another culture. Many Chinese acquire this ability for opportunistic reasons but continue to consider themselves as Chinese. Fairly typically, they may identify as Chinese in some situations and as Thais in others. They usually have both a Chinese and a Thai name. Their private relations may be with Chinese and their public relations with Thais; or they may be Chinese with their elders and Thais with their age-mates.

Generally speaking, the degree of assimilation is related to the extent of the actual contact with Thai society and culture. It is greatest in the case of individuals whose family has resided in Thailand for several generations, who spent their formative years in Thailand, and who received all or most of their education in Thailand, particularly in government or private schools where the medium of instruction is Thai and where the Chinese language is not taught. It is also interesting to note that although these individuals refuse to consider themselves to be anything but Thai, they take pride in their ancestry as representing a source of vigor and acumen lacking in "pure" Thais.

The next consideration specifically focuses on the sub-cultural religious differences. Although Theravada Buddhism is the State Religion and the great majority of the Thai people are Buddhist, there have never been any restrictions upon religious freedom. People in Thailand are given equal opportunities to practice and preach
their faiths. Thus, several religions and doctrines have in the course of time been brought into this country. However, the sample data consist of mainly Buddhist and Moslem students and only 19 Christian students. Therefore, this study proposes to test whether there are the differences in the magnitudes of the correlation between self-concept of academic ability and general self-esteem between Buddhist and Moslem students. Accordingly, only Buddhist and Moslem subcultures are briefly described.

Buddhism is probably the most pervasive element in Thai culture. It had had a profound influence over the Thai art, culture, tradition, and learning; more important still, it has dominated the character of the vast majority of the Thai people. Buddhist way of life is an integral part of national life. Today 93.4% of the whole population are Buddhists. Philosophically, Theravada Buddhism holds to the doctrine of "anatta" or "no soul" which, in more mundane terms, implies that one's self-concept or image of himself as a separate being is the essence of delusion which leads one to see the world in a distorted manner.

The Moslems make up 4% of the non-Buddhists. Most Moslems are ethnic Malays concentrated in the four southernmost provinces of peninsular Thailand. The remainder is made up of ethnic Thai and small group of Pakistani immigrants. Officially, the Thai Government refers to all members of the Moslem religion who are Thai citizens as "Thai Islam" in order to stress the unity of the nation regardless of ethnic group or religion. Except in the small circle of the theoretically trained, Islam in Thailand, like
Buddhism, has become integrated with many elements of Brahman and animistic belief and practice. Language and culture combine with formal religion to differentiate Malay Moslem and Thai Buddhist. Formal faith and the practices associated with it also set the Thai Moslem apart, but he shares his basic cultures with his Buddhist neighbors.

The next focus is concerned with Thai orientation toward academic achievement. Respect for learning and knowledge among Thais stem from the Buddhist tradition. The purpose of learning, according to Buddhist doctrine, is the acquisition of religious merit through knowledge of sacred things. It was believed that right understanding leads to right action and thus increases one's store of merit, and advances one on the path to "nirvana." Literacy, accordingly, was respected as a means of participating more fully in the religious life. Great value was placed on the basic knowledge of reading, writing and moral precepts disseminated by Buddhist monk among the many youth who served as temple boys in the Wat before the introduction of modern school systems.

The modern Thais tend to regard education primarily as a means for economic, professional and social advancement. The primary goal is the acquisition of a degree of higher learning, especially since government officials have repeatedly stressed the importance of such degrees to persons interested in advancement in the civil services.

To gain higher learning required high competition in Thailand. In order to get into the superior schools, one has to pass a certain
examination given by those schools. In certain levels of education, one is given the standard examination by the government. Particularly, as there are only a few higher institutions in Thailand, only a limited number of students are able to get a higher education. Certain aspects such as a limited number of higher institutions, heavy emphasis on diploma-getting, and government examination etc., are fundamental problems in the situation and may have significance to correlations between self-concept of academic ability and general self-esteem.

In Thailand, intellectual skills development is very strongly promoted. Academic achievement is valued as an indicator of personal worthiness. Accordingly, education has been widely considered as a primary goal in life. A good example of this norm in Thailand is the changing concept of Chinese in Thailand toward education.

Until the 20th century, the individual Chinese in Thailand viewed education as a luxury which he might confer on his children after he had attained high status. The intellectual and professional man is not an important individual in the Chinese community in Thailand. Since wealth is the most important value, many Chinese, after no more than a secondary-school education are pushed into business. Nowadays, as Chinese have begun to develop favorable attitudes toward Thai education, it is also the time when a notion about the value of formal education has emerged and has become widespread in Thai society at large. The adoption of the idea of mass education and an increase in educational opportunities, etc., has become a useful avenue of status improvement for members of the Chinese
minority in Thailand, especially those sufficiently motivated and in a position to become integrated/assimilated into Thai status system.

Coughlin (1953) has remarked, an important force in the changing character of Chinese education is the realization on the part of Chinese parents that success in business comes from ability to adapt to the Thai culture milieu.

In Punyodyana's (1971) study about Thai differential assimilation in Bangkok, the changing of certain thinking and behavior patterns of Chinese about the role of education are clearly evidence. The statements below are quoted examples from respondents' answer to a question on the role of education in Thailand, doubtlessly illustrative of Chinese's changing views toward the importance of education today:

Education gives people a better chance in their jobs.

Education brings prestige and good income.

Education earns a way to society; one gets to know more people.

Educated people always rise to high positions. They always get good jobs.

Only people who have high education can attain high ranks in the Government service.

Education saves one from corrupt people.

One final theoretical issue concerns the relevance of gender. Many studies have shown that socialization results in gender differences in academic behavior or intellectual abilities (Jacklin and Maccoby, 1972; Kaminski, 1975; Munroe and Munroe, 1971; Bieri,
1960; Lynn, 1972; Luszki and Schmuck, 1965). Some research also finds that gender is related to self-concept of academic ability (Brookover et al., 1967) and self-esteem (Rosenberg, 1965). Accordingly, it will be interesting to investigate how gender differences relate to the link between how individuals view themselves intellectually and their general self-esteem, particularly in cross-cultural studies.

General Objectives of the Study

It has been noted that in cultures, like Japan, China and Thailand, intellectual skills development is very strongly promoted as equivalent to social and moral worth. On the other hand, in cultures like the United States of America in general (excepting, of course, for various subcultures such as those of European Jewish identity, etc.), it has been hypothesized that a general moral worth is not so dependent upon intellectual skills development as it is in cultures like Japan, China and Thailand. Of course, this has not been verified in prior research and becomes the important hypotheses of this study. If cultures like Japan, China and Thailand have emphasized more intellectual skills development than cultures like the United States of America as hypothesized, then one can expect that the magnitude of correlations between self-concept of academic ability and general self-esteem will be greater in the former type of cultures than in the latter type of cultures.

In Brookover's study of self-concept of academic achievement of the twelfth grade students, the relationship between self-concept
of academic ability and general self-esteem was examined, and their correlation was .31 (Brookover et al., 1967:145). In a nation such as Thailand which places high value on academic achievements, students' self-conceptions of academic ability should be more related to general self-esteem than in a nation such as the United States of America. Of course, prior research leaves this as an open theoretical question. In fact, there are several theoretical and empirical questions implied here to which this study is addressed and for which hypotheses are constructed and tested with Thai and American students. First, a number of questions are in order regarding various subcultures within cultures. For example, the case has been made for the probable importance of socio-economic status level, gender and ethnicity as each affecting the relationship between self-concept of academic ability and general self-esteem. Hence, the first question and hypothesis of this study will focus on controls for socio-economic status levels.

The basic questions and the hypotheses for their solutions are as follows:

Basic Question 1:

Are the correlations between self-concept of academic ability and general self-esteem higher for Thai than American students, controlling for the socio-economic status levels of the students?

General Hypothesis $H_1$:

The correlations between self-concept of academic ability and general self-esteem will be higher for Thai students than for American students.
Basic Question 2:

Within each culture, is there a positive association between the socio-economic status levels and the magnitude of correlations of self-concept of academic ability with general self-esteem?

General Hypothesis $H_2$:

The higher the socio-economic status level of students, the higher will be the correlation between their self-concept of academic ability and their general self-esteem.

Basic Question 3:

Within each culture, are there differences between men and women in the correlations they exhibit between their self-concept of academic ability and general self-esteem?

General Hypothesis $H_3$:

Men will exhibit higher correlations between self-concept of academic ability and general self-esteem than will women within both American and Thai cultures.

Basic Question 4:

Within each culture, are there differences in the magnitudes of the correlations of self-concept of academic ability and general self-esteem which are dependent on the ethnicities of students?

Unfortunately, the data are not available to examine in this study ethnic variations in the United States of America in relation to correlations between self-concept of academic ability and general self-esteem. However, ethnic variations of two types within Thailand could be obtained. They were Thai in contrast to Chinese heritage ethnic groups and Buddhist in contrast to Moslem ethnic groups. The following hypotheses developed in a previous discussion guided in this study.
General Hypothesis $H_{4a}$:

Thai heritage students within Thailand will exhibit higher correlations between self-concept of academic ability and general self-esteem than will Chinese heritage students in Thailand, controlling for socio-economic status level.

General Hypothesis $H_{4b}$:

Students in Thailand identified as of Buddhist ethnicity will exhibit higher correlations between self-concept of academic ability and general self-esteem than will students identified as Moslem ethnicity.
CHAPTER II
RESEARCH METHODOLOGY

This chapter consists of three main parts. First, sampling characteristics and procedures are discussed. The second section deals with the instruments used in measuring the major variables under investigation. The third section presents the analytic techniques employed in answering the research questions outlined in the first chapter.

Sampling Characteristics and Procedures

This study represents a secondary analysis of cross-sectional data gathered by Brookover and his associates from a twelfth-grade population of approximately 1141 students. These data were made available by Edsel L. Erickson.

From a total of 1141 students, 170 students on whom socio-economic status data were insufficient to make socio-economic status classification were excluded. A final total of 971 students was left as the data sample. As can be seen in Table 2-1, American students were stratified into two nearly equal numbers of socio-economic status levels (higher socio-economic status: \( N = 489 \); lower socio-economic status: \( N = 482 \)). As it was required to divide Thai students into two socio-economic status levels due to small size of the sample, this determined the necessity to also divide American students into two groups of higher and lower socio-economic status levels, in order to maintain consistency.
Table 2-1
American Students:
Distribution of Sample by Gender and SES

<table>
<thead>
<tr>
<th>SES</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Total</td>
</tr>
<tr>
<td>Higher SES:</td>
<td>219</td>
<td>270</td>
<td>489</td>
</tr>
<tr>
<td>Lower SES:</td>
<td>199</td>
<td>283</td>
<td>482</td>
</tr>
<tr>
<td>Total:</td>
<td>418</td>
<td>553</td>
<td>971</td>
</tr>
</tbody>
</table>

In conjunction with the American data, a total of 538 twelfth-grade students (about 16-18 years of age) were randomly selected from 13 schools in Bangkok, Thailand. The twelfth-grade students were chosen because adolescence has been viewed as crucial to human development and has gone through a period of transition in which it affects their self-conceptions of academic ability and esteem. Particularly, late adolescence is a time of major decision-making, including decisions concerning a future career. In addition, it is a time when the government determines career and college opportunities by giving the government entrance examination.

School samples were randomly selected with regard to their homogeneous socio-economic status characteristics by using the following criteria:

1. Private versus government (public) schools.
2. Prestige of the schools.
3. Tuitions and fees.
4. Location and condition of the schools.
Because of the different socio-cultural context, it is inappropriate to use any standard measurement (i.e., Duncan Scale) to measure socio-economic status in Thailand. School identity was then used as one criterion to assist in identifying students' socio-economic status. The schools tend to be very homogeneous in socio-economic status characteristics, i.e., most of the private schools in Bangkok are run by the royal family and/or Catholic groups. These schools primarily serve higher socio-economic status children. These institutions require the parents to pay rather large sums of money in order for their children to attend. The tuitions and fees are 30 to 45 percent higher than the public schools. It appears that the school itself is one appropriate indicator of the socio-economic status level because most schools in Thailand (if not all) serve particular socio-economic status level students.

The socio-economic status level of students was also determined by the head of household's education, occupation and income.

According to the above criteria, 13 schools in Bangkok, both coeducational and non-coeducational, were chosen. Each classroom consists of 30-40 students. Most higher socio-economic schools have only one classroom (grade 12). The lower socio-economic status schools tend to have more than one (one to four) classrooms for each class. Sample data were collected from one or two classrooms in each school that were made accessible at the time of the data collecting. The students were released to answer the questionnaires except when they had an examination or were studying important subjects. This should not bias the sampling procedure. A total of
538 students make up the sample. However, there were 19 students of whom socio-economic status data were insufficient to make a socio-economic status classification. 43 respondents were excluded because of incomplete questionnaires. A final total of 476 students was left as the data sample. As indicated earlier Thai sample size was insufficient to be divided into 3 socio-economic status levels for certain analyses, Thai students were stratified into two socio-economic status levels as shown in Table 2-2 (higher SES: N = 247; and lower SES: N = 229).

Table 2-2
Thai Students:
Distribution of Sample by Gender and SES

<table>
<thead>
<tr>
<th>SES</th>
<th>Gender</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Higher SES:</td>
<td>119</td>
<td>128</td>
<td>247</td>
<td></td>
</tr>
<tr>
<td>Lower SES:</td>
<td>118</td>
<td>111</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>237</td>
<td>239</td>
<td>476</td>
<td></td>
</tr>
</tbody>
</table>

The data shown in Table 2-3 shows that nearly all members of the sample were made up of Thai and Chinese students. Only one Cambodian and two Indian students were identified from the questionnaires.

As shown in Table 2-4, there were only 19 Christian students in the sample of 476, even though 6 schools out of 13 schools were run by the Catholic groups. There were no schools in the sample
that consisted of a predominant Christian body of students. From a total of 476 samples, there were only 5 Moslem students. For the purpose of comparison between Moslem and Buddhist students, 85 more Moslem students from grade 11 and 12 were collected from one Moslem school in Bangkok. Because of methodological limitations due to having almost all Moslem students coming from one school which consisted of the predominant lower socio-economic status students, they were excluded from certain analyses.

Table 2-3

<table>
<thead>
<tr>
<th>SES</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Total</td>
</tr>
<tr>
<td>Thai:</td>
<td>169</td>
<td>165</td>
<td>334</td>
</tr>
<tr>
<td>Chinese:</td>
<td>67</td>
<td>72</td>
<td>139</td>
</tr>
<tr>
<td>Indian:</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cambodian:</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total:</td>
<td>237</td>
<td>239</td>
<td>476</td>
</tr>
</tbody>
</table>

Table 2-4

<table>
<thead>
<tr>
<th>Religious Identity</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Total</td>
</tr>
<tr>
<td>Buddhist:</td>
<td>223</td>
<td>230</td>
<td>453</td>
</tr>
<tr>
<td>Moslem:</td>
<td>66</td>
<td>24</td>
<td>90</td>
</tr>
<tr>
<td>Christian:</td>
<td>10</td>
<td>9</td>
<td>19</td>
</tr>
</tbody>
</table>
Instrumentation

In order to measure self-concept of academic ability, the cross-cultural validated Michigan State Self-Concept of Academic Ability Scale (MSSCAA) was employed. This scale was developed under USOE Cooperative Research Project No. 845 (Brookover et al., 1962). Each item has a score ranging from one to five. The higher scores indicate superior academic self-concept of academic ability. Thus, students' self-concept of academic ability are operationally defined as the sum scores of responses on self-concept of the academic ability scale. The scale has realized both construct and criterion validity in many local and cross-cultural research studies. In addition, the reliability of the scale has been established from many samples throughout the world through Hoyt's (1941) analysis of variance techniques for assessing reliability with summed scores (see Brookover, et al., 1967). Moreover, many researchers have conducted the cross-cultural, cross-validation studies on this scale in Japan, Lebanon (Sidani, 1970) and Germany (Depew, 1976).

It should be noted that special measures were taken to maintain the equivalence of the academic self-concept instrument in the translation process. Specifically, steps were taken to convey the intent of the instrument in the simplest possible way. That is, each item was stated in the simplest and most concise fashion. This was done by translating the original American version of the instrument into the international sign language of the deaf which is a very simple and universal mode of symbolic communication. At
this point, the instrument was translated back into standard English

General self-esteem was assessed by Rosenberg's Self-Esteem
Scale (see Rosenberg, 1965; Robinson and Shaver, 1973). This scale
was intended to measure the general self-acceptance aspect of self
(or self-esteem) and was originally developed for use with high
school students. This scale consists of ten items answered on a
four point scale from "strongly agree" to "strongly disagree," al-
though they are scored only as agreement or disagreement. Since
all the items revolve around liking and/or approving of the self, the
scale probably measures the self-acceptance aspect of self-esteem
more than it does other factors. The scale was designed specifically
with brevity and ease of administration in mind. Concerning the
reliability or homogeneity, a Guttman scale reproducibility coeffic-
ient of .92 was obtained. Silber and Tippett (1965) found a test-
retest correlation over two weeks of .85 (N=28).

In terms of validity, Silber and Tippett also found that the
scale correlated from .56 to .83 with several similar measures and
clinical assessment (N=44). Rosenberg has found the scale scored
for Guttman scalability correlated .59 with Coopersmith's Self-
estem Inventory and scores as ten items, .60. Lorraine Broid (per-
sonal communication) reports the following correlations: with the
CIP self-acceptance scale .27 (N=643), and with a one item esteem
scale .45 (N=643) and .66 (N=101).

These two instruments, Michigan State Self-Concept of Academic
Ability Scale and Rosenberg's Self-Esteem were translated into Thai
(see Appendix B for translations). In order to maintain the equivalence and precision of the instruments, the translation was checked by linguistic experts in Thailand. In addition, the instruments in Thai language were given to Thai college students in the United States of America to translate back into English to see if their English translation was the same as the original versions. No differences in English due to translation were noted.

From the frequency distribution shown in figures 2-1, 2-2, 2-3 and 2-4, self-concept of academic ability and self-esteem scores for both American and Thai data are not normal distribution, although they approach the normal type of distribution.

Ethnicity was assessed by the students' responses to questionnaires. A student is defined as a Chinese if he or she responded to the questions that he or she had at least 50% of Chinese ancestry. This is rather common for self and other identity in Thailand and on this basis this criterion was used in this study.

The socio-economic status index devised for this study was based on school identity and students' responses to three items of socio-economic status information: the head of the household's education, occupation and income. A rough classification of the two socio-economic status levels was used: higher socio-economic status and lower socio-economic status levels (see Appendix C for details).

Analysis

This section enumerates the specific techniques employed in research of basic questions presented in Chapter I. The Pearson
Figure 2-1

Frequency Distribution of Self-Concept of Academic Ability Scores of American Data

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - 13</td>
<td>2</td>
<td>0.196</td>
<td>0.196</td>
</tr>
<tr>
<td>14 - 15</td>
<td>6</td>
<td>0.589</td>
<td>0.785</td>
</tr>
<tr>
<td>16 - 17</td>
<td>7</td>
<td>0.687</td>
<td>1.472</td>
</tr>
<tr>
<td>18 - 19</td>
<td>17</td>
<td>1.668</td>
<td>3.140</td>
</tr>
<tr>
<td>20 - 21</td>
<td>46</td>
<td>4.514</td>
<td>7.655</td>
</tr>
<tr>
<td>22 - 23</td>
<td>68</td>
<td>6.673</td>
<td>14.328</td>
</tr>
<tr>
<td>24 - 25</td>
<td>138</td>
<td>13.543</td>
<td>27.870</td>
</tr>
<tr>
<td>26 - 27</td>
<td>188</td>
<td>18.449</td>
<td>46.320</td>
</tr>
<tr>
<td>28 - 29</td>
<td>166</td>
<td>16.290</td>
<td>62.610</td>
</tr>
<tr>
<td>30 - 31</td>
<td>154</td>
<td>15.113</td>
<td>77.723</td>
</tr>
<tr>
<td>32 - 33</td>
<td>108</td>
<td>10.599</td>
<td>88.322</td>
</tr>
<tr>
<td>34 - 35</td>
<td>73</td>
<td>7.164</td>
<td>95.486</td>
</tr>
<tr>
<td>36 - 37</td>
<td>34</td>
<td>3.337</td>
<td>98.822</td>
</tr>
<tr>
<td>38 - 39</td>
<td>9</td>
<td>0.883</td>
<td>99.706</td>
</tr>
<tr>
<td>40 - 41</td>
<td>3</td>
<td>0.294</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Sum of Observations = 28543.00  
Mean = 28.01079  
Maximum = 40  
Coefficient of Skewness = -0.1468527

Sum of Obs. Squared = 820077.0  
Median = 28.00000  
Minimum = 12  
Standard Error of Mean = 0.1407998  
Coefficient of Variation = 16.04589

Number of Obs. = 1019  
Mode = 26  
Range = 28  
Standard Deviation = 4.494581  
Variance = 20.20258

Kurtosis = 3.062633
Figure 2-2
Frequency Distribution of Self-Concept of Academic Ability Scores of Thai Data

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>1</td>
<td>0.210</td>
<td>0.210 I</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>0.210</td>
<td>0.420 IX</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>0.420</td>
<td>0.840 IXX</td>
</tr>
<tr>
<td>18</td>
<td>6</td>
<td>1.261</td>
<td>2.101 XXX</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
<td>1.261</td>
<td>3.361 XXX</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>2.101</td>
<td>5.462 XXXX</td>
</tr>
<tr>
<td>21</td>
<td>10</td>
<td>2.101</td>
<td>7.563 XXXXX</td>
</tr>
<tr>
<td>22</td>
<td>22</td>
<td>4.622</td>
<td>12.185 XXXXX</td>
</tr>
<tr>
<td>23</td>
<td>40</td>
<td>8.403</td>
<td>20.588 XXXXXXX</td>
</tr>
<tr>
<td>24</td>
<td>52</td>
<td>10.924</td>
<td>31.513 XXXXXXXX</td>
</tr>
<tr>
<td>25</td>
<td>73</td>
<td>15.336</td>
<td>46.849 XXXXXXXXXXXX</td>
</tr>
<tr>
<td>26</td>
<td>63</td>
<td>13.235</td>
<td>60.084 XXXXXXXXXXXXX</td>
</tr>
<tr>
<td>27</td>
<td>59</td>
<td>12.395</td>
<td>72.479 XXXXXXXXXXXXXX</td>
</tr>
<tr>
<td>28</td>
<td>40</td>
<td>8.403</td>
<td>80.882 XXXXXXXXXXXXXX</td>
</tr>
<tr>
<td>29</td>
<td>34</td>
<td>7.143</td>
<td>88.025 XXXXXXXXXXXX</td>
</tr>
<tr>
<td>30</td>
<td>23</td>
<td>4.832</td>
<td>92.857 XXXXXXXXXX</td>
</tr>
<tr>
<td>31</td>
<td>9</td>
<td>1.891</td>
<td>94.748 XXXXX</td>
</tr>
<tr>
<td>32</td>
<td>9</td>
<td>1.891</td>
<td>96.639 XXXX</td>
</tr>
<tr>
<td>33</td>
<td>11</td>
<td>2.311</td>
<td>98.950 XXXXX</td>
</tr>
<tr>
<td>34</td>
<td>1</td>
<td>0.210</td>
<td>99.160 I</td>
</tr>
<tr>
<td>36</td>
<td>2</td>
<td>0.420</td>
<td>99.580 IX</td>
</tr>
<tr>
<td>40</td>
<td>2</td>
<td>0.420</td>
<td>100.000 IX</td>
</tr>
</tbody>
</table>

Sum of Observation = 12314.00
Mean = 25.86975
Maximum = 40
Standard Error of Mean = 0.1539962
Coefficient of Skewness = 0.1780533
Cumulative

5.0  10.0  15.0  20.0  25.0
Figure 2-3

Frequency Distribution of Self-Concept of Self-Esteem Scores of American Data

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 11</td>
<td>1</td>
<td>0.102</td>
<td>0.102</td>
</tr>
<tr>
<td>12 - 13</td>
<td>0</td>
<td>0.000</td>
<td>0.102</td>
</tr>
<tr>
<td>14 - 15</td>
<td>2</td>
<td>0.204</td>
<td>0.307</td>
</tr>
<tr>
<td>16 - 17</td>
<td>3</td>
<td>0.307</td>
<td>0.613</td>
</tr>
<tr>
<td>18 - 19</td>
<td>14</td>
<td>1.431</td>
<td>2.045</td>
</tr>
<tr>
<td>20 - 21</td>
<td>26</td>
<td>2.658</td>
<td>4.703</td>
</tr>
<tr>
<td>22 - 23</td>
<td>45</td>
<td>4.601</td>
<td>9.305</td>
</tr>
<tr>
<td>24 - 25</td>
<td>119</td>
<td>12.168</td>
<td>21.472</td>
</tr>
<tr>
<td>26 - 27</td>
<td>191</td>
<td>19.530</td>
<td>41.002</td>
</tr>
<tr>
<td>28 - 29</td>
<td>233</td>
<td>23.824</td>
<td>64.826</td>
</tr>
<tr>
<td>30 - 31</td>
<td>148</td>
<td>15.133</td>
<td>79.959</td>
</tr>
<tr>
<td>32 - 33</td>
<td>102</td>
<td>10.429</td>
<td>90.389</td>
</tr>
<tr>
<td>34 - 35</td>
<td>50</td>
<td>5.112</td>
<td>95.501</td>
</tr>
<tr>
<td>36 - 37</td>
<td>32</td>
<td>3.272</td>
<td>98.773</td>
</tr>
<tr>
<td>38 - 39</td>
<td>6</td>
<td>0.613</td>
<td>99.387</td>
</tr>
<tr>
<td>40 - 41</td>
<td>6</td>
<td>0.613</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Sum of Observations = 27714.00
Mean = 28.33742
Maximum = 40
Standard Error of Mean = 0.1276628
Coefficient of Skewness = -0.994082E-01

Sum of Obs. Squared = 800916.0
Median = 28.00000
Minimum = 10
Mode = 29
Range = 30
Standard Deviation = 3.992399
Coefficient of Variation = 14.08879
Variance = 15.93925
Kurtosis = 3.789248
Figure 2-4
Frequency Distribution of Self-Esteem Scores of Thai Data

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>2</td>
<td>0.420</td>
<td>0.420</td>
</tr>
<tr>
<td>21</td>
<td>9</td>
<td>1.891</td>
<td>2.311</td>
</tr>
<tr>
<td>22</td>
<td>20</td>
<td>4.202</td>
<td>6.513</td>
</tr>
<tr>
<td>23</td>
<td>22</td>
<td>4.622</td>
<td>11.134</td>
</tr>
<tr>
<td>24</td>
<td>30</td>
<td>6.303</td>
<td>17.437</td>
</tr>
<tr>
<td>25</td>
<td>41</td>
<td>8.613</td>
<td>26.050</td>
</tr>
<tr>
<td>26</td>
<td>54</td>
<td>11.345</td>
<td>37.395</td>
</tr>
<tr>
<td>27</td>
<td>73</td>
<td>15.336</td>
<td>52.731</td>
</tr>
<tr>
<td>28</td>
<td>66</td>
<td>13.866</td>
<td>66.597</td>
</tr>
<tr>
<td>29</td>
<td>72</td>
<td>15.126</td>
<td>81.723</td>
</tr>
<tr>
<td>30</td>
<td>34</td>
<td>7.143</td>
<td>88.866</td>
</tr>
<tr>
<td>31</td>
<td>21</td>
<td>4.412</td>
<td>93.277</td>
</tr>
<tr>
<td>32</td>
<td>14</td>
<td>2.941</td>
<td>96.218</td>
</tr>
<tr>
<td>33</td>
<td>10</td>
<td>2.101</td>
<td>98.319</td>
</tr>
<tr>
<td>34</td>
<td>3</td>
<td>0.630</td>
<td>98.950</td>
</tr>
<tr>
<td>35</td>
<td>1</td>
<td>0.210</td>
<td>99.160</td>
</tr>
<tr>
<td>37</td>
<td>2</td>
<td>0.420</td>
<td>99.580</td>
</tr>
<tr>
<td>38</td>
<td>2</td>
<td>0.420</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Sum of Observations = 12967.00
Sum of Obs. Squared = 357335.0
Number of Obs. = 476
Mean = 27.24160
Median = 27.00000
Mode = 27
Maximum = 38
Minimum = 20
Range = 18
Standard Error of Mean = 0.1345495
Standard Deviation = 2.935523
Variance = 8.617293
Kurtosis = 3.571366
Coefficient of Skewness = 0.1927475
Coefficient of Variation = 10.77588

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>10.0</td>
<td>15.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>
product-moment correlation and the Fisher z were selected as the analytic tools to assess the aggregated data.

The frequency distribution of self-concept of academic ability and general self-esteem scores, as shown in figures 2-1, 2-2, 2-3 and 2-4, are not perfect normal distributions for both American and Thai data. However, they approach the normal type of distribution. It was suggested by Nunnally (1978) that certain statistical measures of association for use with normally distributed data can be used with data that do not quite correspond with interval data or a normal distribution. He maintains that valuable information and analytic potential can be realized through the use of correlations like the Pearson product-moment correlation, even if perfect normal distributions are not quite obtained. After making this case Nunnally states (1978:139): "There is nothing to prevent the use of PM correlation even if one of the distributions is markedly different from the other in shape, if the relationship is far from linear, and if the spread of points is different at different places along the line. Unless these assumptions are seriously violated, no real problem in interpretation is involved."

Accordingly, the Pearson-product-moment correlation coefficient (the Pearson r) was used to compute the relationship between dependent and independent variables.

It was suggested (Guilford, 1973 and Taylor, 1972) that the Fisher z was a better statistic to use to test the differences between product-moment coefficients of correlation. With uncorrelated r's, as when we have two correlations between the same two variables,
and $X_1$ and $X_2$ derived from two totally different and unmatched samples, the standard error of a difference between Fisher $z$'s can be computed by the formula (Guilford, 1973:166):

$$
\sigma_z = \sqrt{\frac{1}{N_1 - 3} + \frac{1}{N_2 - 3}}
$$

(SE of a difference between two independent $z$ coefficients)

and the test is a $z$ ratio formed by the difference of the two Fisher $z$'s to $\sigma_z$ (conversion of a Pearson $r$ into a corresponding Fisher's $z$ coefficient).

Hence

$$
z = \frac{z_1 - z_2}{\sigma_z}
$$

Basic Question 1:

Are the correlations between self-concept of academic ability and general self-esteem higher for Thai students than American students, controlling for the socio-economic status level of the students?

General Hypothesis $H_1$:

It is hypothesized that the correlations between self-concept of academic ability and general self-esteem will be greater for Thai students than for American students.

Analysis:

The Pearson product-moment correlation was used to compute the correlations between self-concept of academic ability and general self-esteem, controlling for socio-economic status.

Test:

The Fisher $z$ was employed to test the differences between product-moment coefficients of correlation, uncorrelated $r$'s.

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Basic Question 2:

Within each culture, is there a positive association between the socio-economic status level and the magnitude of correlations of self-concept of academic ability with general self-esteem?

General Hypothesis $H_2$:

It is hypothesized that the higher the socio-economic status of students, the higher will be the correlation between their self-concept of academic ability and their general self-esteem.

Analysis:

As in the basic question 1, the Pearson product-moment correlation was used to compute the correlations between self-concept of academic ability and general self-esteem, controlling for socio-economic status.

Test:

The Fisher $z$ was employed to test the differences between product-moment coefficients of correlation, uncorrelated r's.

$\alpha .05$ level of confidence.

Basic Question 3:

Within each culture, are there differences between men and women in the correlations they exhibit between their self-concept of academic ability and their general self-esteem?

General Hypothesis $H_3$:

It is hypothesized that men will exhibit higher correlations between self-concept of academic ability and general self-esteem than will women within both American and Thai cultures.

Analysis:

The Pearson product-moment correlation was used to compute...
the correlations between self-concept of academic ability and
general self-esteem, controlling for socio-economic status and
gender.

Test:
The Fisher z was employed to test the difference between
product-moment coefficients of correlation, uncorrelated r's.

Basic Question 4:

Within each culture, are there differences in the magni-
tudes of the correlations of self-concept of academic
ability and general self-esteem which are dependent on
the ethnicities of students?

General Hypothesis $H_{4a}$:

It is hypothesized that Thai heritage students within
Thailand will exhibit higher correlations between self-
concept of academic ability and general self-esteem than
will Chinese heritage students in Thailand, controlling
for socio-economic status level.

General Hypothesis $H_{4b}$:

It is hypothesized that students in Thailand identified
as of Buddhist ethnicity will exhibit higher correlations
between self-concept of academic ability and general self-
esteeem than will students identified as Moslem ethnicity.

Analysis:

The Pearson product-moment correlation was used to compute
the correlations between self-concept of academic ability and
general self-esteem, controlling for socio-economic status, eth-
nicity, as well as religion.

It should be noted here that the sample sizes were insuffici-
ent to examine gender differences among various socio-economic
status of the Chinese heritage ethnic group. Therefore, only SES

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was used as a control variable in the analysis of Thai versus Chinese heritage ethnic variations.

The samples of the Moslem group were available to compare solely the differences in the overall magnitudes of correlation of self-concept of academic ability and general self-esteem between Buddhist and Moslem groups.

Test:

The Fisher z was employed to test the differences between product-moment coefficients of correlation, uncorrelated r's. 

≤ .05 level of confidence.
CHAPTER III
FINDINGS

This chapter reports the results of the analysis of data relevant to the basic questions and hypotheses guiding this study.

Basic Question 1:

Are the correlations between self-concept of academic ability and general self-esteem higher for Thai students than American students, controlling for the socio-economic status level of the students?

General Hypothesis $H_1$:

It is hypothesized that the correlations between self-concept of academic ability and general self-esteem will be higher for Thai students than for American students.

Research Hypothesis $H_{R1}$:

$r_{1\text{ Thai}} > r_{2\text{ American}}$ (at each SES level).

Test:

The Fisher $z$ (test for differences in Pearsonian correlations, uncorrelated $r$'s). $x .05$ level of confidence.

As shown in Table 3-1, overall the correlation between self-concept of academic ability and general self-esteem tends to be greater for Thai students ($r = .50$) than American students ($r = .32$). However, when controlling for SES level, it can be noted that the Thai students exhibited a higher correlation between self-concept of academic ability and general self-esteem only at higher SES level (higher SES Thai $r = .60$, higher SES American $r = .30$). At the lower SES level there was no significant difference ($p < .05$ level).
between Thai \((r = .40)\) and American \((r = .34)\) students (although the observed correlation difference was in the hypothesized direction).

Table 3-1

Thai and American Students:

Comparison of the Magnitudes of Correlations and Coefficients of Determination \((r^2)\) of Self-Concept of Academic Ability and General Self-Esteem of American and Thai Students, Controlling for Socio-Economic Status

<table>
<thead>
<tr>
<th>SES</th>
<th>Students from:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thailand (N=476)</td>
<td>U.S.A. (N=971)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher SES:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(r_1 = .60)</td>
<td>(.36)</td>
<td>(r_2 = .30)</td>
<td>(.09) Sig.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>((N=274))</td>
<td></td>
<td>((N=971))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower SES:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(r_3 = .40)</td>
<td>(.16)</td>
<td>(r_4 = .34)</td>
<td>(.12) NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>((N=229))</td>
<td></td>
<td>((N=482))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(r_5 = .50)</td>
<td>(.25)</td>
<td>(r_6 = .32)</td>
<td>(.10) Sig.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>((N=476))</td>
<td></td>
<td>((N=971))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(H_R^*: r_1 = .60 \succ r_2 = .30\) accepted \(p \succ .05\)

\(H_R^*: r_3 = .40 \succ r_4 = .34\) rejected \(p \prec .05\)

\(H_R^*: r_5 = .50 \succ r_6 = .32\) accepted \(p \succ .05\)

Basic Question 2:

Within each culture, is there a positive association between the socio-economic status level and the magnitude of correlations of self-concept of academic ability with general self-esteem?

General Hypothesis \(H_2^*:\)

It is hypothesized that the higher the socio-economic status

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level of students, the higher will be the correlation between their self-concept of academic ability and their general self-esteem.

Research Hypothesis $H_{R2}$:

$\rho_{\text{higher SES}} > \rho_{\text{lower SES}}$ (among both American and Thai students)

Test:

The Fisher z (test for differences in Pearsonian correlations, uncorrelated r's). $\alpha$ .05 level of confidence.

The findings reported in Table 3-2 do not support the hypothesis that the socio-economic status level is positively associated with the correlation levels of self-concept of academic ability and general self-esteem in U.S.A. In fact, a reverse finding is observed: the correlation for higher SES American students ($r = .30$) was lower than that of lower SES students ($r = .34$). Since the observation was opposed to the predicted observation, no statistical test was needed to reject the research hypothesis ($H_{R2}$).

However, as shown in Table 3-3, the data do support the hypothesis that the socio-economic status level is positively associated with the correlation level between self-concept of academic ability and general self-esteem in Thailand.
### Table 3-2

**American Students:**

The Magnitudes of Correlations and Coefficients of Determination (r^2) between Self-Concept of Academic Ability and General Self-Esteem of American Students, Controlling for SES

<table>
<thead>
<tr>
<th>SES</th>
<th>r</th>
<th>r^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher SES: (N = 489)</td>
<td>.30</td>
<td>.09</td>
</tr>
<tr>
<td>Lower SES: (N = 482)</td>
<td>.34</td>
<td>.12</td>
</tr>
<tr>
<td>Total: (N = 971)</td>
<td>.32</td>
<td>.10</td>
</tr>
</tbody>
</table>

H_{R}: r_{higher SES} > r_{lower SES} rejected opposed to predicted r

### Table 3-3

**Thai Students:**

The Magnitudes of Correlations and Coefficients of Determination (r^2) between Self-Concept of Academic Ability and General Self-Esteem of Thai Students, Controlling for SES

<table>
<thead>
<tr>
<th>SES</th>
<th>r</th>
<th>r^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher SES: (N = 247)</td>
<td>.60</td>
<td>.36</td>
</tr>
<tr>
<td>Lower SES: (N = 229)</td>
<td>.40</td>
<td>.16</td>
</tr>
<tr>
<td>Total: (N = 476)</td>
<td>.50</td>
<td>.25</td>
</tr>
</tbody>
</table>

H_{R}: r_{higher SES} > r_{lower SES} accepted p > .05

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Basic Question 3:

Within each culture, are there differences between men and women in the correlations they exhibit between their self-concept of academic ability and their general self-esteem?

General Hypothesis $H_3$:

It is hypothesized that men will exhibit higher correlations between self-concept of academic ability and general self-esteem than will women within both American and Thai cultures.

Research Hypothesis $H_{R3}$:

$r_{men} > r_{women}$ (at each level of SES for both Thai and American students).

Test:

The Fisher $z$ (test for differences in Pearsonian correlations, uncorrelated r's). $\alpha .05$ level of confidence.

The findings on American students reported in Table 3-4 do not support the hypothesis that the overall one's gender affects the correlation level between self-concept of academic ability and general self-esteem in U.S.A. In only one test out of five for SES level, men exhibited a higher correlation between self-concept of academic ability and general self-esteem than women at lower SES level (lower SES men $r = .43$, lower SES women $r = .27$). At the higher SES level, there was no significant difference ($p < .05$ level) between men ($r = .32$) and women ($r = .28$), although the observed difference was in the hypothesized direction.
Table 3-4
American Students:
The Magnitudes of the Correlations and the Coefficients of Determination ($r^2$) of Self-Concept of Academic Ability and General Self-Esteem of American Students, Controlling for SES and Gender

<table>
<thead>
<tr>
<th>SES</th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
<th>Fisher z</th>
<th>p &gt; .05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$r^2$</td>
<td>$r$</td>
<td>$r^2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher SES:</td>
<td>$r_1 = .32$</td>
<td>.10</td>
<td>$r_2 = .28$</td>
<td>.08</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>(N=219)</td>
<td></td>
<td></td>
<td>(N=270)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower SES:</td>
<td>$r_3 = .43$</td>
<td>.18</td>
<td>$r_4 = .27$</td>
<td>.07</td>
<td>Sig.</td>
<td></td>
</tr>
<tr>
<td>(N=199)</td>
<td></td>
<td></td>
<td>(N=283)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total SES:</td>
<td>$r_5 = .36$</td>
<td>.13</td>
<td>$r_6 = .28$</td>
<td>.08</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>(N=418)</td>
<td></td>
<td></td>
<td>(N=553)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$H_R: r_1 = .32 \Rightarrow r_2 = .28$ rejected $p < .05$

$H_R: r_3 = .43 \Rightarrow r_4 = .27$ accepted $p > .05$

$H_R: r_5 = .36 \Rightarrow r_6 = .28$ rejected $p < .05$

$H_R: r_1 = .32 \Rightarrow r_3 = .43$ rejected observed $r$ opposed to predicted $r.$

$H_R: r_2 = .28 \Rightarrow r_4 = .27$ rejected $p < .05$

It can be noted that when controlling for gender and SES, it does not confirm the hypothesis that the socio-economic level affects the correlation level between self-concept of academic ability and general self-esteem—there was no significant difference between self-concept of academic ability and general self-esteem between higher SES women and lower SES women ($p < .05$). A reverse finding is observed when controlling for gender, the correlation between self-concept of academic ability and self-esteem of the higher SES

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men ($r = .32$) was lower than that of the lower SES men ($r = .43$).

Since the observation was opposed to the predicted observation, no statistical test was needed to reject the hypothesis ($H_0: r_1 \geq r_3$).

As shown in Table 3-5, the data do not generally support the hypothesis ($p < .05$ level) that gender affects the correlation level between self-concept of academic ability and general self-esteem in Thailand, even when controlling for socio-economic status level. However, it can be noted that the data on Thai students is somewhat in accord with the hypothesis that the socio-economic status level affects the correlation level between self-concept of academic ability and general self-esteem for higher SES men to exhibit a higher correlation of self-concept of academic ability and general self-esteem ($r = .61$) than lower SES men ($r = .36$). For women, there was no significant difference between self-concept of academic ability and general self-esteem ($p < .05$ level) between upper SES women ($r = .59$) and lower SES women ($r = .45$), although the observed correlation was in the hypothesized direction.

Basic Question 4:

Within each culture, are there differences in the magnitudes of the correlations of self-concept of academic ability and general self-esteem which are dependent on the ethnicities of students?

General Hypothesis $H_{4a}$:

It is hypothesized that Thai heritage students within Thailand will exhibit higher correlations between self-concept of academic ability and general self-esteem than will Chinese heritage students in Thailand, controlling for SES level.

General Hypothesis $H_{4b}$:

It is hypothesized that students in Thailand identified
as of Buddhist ethnicity will exhibit higher correlations between self-concept of academic ability and general self-esteem than will students identified as Moslem ethnicity.

Table 3-5
Thai Students:

The Magnitudes of the Correlations and the Coefficients of Determination ($r^2$) of Self-Concept of Academic Ability and General Self-Esteem of Thai Students, Controlling for SES and Gender

<table>
<thead>
<tr>
<th>SES</th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
<th>Fisher z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$r^2$</td>
<td></td>
<td>$r$</td>
<td>$r^2$</td>
</tr>
<tr>
<td>Higher SES:</td>
<td>$r_1 = .61$</td>
<td>.37</td>
<td>$r_2 = .59$</td>
<td>.35</td>
<td>NS</td>
</tr>
<tr>
<td>(N=119)</td>
<td></td>
<td></td>
<td>(N=128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower SES:</td>
<td>$r_3 = .36$</td>
<td>.13</td>
<td>$r_4 = .45$</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>(N=118)</td>
<td></td>
<td></td>
<td>(N=111)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>$r_5 = .47$</td>
<td>.22</td>
<td>$r_6 = .53$</td>
<td>.28</td>
<td></td>
</tr>
<tr>
<td>(N=237)</td>
<td></td>
<td></td>
<td>(N=239)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$H_R: r_1 = .61 > r_2 = .59$ rejected $p < .05$
$H_R: r_3 = .36 > r_4 = .45$ rejected observed $r$ opposed to predicted $r$
$H_R: r_5 = .47 > r_6 = .53$ rejected observed $r$ opposed to predicted $r$
$H_R: r_1 = .61 > r_3 = .36$ accepted $p > .05$
$H_R: r_2 = .59 > r_4 = .45$ rejected $p < .05$

Research Hypothesis $H_{R4a}$:
$r_{\text{Thai}} > r_{\text{Chinese}}$

Research Hypothesis $H_{R4b}$:
$r_{\text{Buddhist}} > r_{\text{Moslem}}$
Test:

The Fisher z (test for differences in Pearsonian correlations, uncorrelated r's). \( \alpha .05 \) level of confidence.

As shown in Table 3-6, there were no significant predicted differences in the correlations between self-concept of academic ability and general self-esteem among Thai and Chinese heritages (\( p < .05 \) level). In fact, the observed correlation differences were in contrast to the hypothesized direction (\( H_{R4a} \)). It can be noted that when controlling for SES and ethnicity (Thai vs. Chinese heritages), it does confirm the hypothesis that socio-economic status level affects the correlation level between self-concept of academic ability and general self-esteem in Thailand—for both Thai and Chinese heritages, the higher the socio-economic status, the greater the correlation between self-concept of academic ability and general self-esteem.

Table 3-7 reported that religion does not affect the correlation level between self-concept of academic ability and general self-esteem. There was no significant difference between Buddhist and Moslem students (\( p < .05 \) level), although the observed correlation difference was in the hypothesized direction (\( H_{R4b} \)).
Table 3-6

Thai vs. Chinese Ethnicity:
The Magnitudes of Correlations and the Coefficients of Determination ($r^2$) of Self-Concept of Academic Ability and General Self-Esteem of Thai and Chinese Students, Controlling for SES

<table>
<thead>
<tr>
<th>SES</th>
<th>Thai</th>
<th>Chinese</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$r^2$</td>
<td>$r$</td>
</tr>
<tr>
<td>Higher SES:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$r_1 = .57$</td>
<td>$r_2 = .67$</td>
<td>(N=179)</td>
<td>(N=66)</td>
</tr>
<tr>
<td>Lower SES:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$r_3 = .38$</td>
<td>$r_4 = .45$</td>
<td>(N=155)</td>
<td>(N=73)</td>
</tr>
<tr>
<td>Total:</td>
<td>$r_5 = .46$</td>
<td>$r_6 = .58$</td>
<td>(N=334)</td>
</tr>
</tbody>
</table>

$H_R$: $r_1 = .57 > r_2 = .67$ rejected observed $r$ opposed to predicted $r$.

$H_R$: $r_3 = .38 > r_4 = .45$ rejected observed $r$ opposed to predicted $r$.

$H_R$: $r_5 = .46 > r_6 = .58$ rejected observed $r$ opposed to predicted $r$.

$H_R$: $r_1 = .57 > r_3 = .38$ accepted $p > .05$

$H_R$: $r_2 = .67 > r_4 = .45$ accepted $p > .05$
Table 3-7

Buddhist vs. Moslem Students:

The Magnitudes of Correlations and the Coefficient of Determination ($r^2$) of Self-Concept of Academic Ability and General Self-Esteem of Buddhist and Moslem Students

<table>
<thead>
<tr>
<th>Religion Identity</th>
<th>$r$</th>
<th>$r^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buddhist: (N=452)</td>
<td>.50</td>
<td>.25</td>
</tr>
<tr>
<td>Moslem: (N=90)</td>
<td>.41</td>
<td>.17</td>
</tr>
</tbody>
</table>

$H_{Rb}: r = .50 \succ r = .41$ rejected $p < .05$
CHAPTER IV
SUMMARY, CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

Review of Problem and Method

Research and sociological theory has clearly established a link between how individuals view themselves intellectually and their general self-esteem (Rosenberg, 1965; Brookover, et al., 1967; Rosenberg and Simmons, 1971). However, what has not been answered in the research literature is how the magnitudes of this link between self-conceptions of intellectual ability and general self-conceptions of worth are functions of the cultural contexts within which individuals function.

For example, in cultures like Japan, China and Thailand intellectual skills are very strongly emphasized as they are important to one's social and moral worth. As an illustration, suicides in Japan among youths are often associated with academic failure or fear of failure (De Vos, 1962). On the other hand, in cultures like the United States in general a general moral worth is not so dependent upon intellectual skills development as it is in cultures like Japan, China and Thailand (Brookover, et al., 1967). If it is true that such cultures emphasize the importance for self-esteem of academic skills, then one should expect that in a nation such as Thailand (which places high value on academic achievements) the self-conceptions of academic ability of youth should be more related to their self-esteem than is the case in the United States of America.
Of course, within each of these cultures there should be a variation in the magnitudes of the correlations between self-concept of academic ability and self-esteem as a function of internal cultural differences. There is considerable literature asserting that cultural or life styles vary by social class and ethnicity; one should also expect that the correlations between self-concept of academic ability and self-esteem will vary by socio-economic status level and ethnic differences, which differ to the extent that academic attainment is valued. One might also conjecture that gender differences will occur if one can assume that men and women are socialized to value academic attainments differently. However, this assertion of gender differences is not well documented.

The major purposes of this study were to test derived hypotheses that the correlations between self-concept of academic ability and general self-esteem vary by type of culture (e.g. Thailand in contrast to the United States of America), socio-economic status level within each culture, gender within each culture, and ethnicity within Thailand.

In order to carry out these objectives the following four basic questions guided this investigation:

1. Are the correlations between self-concept of academic ability and general self-esteem higher for Thai than American students, controlling for the socio-economic status level of the students?

2. Within each culture, is there a positive association between the socio-economic status level and the magnitude of correlations of self-concept of academic ability with general self esteem?
3. Within each culture, are there differences between men and women in the correlations they exhibit between their self-concept of academic ability and general self-esteem?

4. Within each culture, are there differences in the magnitudes of the correlations of self-concept of academic ability and general self-esteem which are dependent on the ethnicities of students?

For the American data, this study represented a secondary analysis of cross-sectional data gathered by Brookover and his associates from a twelfth-grade population of approximately 971 students on whom data were available. These data were made available by Edsel L. Erickson. To add to the American data, a total of 538 twelfth grade students were randomly selected from 13 schools in Bangkok, Thailand, stratified with regard to their socio-economic status characteristics. Complete data were obtained on 476 students in Thailand which were 88 percent of the original randomly selected sample.

The Michigan State General Self-Concept of Ability Scale was used to measure student's self-concept of academic ability. The Self-Concept of Academic Ability Scale is a widely employed instrument of known validity and reliability when used cross culturally (e.g., as used in the United States of America, Germany, Japan and Lebanon). General self-esteem was assessed by Rosenberg's Self-Esteem Scale. These two instruments were translated into Thai and the translation was checked by linguistic experts in Thailand. Ethnicity was assessed by the students' responses to questionnaires about parents' race and nationality as well as the students' religion identity. Socio-economic index was based on school identity.
and students' responses to three items of socio-economic status information: the head of the household's education, occupation, and income.

The analysis techniques included the Pearson product-moment correlation and the Fisher z. The Pearson r was employed to investigate the relationships between the independent variables (self-concept of academic ability, socio-economic status level, and other background variables such as gender, ethnicity and religion identity) and the dependent variable (general self-esteem). The Fisher z was used to test the differences between product-moment coefficients of correlation, uncorrelated r's. Results of the various analyses are summarized below.

Summary of Findings

1. The investigation revealed that overall the correlation between self-concept of academic ability and general self-esteem tended to be greater for Thai students than American students. However, when controlling for socio-economic status level, Thai students exhibited a higher correlation between self-concept of academic ability and general self-esteem than American students only at the higher socio-economic status level. At the lower socio-economic status level there were no significant differences (at the .05 level) in correlations of self-concept of academic ability and general self-esteem between Thai and American students (although the observed correlation differences were in the hypothesized direction).
2. The results of the investigation indicated that the socio-economic status level was not associated with the correlations of self-concept of academic ability and general self-esteem in the United States of America. However, socio-economic status level was positively associated with the correlation level between self-concept of academic ability and general self-esteem in Thailand.

3. The investigation revealed that overall one's gender did not affect the correlation level between self-concept of academic ability and general self-esteem in either the United States of America or Thailand. For American students, only at the lower socio-economic status level did men exhibit a higher correlation between self-concept of academic ability and general self-esteem than women. At the higher socio-economic status level, there was no significant difference (p < .05 level) between men and women (although the observed correlation difference was in the hypothesized direction). For Thai students, there were no significant differences between men and women at either higher or lower socio-economic status levels.

However, when controlling for gender and socio-economic status level, the data did not confirm the hypothesis that socio-economic status level affected the correlation level between self-concept of academic ability and general self-esteem for American students. The data on Thai students was somewhat in accord with this hypothesis to the extent that the higher socio-economic status men exhibited a higher correlation of self-concept of academic ability and general self-esteem than lower socio-economic status men. On the other
hand, there was no significant difference between the correlation of self-concept of academic ability and general self-esteem between higher socio-economic status women and lower socio-economic status women (although the observed correlation difference was in the hypothesized direction).

4. The investigation revealed that there was no significant difference in the correlation level of self-concept of academic ability and general self-esteem between Thai and Chinese heritages ($p < .05$ level). In fact, the observed correlation differences were in contrast to the hypothesized direction ($r_{\text{Thai}} > r_{\text{Chinese}}$). However, when controlling for socio-economic status and ethnicity (Thai and Chinese heritages), the socio-economic status level affected the correlation level between self-concept of academic ability and general self-esteem for both Thai and Chinese heritages—the higher the socio-economic status level, the greater the correlation between self-concept of academic ability and general self-esteem. The investigation also indicated that there was no significant difference between Buddhist and Moslem students (although the observed correlation difference was in the hypothesized direction).

Conclusions and Discussions

The conclusions stated in this section are the investigator's attempt to answer the theoretical and empirical questions to which this study was addressed. The conclusions are intended to answer the open theoretical question—are the magnitudes of the link between

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self-conceptions of intellectual or academic ability and general self-conceptions of worth functions of the cultural contexts within which individuals function?

The most important conclusion of this study is that in general the correlation between self-concept of academic ability and general self-esteem is greater for Thai students than American students.

The investigation also revealed that the socio-economic status level had less effect on correlations between self-concept of academic ability and general self-esteem in the United States of America than Thailand. In other words, in the United States of America, lower socio-economic status students were as likely to exhibit a relationship between their self-concept of academic ability and their general self-esteem as were higher socio-economic status students. In fact a reverse findings was observed: the correlation for higher SES American students was lesser than that of lower SES students.

One might conjecture an explanation for this finding in terms of a problem of categorization of socio-economic status into two levels. In further research where the size of samples can be increased, it may be revealed that socio-economic status had an influence that was not observed in this study. It might also be true that in both cultures, the lower classes do not value intellectual ability very much. Hence, there are low correlations between self-concept of academic ability and general self-esteem in both Thailand and the United States of America (.40 and .34 respectively).
On the other hand, in the Thai system, there were clearly distinct differences in the relationship between self-concept of academic ability and general self-esteem as a function of the socio-economic status level. The findings revealed that the higher the socio-economic status level, the greater the correlation between self-concept of academic ability and general self-esteem.

When controlling for ethnicity, the socio-economic status level also affected the correlations between self-concept of academic ability and general self-esteem for both Thai and Chinese students. When controlling for gender, the socio-economic status level affected the correlational level between self-concept of academic ability and general self-esteem only for men to the extent that the higher SES men exhibited a higher correlation of self-concept of academic ability and general self-esteem than lower SES men. For women, there was no significant difference between self-concept of academic ability and general self-esteem between higher SES women and lower SES women, although the observed correlation difference was in the hypothesized direction.

The explanation may involve socialization toward academic achievement. The higher SES and lower SES boys in Thailand may be socialized to value academic achievement quite differently. The parents of higher SES boys may have much higher expectations of academic achievement for their sons than those of the parents of lower SES boys. Similarly, in Thailand higher SES and lower SES girls may not be socialized to value academic achievement differently,
and if so, there may be little difference in the relationship of their general self-esteem with their self-concept of academic ability for higher and lower SES girls.

The investigation further revealed no consistent pattern of gender differences for either American and Thai students. For the American students the findings revealed that men exhibited a higher correlation between self-concept of academic ability and general self-esteem than women only at the lower SES. One explanation might be that in the United States of America men are socialized differently from women in regard to valuing academic achievement more at the lower SES level than at the higher SES level. However, further research is required prior to a tentative acceptance of this conclusion.

Gender did not affect the correlation between self-concept of academic ability and general self-esteem in Thailand, even when controlling for the socio-economic status level. It appears from the findings of this study that women and girls are socialized differently in Thailand than they are in the United States of America. In Thailand it is possible that self-concept of academic ability may be seen as having a similar function for self-esteem for both men and women at all socio-economic status levels. However, further research is required to test these conclusions.

The available data on ethnic variations in Thailand (Thai in contrast to Chinese heritage ethnic groups) revealed that there were no important differences as hypothesized in the correlations between self-concept of academic ability and general self-esteem.
among Thai and Chinese heritages. In fact, the observed correlation differences were in contrast to the hypothesized direction 
\( r_{\text{Thai}} > r_{\text{Chinese}} \). The explanations for these findings might be conjectured in terms of original misjudgements of characteristics of the Chinese culture in Thailand. In any event it appears, from the data of this study, that the Chinese living in Thailand attach more personal esteem value to academic achievement than persons of Thai heritage. This should be studied further.

The data in this study indicated that religion does not affect the correlational level between self-concept of academic ability and general self-esteem. In this study the observed correlation for one religious group (Buddhist) over another (Moslem) was greater but not significantly so (at .05 level). Further research along these lines seems warranted before any conclusion on this matter should be taken.

Limitations and Implications

One important consideration of this study is that this is an exploratory study, limitations applicable to this study can be cited. For American data, this study utilizes a secondary source of cross-sectional data which do not include certain specific issues dealt with in this study, particularly on ethnic and religious diversity in the United States of America. For Thai data, this study is limited to subjects in Bangkok, Thailand. Moreover, limited sample size on ethnicity variations were insufficient to analyze for differences with controls presented (see analysis section,
Chapter II). There is also a need for further work on instrumentation.

In light of the findings stemming from this study, several theoretical implications can be drawn. First, this investigation provides empirical evidence that the magnitudes of the link between self-conceptions of academic ability and general self-esteem are functions of the cultural contexts within which individuals function. Unfortunately, there is almost no other research comparing the relationship between self-concept of academic ability and general self-esteem from one culture to another. This study indicates that the correlations between self-concept of academic ability and general self-esteem do vary by culture. However, this conclusion should be considered tentative until validated by further research.

Another implication is that the function of the socio-economic status level on correlations between self-concept of academic ability and general self-esteem vary between Thailand and the United States of America. In the United States of America socio-economic status may not account for much variation in the correlation between self-concept of academic ability and general self-esteem. However, more definitive research must be done before such a final conclusion is warranted.

Given that for American data, this study represents a secondary analysis of cross-sectional data, it would be useful to collect new data on the specific issues dealt with in this study (particularly on ethnic and religious diversity within the United States of
America which were unavailable for this study). For Thai data, it might also be beneficial to collect additional data on various ethnic groups (in terms of ethnic groups as well as religion) from all of the provinces of Thailand. This study was limited to subjects in Bangkok, Thailand.

In addition, further research should investigate the correlation between self-concept of academic ability and general self-esteem of students at various age/grade levels. Such further research might increase our knowledge of the link between self-conceptions of intellectual ability and general self-conceptions of worth.

While this study focuses on the correlation of self-concept of academic ability and general self-esteem between Thailand and the United States of America, additional research might examine this correlation in other selected culture nations such as Japan versus Italy, China versus the United States, Taiwan versus the United States, etc.

Further research might also study the correlation of self-concept of academic ability and general self-esteem in relation to behavioral events such as the "suicide phenomenon" among students, particularly late adolescence. For example, it has become a national problem in Japan for students to commit suicide when they experience failure in academic activities.

This study contributes to self-concept theory which, like many theoretical orientations in the social sciences, has been impeded by the almost provincial character of the bulk of its
supportive research. Particularly, self-concept development and its effects have only been studied recently in Thailand and a few other Eastern cultures.

Furthermore, the theoretical scheme and empirical data presented in this study represent valuable information in understanding the link of the correlation between self-concept of academic ability and general self-esteem in cross-cultural studies. As stated above, additional studies can be built upon this research which may make further contributions to social scientific theory.
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APPENDIX A

STUDENTS' BACKGROUND, SELF-CONCEPT OF ACADEMIC ABILITY SCALE AND SELF-ESTEEM SCALE IN ENGLISH

75

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SECTION A

Students' Background

Fill in the statement or circle the letter in front of the statement which best answers each question.

1. Name of school you are attending: ________________________________

2. Sex
   1 Male
   2 Female

3. Race
   1 Thai
   2 Chinese
   3 Vietnamese
   4 Other

4. Nationality status
   1 Thai
   2 Chinese
   3 Vietnamese
   4 Other

5. Religion
   1 Buddhism
   2 Christ
   3 Islam
   4 Other

6. Parents' race

<table>
<thead>
<tr>
<th>Race</th>
<th>Father</th>
<th>Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Thai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Chinese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Vietnamese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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7. Parents' nationality status

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Father</th>
<th>Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Thai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Chinese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Vietnamese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Head of the household's education

1 Primary school  
2 Secondary and high school  
3 Two-year college  
4 Four-year college or university and higher

9. Head of the household's occupation

1 Government official  
2 Business  
3 Services  
4 Farmer  
5 Labor  
6 Other

10. Head of the household's income

1 Below 3,500 baht  
2 3,501-7,500  
3 7,501 up
SECTION B

Self-Concept of Academic Ability

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 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 have the ability to complete 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.
SECTION C
Self-Esteem

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

1. I feel that I am a person of worth at least on an equal plane with others.
   4 Strongly agree  
   3 Agree        
   2 Disagree    
   1 Strongly disagree

2. I feel that I have a number of good qualities.
   4 Strongly agree  
   3 Agree        
   2 Disagree    
   1 Strongly disagree

3. All in all, I am inclined to feel that I am a failure.
   1 Strongly agree  
   2 Agree        
   3 Disagree    
   4 Strongly disagree

4. I am able to do things as well as most other people.
   4 Strongly agree  
   3 Agree        
   2 Disagree    
   1 Strongly agree

5. I feel I do not have much to be proud of.
   1 Strongly agree  
   2 Agree        
   3 Disagree    
   4 Strongly disagree
6. I take a positive attitude toward myself.
   
   4 Strongly agree 
   3 Agree 
   2 Disagree 
   1 Strongly disagree 

7. On the whole, I am satisfied with myself.
   
   4 Strongly agree 
   3 Agree 
   2 Disagree 
   1 Strongly disagree 

8. I wish I could have more respect for myself.
   
   1 Strongly agree 
   2 Agree 
   3 Disagree 
   4 Strongly disagree 

9. I certainly feel useless at times.
   
   1 Strongly agree 
   2 Agree 
   3 Disagree 
   4 Strongly disagree 

10. At times I think I am no good at all.
    
    1 Strongly agree 
    2 Agree 
    3 Disagree 
    4 Strongly disagree
APPENDIX B

STUDENTS' BACKGROUND, SELF-CONCEPT OF ACADEMIC ABILITY SCALE AND SELF-ESTEEM SCALE IN THAI LANGUAGE
4. ให้กล่าวถึงการเรียนรู้ภาษาโดยทั่วไป ทั้งจากภาษาที่มาจากรายการศึกษาไว้ในเอกสารที่
ก. ใฝ่เรียน
ข. ภักดี
ค. พอใจ
จ. ยอม

6. ในแผนกวิชาที่ท่านพัฒนาการเรียนรู้ ท่านควรศึกษาภาษาที่สอดคล้องกับ

ก. ใฝ่เรียน
ข. ภักดี
ค. พอใจ
จ. ยอม

8. สำนวนภาษาที่ท่านพัฒนาการเรียนรู้ ท่านควรศึกษาภาษาที่สอดคล้องกับ

ก. ใฝ่เรียน
ข. ภักดี
ค. พอใจ
จ. ยอม

9. ภาษาที่ท่านพัฒนาการเรียนรู้ ท่านควรศึกษาภาษาที่สอดคล้องกับ

ก. ใฝ่เรียน
ข. ภักดี
ค. พอใจ
จ. ยอม
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<td>d</td>
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<td>n.</td>
<td>d</td>
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<td>n.</td>
<td>d</td>
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<td>n.</td>
<td>d</td>
</tr>
</tbody>
</table>

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8. ข้าราชการและข้าราชการฝ่ายที่หน่วยงานในพิเศษจะได้รับค่าตอบแทนตามจำนวนที่มี
   กำหนด
   ก. ไม่ได้รับ
   ข. ได้รับ
   ค. ไม่ได้รับ
   ง. ไม่ได้รับ

9. ผู้ที่มีสิทธิ์หรือผู้ไม่มีสิทธิ์จะได้รับค่าตอบแทนตามจำนวนที่มี
   กำหนด
   ก. ไม่ได้รับ
   ข. ได้รับ
   ค. ไม่ได้รับ
   ง. ไม่ได้รับ

10. ผู้ที่มีสิทธิ์หรือผู้ไม่มีสิทธิ์จะได้รับค่าตอบแทนตามจำนวนที่มี
    กำหนด
    ก. ไม่ได้รับ
    ข. ได้รับ
    ค. ไม่ได้รับ
    ง. ไม่ได้รับ

(มายา ท.)

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APPENDIX C

THE SOCIO-ECONOMIC STATUS INDEX
The Socio-Economic Status Index

The SES index for Thai data devised for this study was based on the school identity and the three items students respond to: head of the household's education, occupation and income. At first a rough classification of three socio-economic levels were used: upper, middle and lower socio-economic status levels. The school identity item and other three SES information were rated and weighted as follows:

<table>
<thead>
<tr>
<th>SES Items</th>
<th>Rating</th>
<th>Weight</th>
<th>Weighted Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prestige of school:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper SES school</td>
<td>3</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Middle SES</td>
<td>2</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Lower SES</td>
<td>1</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Head of household's education:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4 year college and university</td>
<td>3</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Secondary &amp; high school</td>
<td>2</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Primary school</td>
<td>1</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Head of household's occupation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Govt. official, business, farmer, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper occupation</td>
<td>3</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Middle occupation</td>
<td>2</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Lower occupation</td>
<td>1</td>
<td>x</td>
<td>1</td>
</tr>
<tr>
<td>Head of household's income:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 3,500</td>
<td>1</td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>3,501-7,500</td>
<td>2</td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>7,501 up</td>
<td>3</td>
<td>x</td>
<td>2</td>
</tr>
</tbody>
</table>
It should be noted here that occupations in this study were roughly categorized as government official, businessman, farmer, and laborer etc. Each category was divided into upper, middle, and lower levels based on income and prestige of occupation itself.

As illustrated above, the weighted scores of the various SES groups appear below:

<table>
<thead>
<tr>
<th>SES Groups</th>
<th>Weighted Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper SES</td>
<td>13-15</td>
</tr>
<tr>
<td>Middle SES</td>
<td>9-12</td>
</tr>
<tr>
<td>Lower SES</td>
<td>5-8</td>
</tr>
</tbody>
</table>

Due to relatively small sample size of the Thailand population, it was decided to categorize socio-economic status into two socio-economic status levels. The sample was split in half into higher and lower SES levels at a point that allowed for approximately similar subsample sizes.

Accordingly, the weighted scores of the two socio-economic status groups are as follows:

<table>
<thead>
<tr>
<th>SES groups</th>
<th>Weighted Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher SES</td>
<td>5-9</td>
</tr>
<tr>
<td>Lower SES</td>
<td>10-15</td>
</tr>
</tbody>
</table>

It should be noted here that in order to correspond with Thai data, American data were also split into two socio-economic status levels. Accordingly, the weighted scores (using Duncan Scale weights) of the two socio-economic status groups of American data are as follows:
<table>
<thead>
<tr>
<th>SES Groups</th>
<th>Weighted Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher SES</td>
<td>9–44</td>
</tr>
<tr>
<td>Lower SES</td>
<td>45–96</td>
</tr>
</tbody>
</table>