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UNIVERSITY OF OKLAHOMA
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ASIAN AND HISPANIC EDUCATIONAL DIFFERENCES AND THEIR IMPACT ON
SPATIAL AND SOCIO-ECONOMIC INEQUITY IN
OKLAHOMA CITY AND TULSA

A Dissertation
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
Doctor of Philosophy

By
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2000

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ASIAN AND HISPANIC EDUCATIONAL DIFFERENCES AND THE IMPACT ON
SPATIAL AND SOCIO-ECONOMIC INEQUITY IN OKLAHOMA CITY

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF GEOGRAPHY

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Abstract

During my 15 years as an English-as-a-second-language teacher in the Oklahoma City Public Schools I observed that Asian and Hispanic students had different degrees of academic success. Asians were better students than Hispanics and their families would move to better neighborhoods faster than Hispanics. These differences prompted me to ask how culture impacts education and how education is related to income and residential patterns.

What I found is that culture does impact education. Cultural values have Asians trying harder as students. Both culture and education are related to income and occupational status. As income increases Asians, and more gradually Hispanics, in Oklahoma City and Tulsa disperse to areas of better housing. Assimilation accelerates with their outbound residential movement. In geographical terms, what I found is that education, income, and assimilation increase with distance from older ethnic neighborhoods.

Two major assimilation models by M. G. Smith and M. M. Gordon are currently accepted. Smith believes that in the same society different groups will sustain their cultural values over time. Gordon believes that most cultural values will be sustained over time, but that some important legal and cultural norms will be adapted that will lead to greater equity between ethnic groups. My research supports Gordon's position.

Chapter 1

The Study

Since 1984 I have been teaching English as a second language in the Oklahoma City Public Schools. My students are mostly from East Asian and Latin American countries. The East Asian students are primarily Vietnamese and the Hispanic students are primarily Mexican. Altogether I have taught grades 6-12 (ages 11 through 21) at five schools.

In my teaching I discovered that there are points on which the Asian and Hispanic students differ. One is the greater academic success Asians experience in the separate schools regardless of their ages. A second is that Asian students change their residences faster as they move to more expensive neighborhoods. This came to my attention after seeing add/drop slips on entering and departing students. Asian families apparently earn greater incomes and thus can afford to live in more affluent areas.

I began to question whether these two phenomena, level of education and income, are linked. Does greater academic success really correlate with higher per capita income? Other questions naturally followed. Is there a cultural difference explaining the academic success between the two cultural groups? If so, how does culture play a role in academic success? What in the nature and genesis of culture leads to differences in academic success? And, does an advantage in education lead to an advantage in living in a preferred (or expensive) residential area? Can one form of advantageous behavior lead to other residential advantages that result in even greater economic inequity between these two cultures?

Research Questions

I address four basic research question in this dissertation. Is there a difference in educational achievement between Asian and Hispanic students? Does greater educational achievement lead to differences in economic outcome? Is there a difference in residential patterns? And, most important, are there behavioral factors influencing educational values that are associated with separate cultural development?

The Cultural Context

The cultural context identifies and addresses the behavioral differences between the two cultures and answers why culture has led to important differences in lifestyles. The first chapter establishes that there are measurable differences between Asian and Hispanic cultures in the United States in educational achievement (Gale Research 1993). I attempt to answer the following questions: Are there differences in Hispanic and Asian income and residential values in the United States? Are there cultural differences that influence economic growth (Boeke 1953)? Are there cultural differences in educational achievement and behavior (Ogbu 1989, Keith 1982)? It appears that economic development is highly correlated with education and educational accomplishment and can be correlated with cultural differences in behavior (Higgins 1968, Meir 1970, Myrdal 1972).

The Geographical Context

The geographical context of this study takes several forms. The first is the

geographical source areas of the two cultures studied. Vietnam and Mexico provide the historical background for the development of different cultural behaviors including educational behavior. Secondly, Oklahoma City (OKC) and Tulsa allow for the control of noncultural variables that may influence economic growth or educational success. Asians and Hispanics moved to OKC and Tulsa at about the same time and continued to grow in substantial numbers over a similar period of time. Noncultural factors impacted both cultures equally. Different residential purchases led to different settlement patterns after initial location in OKC.

The OKC and Tulsa geographical contexts are important because they seem to lead to several factors that influence the lives of those who come from two separate cultures. Different residential patterns lead to different opportunities, self-concepts, value reinforcement, safety, and coping behaviors within the society at large (Ley 1983). This is one of the most important points of the dissertation. When personal behavior (including that which is derived from a culture) leads to an advantage in society (income) that seems to lead to a residential advantage (higher quality residential neighborhood) economic and social inequity then became even more disparate. Education and income then have a way of multiplying their economic and social benefits. This seems to be true even if other factors impact social inequity as well.

Objective

My objective is to provide a framework to measure those factors that evaluate the questions posed above. The important questions are: Did the two cultures develop

differently in their educational values? What are the reasons for these differences in cultural values? What do these differences imply for residential values? Will differences contribute to even greater inequity over time?

Answers to several questions should shed light on the apparent differences between two cultural groups. They should lead to a better understanding of why inequity takes place between different cultures living in the same two cities.

Research Methods and Data

Information on cultural development comes largely from scholars who have investigated these two cultures. There is much material on Asia especially concerning cultural development. Increasing historical and anthropological scholarship is being produced on Mexico's history and recent cultural transformations. Enough material exists to make generalizations about the differences concerning educational values between these cultures.

Material concerning the Asians and Hispanics after they came to the United States rely heavily on statistical data especially from the United States Census. The dependent variables of income and residential values are easily derived from the census over several decades. Educational data come from the census and from educational surveys related to colleges and ACT scores. An important point associated with census data is that we can have different geographical areas of resolution. National and Standard Metropolitan Statistical Area (SMSA) data are available for the different variables. In this way I can determine how the OKC and Tulsa study areas relate to other areas of the country where these two cultures

are also present. I compare findings for OKC and Tulsa to the rest of the country.

Local educational data come from the OKC Public School District. Family characteristics are included in the analysis because there may be other explanations for educational behavior, such as the social characteristics of the family. Family characteristics including education and income level in the home country prior to immigration are used as controls on cultural influences on educational behavior.

My data are also derived from a questionnaire administered to determine different attitudes about the educational processes within the two cultures. The questionnaire asks my study group about attitudes towards education, attitudes concerning values that support the educational process, previous parental occupations, family characteristics, time in the United States, and locational change. These data link underlying differences in behavior associated with culture to behavior associated with education, income, and residential values.

The questionnaire also asks for information concerning noncultural factors influencing behavior. Parental occupation may reveal a class bias on the part of parents from one country over parents from another. This class bias may show that economic class is correlated with educational values. Measuring class indicators may show an influence more powerful than culture when determining educational values. Class differences and time in the United States may reveal variables that are just as important as cultural variables when analyzing educational values.

Dissertation Organization

Chapter 1 introduces the study. Chapter 2 discusses cultural development especially

as it pertains to ethnic pluralism in societies, the importance of residential location, and the establishment of educational values in a culture. Chapter 3 discusses the links between personal behavior and economic development and in particular addresses the importance of education in economic development. Chapter 4 reviews the educational values of Asian culture and Chapter 5 does the same for Hispanic culture. The first five chapters necessarily rely heavily on the prior work of historians, economists, anthropologists, educators, and geographers. Chapter 6 addresses data associated with Asians and Hispanics at the national level. Population, education, income and real estate data are presented. Chapter 7 has the same data categories for local levels for Oklahoma City and Tulsa. Survey data gathered by questionnaire are presented. Chapter 8 offers conclusions and research implications. It also discusses the contribution of this research in bringing together the several fields of study including the geographic perspective on ethnic pluralism.

Contribution

This research contributes to the field of social geography and its subarea, ethnic pluralism. The research context makes the questions and conclusions of this dissertation part of a larger geographic field of study. An economist in the British colonial service, J. S. Furnivall, who served in South Asia after the turn of the century, developed the concept of "ethnic pluralism." Furnivall's idea, gained from his experiences in South Asia, convinced him that different ethnic groups occupy separate economic niches in society. These niches are reinforced by law, social relations, and—in the end—geographic residence. The different ethnic groups may cooperate economically during the day, even occupy the same

market place, but otherwise they go there own ways, occupying separate neighborhoods and experiencing social relations that reinforce their positions in society. In time this complex of relationships enhances social and economic inequity. A group of geographers under Paul Paget at Jesus College, Oxford, took up this line of reasoning and decided to investigate residential place, social relations. economic activity, and ultimately social and economic inequity. These researchers include David Ley, Ceri Peach, Colin Clarke; they consider the social inequity associated with ethnic pluralism to be one of the great sources of conflict in the world.

This dissertation examines the impact of social values, in this case educational values, on economics. residential location, and in time social inequity. Social inequity is influenced by the values of ethnic groups through the process of education, economic activity, residential location, and social relations. Educational values contribute to social inequity. It may be established, then, that ethnic groups do not have a passive status in the development of social and economic inequity. Pluralistic values may lead to unequal economic and social outcomes. In an effort to cope with social inequity, it seems important to take into account the values of the different groups that impact economic development.

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Chapter 2

Cultural Differences and Education

An important reason for socio-economic inequity seems to be the impact cultural behavior has on education and the subsequent influence education has on economic development. In this chapter I define culture and ask the following list of questions that corresponds to sections in the chapter: (1) How are culture and learning related? (2) How do humans learn? (3) How does the transmission of culture take place? (4) Are there learning differences between cultures? (5) Are there cultural differences in method and perception of formal education? (6) What are the advantages of method and perception in relation to formal education? (7) What is the impact of differences or advantages in formal education on technology and problem solving? After reviewing the answers I address the educational differences between cultures and the impact on economic development. Ultimately my answers identify a new set of relationships that more accurately explain social inequity.

[1] Culture and Learning

Culture is one of the most defined words in literature. Pitman et al. (1989) offer a definition that includes many of the most common elements people associate with culture: culture consists of patterns of relating, knowing, believing, and surviving that each particular human community has constructed through the process of choosing from and reconfiguring available options. These patterns differ because each particular community has selected its

own options. Perhaps they are similar but often their chosen options are different and they change with the borders of different communities. This is particularly interesting since the universality of the biological substrate is the starting point for our research on learning culture.

All people have the biology of learning in common, but the way they develop their methods learning is different. We "choose" from our available options quite differently. My contention is that the non-biological aspects of learning are cultural. We choose different "cultures of learning" that will have implications for the development of the rest of our culture. Culture is derived from the Latin noun *cultus* (education or training). Culture originally meant behavior that was learned. It is my view that the different methods of instruction and training in different communities should be studied systematically. This should help to understand the differences in educational behavior between communities and the impact that this may have on socio-economic equality.

Anthropologists view the regularities of behavior manifested in custom and belief as the culture of a people (Kimball and Burnett 1973). Some behaviors of a people are common to others within their community. The societies outside of that community will also have a set of customs that may be shared within their communities. The important point is that there is a regularity of beliefs and customs in a community that is part of a larger system of customs. These various regularities of beliefs are called culture and are learned.

The importance of this regularity or culture should then be examined. Each specific culture constitutes a kind of blueprint for all of life's activities (Kluckhohn 1962). This does not mean that all people in a culture will behave in exactly the same way. There is a kind

of common behavior that is stressed in one culture and not in another. That behavior is more likely to appear in the culture that encourages it. Culture regulates our lives at every turn. From the moment we are born until we die there is constant pressure on us to follow certain types of behavior. This influence of culture is important to us and important in examining differences between groups of people with different cultures. It does not, however, explain all behavior. Some of our behavior is independent of culture.

If culture is so important what is its source? In anthropology the idea that culture is learned is axiomatic (Pitman et al. 1989). The young learn from the old who already have an established set of beliefs. Humans learn culture as a set of beliefs and behaviors approved and developed by the community they live in. In fact, *Homo Sapiens* differ from other forms of animal life in a crucial respect—namely, their capacity for acquiring and transmitting culture (Kimball and Burnett 1973). Humans not only learn culture and they are special in that regard.

Humans are the only specie that transmit behavior from one generation to another by transmitting culture. They have another distinction in that they are the only organisms that transmit experience by symbols. Only man possesses the tools that permit him to transmit experience in symbolic form (Kimball and Burnett 1973). This is a characteristic that separates humans from animals, but it is also a means by which we can distinguish one culture from another. Not all cultures will include the use of symbols in their transfer of experiences (learning) to the same extent. Some cultures will use symbols (words, numbers) to a much greater degree than others. This will be an important determinant in how one culture passes on behavior and knowledge to its newer members. Over time the difference

between cultures and their use of symbols may increase. It is my contention that as the use of symbols increase in the transmission of culture and knowledge there is considerable increase in the speed and the amount of information transferred. The difference between a culture actively engaged in using symbols and one that is not may have serious implications over time.

Group Learning

Why is learning in a group important? Adaptation is by group not just individuals (Pitman et al. 1989). A person does not go out on his or her own from the day he or she is born to learn the best way to survive alone in the world. Therefore, it is within the group that both direct individual learning, in interaction with the environment, and the passing on of group traditions occur. Even if direct individual learning takes place in contact with the environment, it takes place within the context of the group experience. Most of the rest of what is learned in a child's life comes from the shared cultural expressions of the group. The group of people immediately around an infant or young child is its most important influence.

The group's influence on a child takes place in two different ways. According to Durkheim (1938) social facts influence individuals in two distinct ways: on the one hand, as customs, rules and traditions (for instance religious and professional practices), and on the other, as social "currents"—in effect public opinion—which influence rates of social participation as in marriage rates, divorce rates, birth rates, and suicide rates. Social facts in this second sense are none other than collective "representations," the collective mind (Musgrove 1982). From infancy on the group surrounding a child influences its learning by

observations, of the world around it. What a child learns can not easily be separated from what the group has learned before the child's birth. What the group has learned over generations has resulted in the culture that now provides the group with its beliefs, knowledge and perspective.

Individuals learn in a way that is dependent on the group and yet is generally independent. They learn by instruction and observation. Instruction comes from those within the group—family, peers and other group members. Learning also takes place by observing independently the physical world or by observing group members and their behavior. In time, the individual members' independent observations will be more and more influenced by group behavior, all of which is culturally based. Their perspective on the physical world will be filtered by their adaptation to their own culture. To understand this process we must learn more fully how humans learn with particular attention to individual processes, group processes, or cultural and non-cultural processes. The important questions are these: To what extent do humans learn on their own? To what degree are they directed or influenced by others who have their own established behavior and goals?

[2] How Humans Learn

There is no universally accepted theory on learning. Researchers are aware of many aspects of learning but it is tempting to concentrate on one important part or make very general statements. I begin with a general statement about the human organism, culture and the environment. The problem is to formulate a learning theory that can account for the process of enculturation—the relation between the human organism, its characteristics, and

culture viewed as environment We shall gain an inadequate and distorted solution, however, if we assume that either organism or environment are constants (Kimball and Burnett 1973). Neither the organism nor the environment are static. Through the various stages of life the individual changes and in that time the culture or physical environment can also change.

For humans, as for other primates, instructive and formative activity constitutes a very minute part of the learning process. Instead, the major forces "shaping" children and young people in the process of culture acquisition are the same as those that shape or direct all learners, namely, the structures and process of the entire socio-cultural life going on around them (Pitman et al. 1989). Even though I question whether instructive and formative activity is a "minute part of the learning process," the second point concerning "holistic" learning I very much accept. I believe that learning includes all forms of observations, not just the organized and directed form of learning. A major point of this research is that the "instructive and formative" aspects of learning vary in importance with each culture. Ultimately this variance will have an enormous impact on what individuals and culture groups learn.

Two points about human learning are very important: the process is universal, and the method of learning is standardized. The model that I propose rests on the assumption that all humans learn in the same manner—that is, according to a fairly standard set of biological templates, the process by which humans learn is universal (Pitman et al. 1989). If this is true we must understand why people learn behavior differently around the world. If the method of learning is the same why do differences in learning form a pattern that varies according to culture groups?

The answer to this question requires an examination of two of the major characteristics of learning in early childhood and the social patterns of learning. Youthful learning and social learning set the standard for life-long learning. The first, youthful learning, is well established in the literature. When educational anthropologists turn their attention to the patterns of culture, they concentrate much of their research and theorizing regarding the process of pattern formation on the earliest experiences. As observers of human communities, groups and behaviors, it is obvious that learning does and must occur at least in childhood (Pitman et al. 1989). Social learning, moreover, has a considerable foundation that may lead observers to believe it is one of the most important aspects of learning. At birth, infants prefer human speech sounds to sounds made by inanimate objects (Pitman et al. 1989). This would imply that infants have some capacity to learn from other people and would even prefer to do so over its own explorations of the rest of the world. Taken as a whole, the recent literature on infancy suggests that human beings do not become social, but are social from the start. They possess a nervous system that is sensitive to multimodal information, that is geared toward processing social stimuli, and that enables them to participate in reciprocal relationships at a very young age (Pitman et al. 1989). The young begin learning from the start, it is socially based, and it is the most important learning they will engage in for it is the basis of all future learning. An enormous amount of learning takes place in infancy and it is dependent on the behavior of those around them. I conclude that around the world the beliefs and culture of a group will be transferred to their children by these two processes.

This universal process of early social learning is a pattern that encourages learning

from other people. The behavior and beliefs of others, therefore, become very important to the infant. This may be a very beneficial process: The learning of traditions provided within the social groups is superior to individual learning if the new behavior is difficult to acquire individually (Pitman et al. 1989). Direct group learning is very efficient compared to the trial and error learning in contact with the environment. This does not suggest that direct learning from the environment does not happen. It is within the group that both direct individual learning in interaction with the environment and the passing on of group traditions occur (Pitman et al. 1989). The group, therefore, exerts an influence on direct individual learning and through the environment and collective social interactions. The implications of the dependence on the group for learning behavior is clear: variations in social structure lead to individuals with differing behaviors (Pitman et al. 1989). The differentiation in cultural behavior around the world can therefore be traced to the dependence on the group for learning and early social processes.

Man and Primates

Some biological evidence supports the idea of the importance of social learning. The study of primates and the studies of the learning process in the brain encourage the idea that humans are heavily dependent on social learning. Homo Sapien is genetically adapted for educability, as are all primates. Monkeys, apes, and humans evolved in complex environments and developed strategies to learn. Learning, in other words, was "selected for in an evolutionary sense" (Pitman et al. 1989: 1). Learning is important for primate survival and it is most important to learn from others. Some species rely on instinct, some learn on

and it is most important to learn from others. Some species rely on instinct, some learn on their own. but primates, mostly, need to learn from others. The social group that primates live in has an important collective knowledge that must be learned over time and cannot be learned on one's own. Knowledge is gained from many, including the generations that have passed their knowledge on to the present generation of teachers. Without this accumulated knowledge primates could not survive.

Pitman et al. (1989) conclude that there are four major forms of primate learning: observation, modeling, social experiences, and play. These first four forms of learning are important for humans, at least earlier in life. The social aspects are evident. All four forms require that someone be with the child. Pitman et al. (1989) state that the entire life of the troop is an environment which the young or juvenile members must test and learn to live with.

These assertions lead some to believe that the early years of human and primate development have been neglected by comparison to school years (Pitman et al. 1989). I hope to show that whatever has been discovered about primate learning and the holistic learning of culture and behavior will establish an attitude or capability towards schools that varies between cultures. This will help to explain the reason for different performances in schools by different cultural groups.

This relative neglect is not surprising when we consider the western cultural biases that value work, and therefore school and dismiss watching, emotion and play as appropriate for scientific study. These pervasive biases have been extensively commented upon. These biases lead to an exaggerated emphasis upon schooling (Pitman et al. 1989). Whatever my

the assertion that some forms of cultural development are more likely to encourage success in schooling.

How the brain responds to learning is important. Two distinct forms of learning can be identified, the corporeal and abstract. The corporeal relates to the physical or material body. The abstract is separated from material embodiment: it is apart from an application to a particular object or specific instance. The human mind incorporates both kinds of intelligence. A computer, on the other hand, can not integrate the abstract with the corporeal. The computer does not take in sensory information and relate it to some form of contemplation or calculation. In fact the more information a computer contains, the slower it operates, whereas the more information the human brain contains, the more efficiently it seems to work (Pitman et al. 1989). The human mind needs more information so it can make "sense" of the world and know how to place new information in a context of increasingly interrelated stored information. Information from the corporeal sensory world is very important. It is the foundation for knowledge that it will later add on to in more abstract forms such as speech, literacy, numeracy and meditation.

Another important facet of the brain's capacity to learn is processing time. Processing time is the time needed for information to "stay" in the brain for easy recall and not be forgotten. The lengthy processing time apparently required for long term storage is surprising (Pitman et al. 1989). Those things we experience once are not very likely to survive in our long term memory. Repeated experiences have a much better opportunity to be remembered. The research reviewed here suggests that a permanent alteration of the human brain may require a good deal of environmental/experiential redundancy. One of the

implications is that we tend to grow to like the things in our surroundings more with the passage of time (Pitman et al. 1989). Repeated exposure to the behavior of those who live around us leads us to feel more comfortable with and desire that behavior for ourselves.

There are two important considerations for the way the brain learns. The capacity for corporeal and abstract learning is available to the brain as well as the ability to integrate these two forms of learning. The other important point is the need for redundancy in permanent learning. Therefore the repeated behavior that happens around young children will have a disproportionately important impact for the rest of their lives. The behavior around children tends to be the regular and repeated behaviors of a culture. For young people repeated experiences eventually become incorporated into their behavior. We need to remember that we have a long way to go to fully understand the process of learning (Kimball and Burnett 1973). Researchers should, however, take advantage of what we now know and apply it to a better understanding of cultural learning.

[3] Transmission of Culture

Culture transmission and acquisition are terms used to describe cultural transfer between generations. Transmission implies a conscious effort by adults to transfer accepted behavior to new members of a culture group. Acquisition places more responsibility for learning on the child. These distinctions make little difference in this discussion. Both adults and children will have responsibility for cultural transfers that will take place by processes discussed below. Discussed above are some important fundamentals: culture and its creation, learning and its help in creating culture, and the way humans learn. I can now

develop the specifics of the transfer of culture and its implications: early life, repetition, multi-cultural, and multi-modal learning.

Most discussions of cultural transmission begin with childhood. Some contemporary views place increasing attention on the importance of later years in cultural transmission. Still the focus on children seems logically correct and scientifically warranted (Pitman et al. 1989).

Do children learn primarily on their own or from others? Because even very young infants are social organisms (Pitman et al. 1989) we may conclude that their tendency is to learn from others. Contemporary behaviorists hold that the infant becomes social because he/she is uniquely sensitive to contingency relationships (Watson 1979). The basic reason why infants respond more to people than to objects is that people respond to infants' behavior. Reciprocal activity is the basis for social learning and makes the child much more interested in this form of learning than in observing non-reactive objects. From the very beginning of life children like social learning and the behavior they gain from it. Scholars now believe that it is impossible for the human infant to achieve full humanity in either an organic or symbolic sense outside of a cultural environment (Kimball and Burnett 1973). Evidently children both want social contact and need to learn the cultural behavior that will sustain them through life. In this way they can grow into normal functioning human beings. The cultural world into which each individual is born and comes to maturity provides him with a conceptual framework which permits him to organize his experience in a meaningful manner (Kimball and Burnett 1973). From a child's desire to have a responsive relationship with people, social learning will perpetuate a life-long cultural pattern.

The early life of a child begins the process of learning culture, mostly through interactions with people around him. This process is on-going almost from birth. What are the actual links by which behavior transfers from one set of people to a new learner? It would have to be a process for a non-verbal child and still be able to influence the learner in adulthood.

Instruction and schooling are important methods of learning. But, people who never go to school or hear a lecture from their parents will learn culture. Children absorb through their senses, relationships, and behaviors that are revealed at once, not in a step-by-step sequence. Junior members of a society or a social group learn whole cultural patterns within the context of every day life (Pitman et al. 1989). This is usually referred to as holistic learning. The parts of everything one perceives are not fed piece by piece and then summed at an appropriate time. Rather the whole is fed to a person at one time in one sensory swoop. It is up to the individual to work out the meaning of all of the relationships observed. "The holistic perspective focuses on complete systems in which the components interact . . . Patterns are acquired, and maintained in interaction with the whole event . . . What is learned is not items of information or behavioral traits, but a set of relations," (Pitman et al. 1989: 7). In a sense a child absorbs a culture. He/she does not dutifully memorize it bit by bit.

Later on in this work the importance of formal and deliberate schooling will be advocated. The transmission of cultural behavior, including that behavior impacting the success of formal education, is more likely to be learned earlier in life in a holistic pattern. The reality of the learning process, then, must be viewed in the context of the total social arrangements and cultural practices that constitute education and the environment in which

arrangements and cultural practices that constitute education and the environment in which it operates (Kimball and Burnett 1973). Different social arrangements and cultural practices will provide different results in an organized educational setting. Later I will explain the implications of these cultural differences and their education results.

Some studies of nonverbal and nonconscious learning support the idea of holistic or sensory learning. In recent years a number of studies demonstrate that nonconscious learning is both possible and unavoidable (Hasher and Zacks 1979). Learning takes place even without the effort of the learner or teachers of culture. The young repeatedly see how people behave. They tend to recognize common behaviors and react similarly to get a desired response. Anthropologists have always known that many kinds of cultural knowledge are transferred from one generation to the next without conscious intent (Pitman et al. 1989). The transfer of unconscious behavior can be seen through comparative cultural studies. Two cultures in similar circumstances will receive different information through unconscious means. Ogbu employs a comparative structural approach to show how observation and the resultant knowledge of social facts of life teach ghetto children a different lesson about the job ceiling for blacks in the United States (Pitman et al. 1989). Comparative cultural studies of this kind may reveal that different cultures in the same location get different unconscious signals. Multi-cultural studies may help us to distinguish the different perceptions by cultures in the same area.

Multi-Cultural and Multi-Modal Learning

Human learning is a multi-modal, constant and social process (Pitman et al. 1989).

It can also be multi-cultural. Social learning is not limited to personal interaction. Human propensity for culture and for the use of language as a vehicle for socialization enormously expands his adaptive capability (Kimball and Burnett 1973). Non-verbal social cues have been emphasized earlier as an important part of social cultural learning but there are other modes of learning including verbal symbols.

An important point in the developing cultural life of a child is the possibility that multiple cultures can be mixed in one area. It is possible, therefore, that a child may have more than one mode of learning and more than one culture to learn. Cultural transmission does not ordinarily take place in a homogenous setting (Kimball and Burnett 1973). Even though the complexity of cultural learning seems to be increasing, at least one author is not concerned as long as those relationships are tolerant, accepting and peaceful. Then children may simultaneously learn, and learn to keep situationally separate, two or even more than two cultural systems (Kimball and Burnett 1973). There may be an advantage to this abundance. If different cultures are in the same area it may be possible to see how these cultures react to the same stimuli. If there is a difference in reaction to the educational stimuli in an area, one may conclude that there is a difference in learning taking place between the two cultures. Major social cultural questions about culture acquisition-transmission are best approached through ethnographic study through the perspective of multiple cultures (Pitman et al. 1989). This perspective is the foundation for my research in this thesis.

Repetition

The subjects of early life, holistic learning, nonverbal, multimodal and multicultural learning all make a contribution to understanding social learning. The most important topic may be the need for repetition in the transmission of culture. Studies of people with lesions in the temporal lobe suggest it takes a surprisingly long time for a particular memory to become "permanent." Although the human brain is biologically designed for plasticity, it may be that neurological stability can be achieved only through environmental redundancy. Therefore ordinary every day repetitive background stimuli may be just as significant as the infrequent rites and rituals upon which we tend to focus our attention (Pitman et al. 1989). The human mind may be capable of creativity and search, but apparently observations take the largest share of credit in learning. The experiences that are repeated will have an advantage in providing knowledge and establishing behavior in an individual. There is a connection between the simple routines of life, such as those which are used in the case of infants, and the overarching conceptualizations which give meaning to behavior (Kimball and Burnett 1973). These redundant experiences will have a particularly powerful impact on the young. Subsequent behavior will also be related to those deep-seated experiences. Different experiences will likely produce different behavior and a different meaning to a child's behavior. These observations are related to earlier comments on long-term memory and the need for redundancy. Short-term memory loss removes those things considered less important, a kind of pruning of the mind. Those who repeatedly practice culture transfer the components of culture to the next generation. This process also transfers a sense of comfort and familiarity to the young recipient.

The importance of redundancy is that it will lead to a different world view. The daily repetition of the simple routines of life leads to different psychological and social results as a child grows to an adult. The direction and pattern of subsequent stages of development have already been set by the distinctive mold of cultural environment. This pattern will be extended and strengthened as the individual moves through childhood (Kimball and Burnett 1973). The significance of this world view is that it colors every experience in a way common to a particular culture and the world view gives members of each specific society their distinctive perspective (Kimball and Burnett 1973). Any set of circumstances occurring to individuals from the same culture will, within limits, probably give rise to similar behavior due to similar perceptions. This can be seen more clearly as individuals travel far from their home culture or, if two very different cultures, occupy the same area. Culture is not the only reason for behavior but it is a very powerful reason for like behavior in a culture group.

The power of the repetition of experiences to transmit and reinforce cultural behavior is considerable. The repetition of experiences is also responsible for a seemingly contradictory phenomenon, the ability of individuals to adapt to other cultures besides the one inherited from the individual's family and immediate society. We can introduce this concept by acknowledging the idea that culture itself is changing. Change is continuous, and a people, in the sense of a continuing group, may exist as a social and political entity beyond the time at which it stops practicing the definitive traits of the culture of its ancestors (Kimball and Burnett 1973). The change happens because of external or internal forces. Internal forces may be emergencies, stressful conditions, or new discoveries. External forces

causing change may include conquest, religious proselitizing, trade, or immigration. A child will have to learn these changes even as he/she matures. The repetition of experiences will have to be modified as time passes to incorporate new cultural behaviors. Learning a cultural tradition is not dependent on cultural origin, but the structural conditions affecting the relationships between and among the social groups which carry the traditions. As children learn from a changing culture they may also be simultaneously exposed to other cultures and be allowed to go through repetitious situations in the same way they learned their own culture. A child can learn two cultures at once by having different sets of repetitious experiences.

Repetition is responsible, therefore, for the initial learning of a child and the transmission of culture. It is also responsible for the adaptation to new or changing cultures thus allowing for growth and variety in societies.

The importance of culture should be emphasized. Human beings need two things to become adults: (1) organic growth and (2) learning culture. The evolutionary process within a community favored the appearance of a species that joined organic development and cultural learning as essentials for adult maturation (Kimball and Burnett 1973). Maturation depends on a community and its culture. Whether cultural transmission takes place in one's own community or, in part, comes from another community and culture, makes little difference. A person must learn from some community.

[4] Differences in Learning From One Culture to Another

Culture is both influenced by formal education and influences attitudes towards

education. The relationship between culture and education is, therefore, very important. Some claim that formal organized education has little influence on culture (Pitman et al. 1989). In their view holistic learning weighs heavily in the transmission of culture. Others, however, believe that education plays an important role. Wilson (1973) has cataloged different types of education. Their role in the transmission of culture helped to catalogue them. Education may not be the principal means of cultural transfer but it is important enough to be used as a measure of classification between cultures.

Comparative studies will help us understand the relation between education and culture. There are cultural studies that show the differences in rearing infants, their means of cultural learning, and the relation to education. The relation to education will consider two points: the type of education developed and the emphasis a culture places on skills associated with formal education.

Previous sections have concerned culture formation, learning and the transmission of culture. Much of this work was speculation or based on empirical evidence with groups of people that had similar cultural characteristics. The evidence examined in this section includes different cultures observed under similar circumstances. There are several sub-sections in this section. Most of the observations in these sub-sections will address learning in the early years in compared cultures. The first sub-section will be entitled childhood and learning, then adult-child relations, guided participation, observation and guidance, symbols, abstract thought, relations with people when learning and the summary. All of these observations and comments will be made from the perspective of cultural comparisons. From these several comparisons, generalizations will be made about learning in different

From these several comparisons, generalizations will be made about learning in different cultural settings.

Childhood and Learning

The following statement underlies this entire dissertation. Communities differ in the skills they consider important (*e.g.* reading, weaving, sorcery, healing, managing people) and approaches valued (*e.g.* individual achievement, speed in performance, interpersonal harmony) (Rogoff et al. 1993). These differences separate people, bring abundance to some and despair to others. They may also bring tension and suspicion to different people. Because of this principle, each cultural system requires a distinct learning theory (Kimball and Burnett 1973). Recognizing contrasts and similarities will help us to identify the component parts of cultural learning more clearly. For example, some researchers discovered differences in performance between a majority and minority culture in a school setting. They described the performance difference as cognitive learning, and linguistic behavior, it is evident that similar arguments could be made for transferring motivational and social behavioral skills (Gallimore et al. 1978). This is an important recognition of the differences between cultures. Each community's valued skills constitute the local goals of development (Rogoff et al. 1993). Under normal circumstances this pattern will be extended and strengthened as the individual moves through childhood (Kimball and Burnett 1973). Cultural goals and values are different and increase in importance and influence as an individual progresses through life.

Adult-Child Relation

One means of comparison is to observe one of the most important relationships in the socialization process of a young child, the adult-child relationship. Efforts to aid in learning may vary in terms of the child's responsibility to observe and analyze the task versus the caregivers' responsibility to decompose the task and motivate the child (Rogoff et al. 1993). These are entirely different roles and may result in very different attitudes towards educational institutions that emphasize a teaching method similar to a particular parents' role. There appears to be striking cultural differences in the means available for children to observe and participate in culturally important activities. These differences relate to variations in the explicitness and intensity of verbal and non-verbal communications and the interaction status of the children and adults (Rogoff et al. 1993). The differences may be an explanation for the variation in success of some cultural groups in formal educational institutions. Teachers and students may be used to very different adult-child relationships. Caudill and Weinstein (1970) demonstrated the importance of the pattern of child care in shaping the responses of the infant to its environment. This pattern expresses in subtle ways the world view of the caretakers (Kimball and Burnett 1973). The world view is apparently passed on to the child through the adult-child relationship. This world view will undoubtedly effect the attitudes and expectations children have towards educational settings. The world view that dominates the design of the educational system will likely favor or feel more comfortable to the child raised with the similar world view.

Guided Participation

Another socialization process is guided participation. This is when the adult observes the child and decides when to take action and direct the child's activity. We believe that the processes of guided participation are widespread across differing cultural groups (Rogoff et al. 1993). The decision when and how to participate varies between cultures and helps establish a pattern for later learning. Cognitive development involves children learning from their participation in joint problem solving with more skilled partners, who bring the mental tools of society to their children (Rogoff et al. 1993). In this way parents transfer what and how they know things to the child. Seeking shared meaning is in the nature of human communication. From the earliest interaction infants are involved in the sharing of meaning (Brazelton 1983). The important thing to remember about these points is the universality of interactions, the sharing of meaning, and the variability of these qualities between cultures. As a specific example Gusii (Rogoff et al. 1993) mothers gave their 6-36 month old infants the responsibility for learning. They used clear advanced organizers in instruction, often modeling the expected performance in its entirety, and appeared to expect the task to be completed exactly as specified if the child attended to it. This method was contrasted with the efforts of American mothers, who took the responsibility for teaching and making the babies learn. They concentrated on arousing the childrens' interests and shaping their behavior step by step, providing constant encouragement and refocusing (Rogoff et al. 1993). The important point in guided-participation is the amount of observation engaged in by the child and the guidance provided by the adults.

Observation-Guidance

This area of analysis can be divided into a Western and Nonwestern generalization of how parents interact with their children. Guided participation is concerned with the adult's observation of the child and the decision to intervene or not intervene in the child's activity. Observation-guidance also differs between cultures. The means of communication are linked between adult-teacher and child-learner. There are two contrasting means of communication at work. One is conversation between adults and children compared to action-communication with status differences. The other is children entering adult activity without intermediate steps versus adults sharing (Rogoff et al. 1993). The different methods used to raise children come directly from their parents valued skills. These values are provided by their culture and will give children certain skills in learning that distinguish them from children in other cultures.

There are examples of cross-cultural comparisons that reveal differences in observation and guidance procedures. United States middle class mothers consider it part of their role to play with their children—all eight of the Salt Lake City mothers reported that they and the childrens' fathers often play with the baby—seven of the eight Mayan mothers reported that neither parent played with the children (Rogoff et al. 1993). Beyond play here is another cultural difference, verbalization, that marks a distinctive variation in cultural learning. Researchers contrasted two cultural patterns of speech between young children and their caregivers. In middle-class United States families, caregivers simplify their talk, negotiate meaning with children, cooperate in building propositions, and respond to verbal and non-verbal initiations by the child. In Kaluli, New Guinea, and Samoan families,

caregivers model unsimplified utterances for the child to repeat to a third party, direct the child to notice others, and build interaction around circumstances to which caregivers wish the child to respond. This points to the difference in adults adapting to children versus children adapting to adults (Ochs and Schieffelin 1984). In general research has provided these differences: proximity, help, direction, adaptation, the child's need for observation and verbalization between old and young.

What is the concern for these cultural differences in learning? It is likely that infants and children that learn one way will find it difficult to learn another way as they grow older and go to formalized learning institutions or schools. These institutions may provide instruction in an entirely different cultural context than the one a child is familiar with. Secondly, it may be more difficult to learn something in a particular cultural pattern. The dependence on observation in learning, even in late childhood, may be great. In one cultural example, children seldom ask adult questions (Heath 1983). Learners questions to a teacher may be regarded as impolite challenges in that they involve a subordinate obliging a superior to respond. This exchange implies that the subordinate has a right to hold the superior responsible for the information requested, as observed in the apprenticeship of Gonja youths learning to weave (Goody 1978). There are examples, however, in other cultures that observation can indeed be an effective learning method. Rather than using questions and explanations in learning, observers may be skilled in learning by watching, sometimes without hands on participation (Nash 1967). The method of learning to use the foot loom in a weaving factory in Guatemala is for the learner (adult) to sit beside a skilled weaver for a period of weeks simply observing, asking no questions and receiving no explanation

(Rogoff et al. 1993). Some may consider this a slow process that limits potential learning but it is effective and used in many parts of the world. Whether it is effective in teaching all forms of knowledge or effective in comparison to other cultural forms of learning, such as literacy, is subject to further research.

Symbols

One factor that may have the greatest implications when considering cultural differences is the development of literacy skills. Skills for the use of cultural tools such as literacy begin to be practiced even before children have contact with the technology in its mature form. Middle-class United States parents involve their children in 'literate' forms of narrative in pre-school discourse, as they teach their children in a way of life in which reading and writing are integral to communication, recreation, and livelihood (Cazden 1988). These skills begin with the development of verbalization skills in infancy. An emphasis on explicit, declarative statements—in contrast to tacit, procedural and subtle forms of verbal and non-verbal instruction—appears to characterize cultures that promote Western schooling (John-Steiner 1984; Jordan 1977; Rogoff 1981). The difference between talking to children and communication in other forms has long been investigated by researchers. The emphasis of western researchers on talking as the appropriate means of adult-child interaction may reflect a cultural bias that overlooks the information provided by silence, gaze, postural changes, smells, and touch. Middle-class United States infants have been characterized as 'packaged' babies who do not have direct skin contact with their caregiver (Whiting 1981). Even the nature of verbalization is different. Western children

tend to respond in more complex sentences. Most Salt Lake City caregivers used many sentences, whereas most Mayan caregivers spoke few sentences and some spoke none (Rogoff 1981). This contrast between cultures can be confirmed in other studies. In the twelve cultural groups they studied, the United States middle-class mothers ranked highest in sociability with children—interaction in a friendly, playful or conversational way, treating children at times as status equals—whereas in the other communities mothers stressed training or nurturant involvement with children, maintaining authority and dominance with respect to children (Whiting and Edwards 1988). In other studies there was a lack of verbalization even among older children. Working-class black Carolina adults did not see young children as conversational partners. Because children were not seen as information givers, they were not asked test questions for which adults already had an answer, such as questions of fact or detail (Heath 1983). The implications for learning in later years have also been examined. In the Salt Lake City study the parents verbalization and status relationship with the children are in the classic question-response evaluation sequence that (Mehan 1979) has documented as teacher student discourse in the classroom (Rogoff 1982). Apparently the western method of raising children leads them to a kind of learning that will be employed later in western classrooms. Nonwestern children are used to a kind of learning they will not see in classrooms later in life.

Abstract Thought

How people learn varies between societies just as what people learn. We have already learned from (Cazden 1988) that different skills are taught between cultures. These

skills, however, may be more than just chance or random choice, they fit into a larger society that reinforces the training of these skills. In western societies what one learns is less important. The approach is not so much to learn a specific task but to learn patterns of thought. Schools will take learning out of embedded contexts and promote powers and habits of abstract thought (Musgrove 1982). This is a very different skill from mimicking tasks and can become a very powerful ability. An individual can take observations and provide an answer to problems based on previously learned patterns of thought or generalizations. The person searching for answers may never have seen anyone solve a particular problem before. With the help of abstract thought one may even provide a solution no one else has thought of. The difference in learning skills and learning about subjects out of context provides an important dividing line between cultures. A difference that can not be easily overcome in later life.

Relations with Other People

This topic refers to people other than parents that are close to the children and who provide learning and cultural cues. These people will become increasingly valuable over time in developing a child's learning behavior. This culturally dependent learning behavior will account for much of the learning activity in children's lives. Individual development is dependent on interaction with other people in activities involving societal values, intellectual tools, and cultural institutions (Rogoff et al. 1993). The interdependence of children and their social partners may account for children's rapid development as participants in the skills and understanding of their community, whether it involves learning to weave or to read, to

take care of livestock, or young children, or homework (Rogoff et al. 1993). These differences will have a greater or lesser correlation to school environment. The closer their behavior is to that expected by teachers and staff in schools the greater their chances of school success.

Summary

This section provides important elements of the research. Because of the many differences in culture there will be differences in the way people learn. There will also be advantages and disadvantages in learning as it relates to formal educational institutions. The different reactions to educational institutions will lead to knowledge and behavior that in varying degrees contributes to economic development. The variation in rewards associated with economic development in large measure stems from the cultural differences identified in this section.

[5] Method of Learning and Perception of Formal Education

We have seen that societies differ by encouraging different skills and ways of learning. How do societies differ in their view of learning as a process, especially methods of learning and perceptions of appropriate learning? Some points have already been covered; there are differences in literacy, cognitive learning, observation, guided practice and learning out of context. An important remaining question is how do they relate to formal education? Formal education in this context means specialized long term education outside of a kinship network.

Why do different patterns of learning and their distinct sets of valued skills develop independently of one another? Patterns of learning tend to develop in relation to their particular social cultural context (Kimball and Burnett 1973). Each pattern can be traced to the social relations and the historical development of its parent culture. Learning patterns can not be extracted from this process. Children accept a certain way of teaching and learning that derives from and remains a part of their culture.

An illustration of social patterns leading to learning patterns would be the changing relation of education, culture and technology changing as each element in this triad changes. If one element changes the other elements must also change. The process begins as follows: Technology is regarded as that part of culture which is most immediately involved in the adaptive process between man and his environment. If technology is not the primary determinant of the other sub-systems of a culture as White (1959) has strongly argued, it at least sets definite limits upon the range of variation possible for society and ideology (Wilson 1973). This principle establishes a relationship between technology and the culture of society. Each culture level is also associated with a new emergent type of education. Each higher cultural level is associated with more types of education than the immediately preceding level (Kimball and Burnett 1973). As culture levels change so will the types and methods of education. In summary, "If technology is the primary means by which man, through the use of objects (e.g. tools) adapts to his environment, then society is the primary means by which human relations are organized to carry out this adaptive process" (Wilson 1973: 213). The linkage between technological change, social or cultural change and the subsequent education that supports social and technological change is circular. It continues

to go on encouraging additional change. As suggested earlier changes in technology leads to new social patterns, which lead to changes in educational patterns. This indicates a mechanism for the further differentiation of cultures around the world. Different cultures are at different levels of technology, social, and educational relationships.

There are also different reactions to educational institutions in different cultures. Does child rearing vary so much by culture that later behavior in school can be attributed to cultural child rearing practices? Some researchers have concluded that this is the case. The research by William Caudill and his associates demonstrates the importance of the pattern of child care in shaping the responses of the infant to its environment (Caudill and Weinstein 1970). This pattern in turn expresses in subtle and persistent ways the world view of the caretakers (Kimball and Burnett 1973). In a specific case comparing Japanese and American babies Caudill and Weinstein (1970) concluded that the relative conception of the infant would seem somewhat different in the two cultures. In Japan, the infant is seen as a separate biological organism which from the beginning, in order to develop, needs to be drawn into dependent relations with others. In America, the infant is seen more as a dependent biological organism which, in order to develop, needs to be made increasingly independent (Kimball and Burnett 1973).

Will this mean different learning patterns in the schools? One researcher believes so, especially if the school is designed for one type of learner but another culture enters with different expectations. Much of the mainstream cultural content Afro-Americans learn remains latent and potential rather than being actively expressed in every day behavior. for the subordinate strata in plural systems, enculturation in the dominant way of life may often

provide great familiarity with mainstream patterns, but little opportunity to practice these patterns actively (Gallimore et al. 1974). Apparently one culture is exposed to the norms of a different culture at school but they don't have the chance to be reinforced and rewarded at home. Home social learning may not help them at school. The complexity of the socialization process is considerable, including the contrast between behavior learned in natural groups and that received from formal institutions (Kimball and Burnett 1973). This difference may lead to confusion or conflicts. One researcher believes that it doesn't have to be a serious disadvantage. Valentine (1971) concluded that it is possible for minority individuals to acquire competence in both their own culture and 'mainstream culture.' In other words, individuals may become bicultural. In his view cultures can adjust to a new school environment or vice-versa. Apart from what might be, this study is devoted to learning if there is a difference in two separate cultures adjustment to a new school system. The perceptual difference of the appropriate behavior needed in school can be an important determinant in school success.

Differences in the View of Formal Education

We have seen how cultures learn in independent and distinct ways. They can have a different reaction to formal education especially if that education is designed to favor one form of learning over another. This is true because of the different skills valued by society and perhaps because of the concept of cultural levels. Technological changes prompt cultures to develop from one stage to another and therefore their education level changes as well. If students from more than one cultural level go to a school designed for and preparing

students for another culture it provides problems for students and teachers. We found teachers genuinely concerned for their students' welfare but could not perceive how to help (Gallimore et al. 1974). Teachers can be raised and trained for a specific educational level and be unprepared for students from another level. The type of education found at a given cultural level will be functional for that level of culture. The important question concerns the functional requisites at a given level of culture which would make a particular type of education necessary for that culture to exist (Wilson 1973). These "requisites" for a culture may be very different from the valued skills of a specific culture mentioned in an earlier section. When the requisites for one culture and its needed educational skills do not correspond to another culture's valued skills, the second culture could easily experience failure and frustration. In another case if two or more new cultures move to an area that has a separate predominant culture, two sets of problems may develop. It may be possible for one of the new cultures to be more closely related to the needed educational skills of the predominant culture. If so, the advantages or rewards of this relative "closeness" may be measured in the (1) educational success and perhaps, (2) material success in the new culture. It is the aim of this research to determine if educational skills in two cultures can be distinguished from a host culture. The differences can be measured in terms of attitudes, educational success, material success and degree of residential concentration.

Before firmly establishing the implications of culture and school variance we may first see what forms this variance may take in the school setting. The environment of formal schooling may be, in its organization and culture, at greater or lesser variance with that of the student. There may be difficulties with the evaluation of learning. Achievement tests

favorable children from one background and discriminates against those from another (Davis and Hess 1948). These problems do not mean learning is impossible but there is likely to be a variance in success that will be related to cultural differences.

The characteristics of an institution can even be interpreted by different cultures in different ways. Students from different cultures will "see" or react to an institution in their own way.

Some studies have evaluated how the world view of some communities differs from others. Two communities, Italians in Boston and a middle class suburban community in Toronto, were examined for just this purpose. In the Italian community if education provides for individual advancement group cohesion is disrupted. If it honors adherence to group values and perpetuation of the group, it is considered good. Education as an end in itself is of little consequence and to the extent that it alienates the individual from the group it is objectionable (Kimball and Burnett 1973). This summary contrasts to the world view held by Toronto middle class suburbanites. For these suburbanites the schooling their children receive is an integral part of the life career which, when combined with the cultural perspective absorbed from within the family, prepares each individual as an adult to participate in the public world and to found his own family. In their equal concern for individual achievement, the school and the home possess complementary functions. There are none of the suspicious tension that characterizes the view of education held by the Italian villagers (Kimball and Burnett 1973). These distinctly different views of education are very likely to have an impact on the performance of children during their time in educational institutions. A hostile suspicious view of education is less likely to be less productive than

a sense of value and respect placed on the time and effort spent in school.

Importance of Formal Education

If educational institutions are not very important then the differences in preparation by members of different cultures are of little value. To learn the importance of institutions it would be good to consider their purpose, Durkheim considered the transmission of ideas to the child as one of the primary functions of education (Wilson 1973). How is the transmission of ideas by institutions different from the family or the immediate society of the child? In *Educating the Expert Society* Clark (1962) says, in the technological age more than ever, the young need a technical and cultural competence if they are to perform adult tasks—and, more than ever, as the schools take over the training function, personal capabilities must be developed through the school. The technological society makes the appropriateness of preparation less a relative matter of differing perspective. Without long systematic preparation, the higher occupations are generally not open. Without a broad education in the sciences and the humanities, public and business leaders are without the perspectives and understanding they need (Clark 1962). In addition, the position of teacher becomes more specialized reaching the point where several teachers are necessary to provide basic instructions (Wilson 1973). The provision of ideas, long preparation in technology, and the specialization of teachers provides a purpose to formal education that surpasses any other learning experience. Learning on your own, learning from parents, or learning from peers is important in the early stages of life. If early life does not help prepare young people for formal education, then they will miss the powerful advantage that this type of education

will provide.

Having considered the advantage of education, we should now consider the importance of this enterprise. The business of schools first and foremost is to equip all children of whatever background with the most advanced skills of thinking. Enriched self-concepts are peripheral. Teaching and learning out of context is crucial (Musgrove 1982). Schools must not only teach ideas but how to think. A school is not a cheerleading session for the child but an opportunity to learn about life. Learning out of context, principles not "relevant fact." is the great value and importance of formal education. Another of the great gifts a school can give a child is literacy. There is a real need to redress the balance between oracy and literacy in our schools; but the skills of the latter are crucial and quite fundamental . . . very like Levy-Bruhl's famous 'prelogical mentality' (Musgrove 1982). The importance of schools can be summed in two principal reasons; for its efficiency in promoting cognitive development, and for getting children out of their families (Musgrove 1982). All other contributions can be generalized within these two reasons.

There are other reasons for considering formal education to be an important part of society. Education in its different forms supports the culture of the rest of society. Indeed education is, in part, how one learns about society, Educational practices are not isolated from one another; rather, they are bound up in the same system all the parts of which contribute toward the same end (Wilson 1973). One learns about culture from education and can help a child learn about changes in culture (new culture levels) or new culture.

If individuals who are a part of one culture move to an area where a new culture predominates, schools can be the agent of change that helps children to understand their new

culture. Both Wax and Chance agree on the significant role that formal education may play in the transformation of ethnic relations in complex industrial societies (Kimball and Burnett 1973). This practice helps point up the vital relationship of schools and culture. Whether cultures are changing or individuals are changing, education contributes to the transition.

Another important point is the influence education has on individuals. Individuals who have high degrees of specialization are rewarded with wealth and social prestige. The degree of specialization, in turn, depends largely on formal education. There is a strong association between level of formal education, degree of occupational specialization, and social rank in modern industrial cultures (Kimball and Burnett 1973). Rewards extended to the individual (wealth, social position) are evidently influenced by education but internal growth (intelligence, linguistic ability) may also be helped. Allison Davis (1951) cites several studies which show that there is a general increase in the average I.Q. test scores of black children which correlates with acquisition of linguistic skills. Schools can change the outward characteristics of life and internalize values and skills, that would not otherwise be known to a child. Culture is a very powerful influence in life, but if a culture prepares a student for a formal education, the student can better avail themselves of the possibilities a formal education can offer.

[6] Advantages of Learning Method and Perception in Education

The advantages of certain learning methods and educational perceptions will greatly improve the chances for educational success. The skills and attitudes brought to an educational institution are important and vary by culture. An examination of some of these

cultural differences show why some cultures have advantages or disadvantages for their members entering institutions and what problems this may lead to when seeking the rewards of a formal education. Some researchers believe, however, this is an inappropriate way to evaluate cultural educational characteristics. To some scientists and many minority culture individuals, the alleged 'deficiencies' are cultural differences. They argued that the 'deficiency' explanations ignored the principle of cultural relativity and attempted to judge members of minority culture. The cultural differences hypothesis holds that minority group persons, when judged in terms of their own cultures, are just as competent (Gallimore et al. 1974). This raises the issue that minority cultures should be afforded respect but there is still the difficulty of relative advantage or disadvantage in an educational system based on serving one culture's goals.

Separate cultural practices meet in schools. This is true of cognitive learning and linguistic behavior as well as motivational and social behavioral skills (Gallimore et al. 1974). Other potential differences include little parent pressure, accepting authorities' decisions without argument, problems are handled by indirection, avoidance, and interaction in a peer group is preferred to individual study (Gallimore et al. 1974). These specific problems between minorities and the classroom setting of most educational institutions indicate some of the reasons why educational success varies. It may be true that minorities can adapt to another culture but unless the teacher and student anticipate some of these difficulties, adaptation or the resolution of conflicts may be illusive.

We may now consider the implications of cultural differences. What if, for instance, a school's staff does not plan for these differences, or if their plans do not help overcome

cultural differences. One of the problems is the reaction of parents to their children's lack of success in school. There is a growing resentment among minority communities at having their children blamed for educational problems (Gallimore et al. 1974). Another problem a child faces is that the behavior in one society, the family, may not be appropriate for the school. The problem is the generalization of behavior from a setting in which it is accepted and understood to one in which it is not (Gallimore et al. 1974). This may lead to very confusing conflicts. A child may believe its behavior at home is perfectly acceptable but the same behavior at school will meet with anger or confrontation, perhaps even failure in a child's assignments. The intention of school is good. The school curriculum must be transformational (Musgrove 1982). But teachers and students must anticipate this potential conflict so they will not be distracted by it. We found teachers genuinely concerned for their students welfare but who could not perceive how to help (Gallimore et al. 1974). It is now the work of some researchers to recognize the willingness to help and provide guidance to resolve these cultural conflicts and help children learn. Children must learn from the educational system for it is the educational system designed to sustain a broader culture. For middle class U.S. children, the skills and patterns of social interaction practiced in school may relate closely to those necessary for eventual participation in the economic and political institutions of their society. In other communities—within the United States and elsewhere—other goals and practices take prominence (Rogoff et al. 1993). This is not only true of middle class society but all children in society.

[7] The Impact of Education on Technology and Problem Solving

Another reason all children should learn in an educational system preparing them for society is the impact education has on technology and problem solving. In contemporary societies the advantage an educational system can give to a child in learning the intricacies of a technological society is a necessity. Indeed technology is so important to society and its ability to adapt to the environment that cultures can be classified by their technology (Beardsley et al. 1956).

One important factor in a highly technological society is the need for everyone to be educated, because there are so many specialities. Education is expanded to include all members of the society within certain age groups with the result that the total adult population makes up a potential pool from which the required specialists may be drawn (Wilson 1973). These three points long education, specialized education and popular education are the major pillars of a technological society. Without the cultural support for this kind of educational system it becomes difficult to gain the education needed to acquire the benefits of a complex society.

In the next chapter we will examine the reasons why education and technology combine to make a materially successful society. It can be fairly stated, however, that "science and technology have immeasurably enriched our material lives. If we are to realize the immense potential of a society living in harmony with the systems and artifacts which it has created we must learn—and learn soon—to use science and technology to enrich our intellectual lives" (Burke 1978: 295). It is a great irony that technology and our material life have become so complex and useful that we now need technology itself to educate us in their

use. Culture has to provide a behavior that will help us to accomplish that very important challenge.

Summary

This chapter has been devoted to several propositions. The theme of the dissertation is social and economic inequity and how the locations of different cultures in a pluralistic society relate to inequity. The process by which spatial forces impact socio-economic inequity begins with the impact culture has on education and the influence education has on economic development. In this chapter I examined the principles behind this process, that cultural differences lead to educational differences and ultimately to economic differences, because of the impact education has on technology. These differences in economic development, lead to increasing residential and locational differentiation.

This chapter began by examining culture. It was determined that culture was a set of learned behaviors, in fact, that was the original meaning of the word. These learned behaviors were acquired from other people. These "other people" are those who are immediately around the learners of a culture. Culture develops over the years as an adaptation to our environment. Whatever learned behaviors a culture group has at any given time, is passed on to the next generation. This generation learns from parents, relatives, friends, near neighbors, whomever they may contact and observe. Cultural adaptation and transmission follows a set of universally standard practices. All people learn (including primates) by the following principals: long term memory or repetition, holistic learning-sets of observed relationships not just symbols, social learning—infants prefer humans to objects.

the more learning the more efficient the brain, and most transference is not conscious or intended.

If cultural learning is composed of universals, how do cultures become different? Cultures differ because each group of people, not individuals, adapt to the environment in their own preferred way. There are some commonalities between groups of people or cultures. For the most part, however, they will develop their own answers to environmental challenges and opportunities. These answers distinguish each culture from another. One of these characteristics is the way a culture will choose to educate its children. Cultures will differ by social structure, different patterns of cognitive, linguistic, motivational and social behavior. They will also differ according to skills valued, adult-child relations including participation in child observation and guidance, the use of symbols in communication (literacy and numeracy), how one learns to think (abstract thought, out of context learning), and how to conduct relations with other people. Above all there is a fundamental difference in the methods and perceptions of the learning process itself and the value of literacy and academics in life. Over time these differences in cultures tend to increase.

Culture changes and differentiates itself from other cultures in part because of the relation between culture, education and technology. As technology changes there necessitates a change in culture and educational institutions so that technology can be better understood and used by society. Consequently as cultural levels change and become more complex there is a gradual change in the relationship between a society and its educational institutions. Because of different rates of change in these transformations some cultures have a very different relationship to formal educational institutions than others. The

influence of schools on technology and subsequently economic development increases with the complexity of society. As complexity increases education and the behavior associated with education becomes more influential in relation to economic development. The relationship of education, technology and economic development will be examined further in the next chapter. The implications of cultural and educational differences will also be examined in the next chapter.

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Chapter 3

Economic Development and Education

The previous chapter investigated the influence culture has on the learning process. In large measure culture means learning behavior from others. One theme of the previous chapter was that the method of learning is also learned. This chapter examines the relationships between education, entrepreneurial activity, science, technology, and economic development. In different sections, the following relationships are examined: (1) education as related to economic development; (2) education, entrepreneurial activity, and economic development; (3) the influence of education on science and technology; (4) science and technology's influence on economic development; and in summary, (5) the impact of all these relationships on the production function.

[1] Education and its Relation to Economic Development

Education is almost always considered to be one of the most important factors in economic development. Economic historians have regularly paid a great deal of attention to education and educational form when seeking to explain why the rate of economic development has varied in different epochs in different countries (Myrdal 1972). The reason for this attention is largely due to its impact on the standard of living. Education is important to individuals because it gives them a chance to increase their incomes and raise their levels of living (Myrdal 1972). Apart from an individual's benefits from education an entire society tends to improve when education is actively pursued by all. Higgins (1968) expresses the

educational impact by the succinct statement "education provides a high rate of return." Education is apparently one of the best ways economic planners can spend their money given a list of options. The value of education as an end in itself, quite apart from its goods and services, and should be treated as part of a national income (Higgins 1968). This end expresses the author's belief that a concentration on education will eventually lead to development without any direct knowledge of how the development will unfold. A faith in education does not require an understanding of the actual mechanisms of economic development that grow out of education. As Higgins (1968) said, "When in doubt educate."

How does education lead to economic development? One point of view stresses the movement of ideas. Generally speaking, literacy opens avenues of communication that otherwise remain closed. Literacy is the prerequisite for the acquisition of other skills and the development of more rational attitudes (Myrdal 1972). This important point suggests that skills or labor improvement will increase much more rapidly among those who are educated. If educated, people will learn more easily about the methods of improving industrial, agricultural, or household means of productivity. Even the attitudes of the educated change as they develop a greater willingness to try nontraditional means of organizing labor and the analysis of problems. Communication includes either the verbal or written medium of learning from other sources that have acquired more productive techniques. An individual or society does not have to discover ideas on its own or "reinvent the wheel." One can learn from the on-going development that is essentially worldwide.

The term for the improvement of productivity is the production function. The production function, in terms of the human element, is thought of as the output of labor.

Usually, but not always, it increases with the increase of capital. If know-how (knowledge) is defined as the capacity to use available technical knowledge, it is evident that this is one of the main determinants of the production function. Technically, this production function may be conceived of in various ways. In principle, each employee with his/her special know-how may be regarded as a separate factor of production. This would mean that technical knowledge is absorbed in the measurement of the labor factor (Meir 1970). The production function is defined as the capacity of labor to perform and increase output. As a persons knowledge increases, his/her output increases, and thus the production function increases. Labor is not the only contribution knowledge makes to the production function. The changes in the parameters of the production function are not limited to changes in know-how. Another source of change is the technical changes in machinery and raw materials which are available to be used in the production function (Meir 1970). Capital may be needed in most cases but knowledge is essential.

If knowledge is so valuable for the production function it should be recognized that education is the mechanism needed to provide that knowledge. With education one can continue to improve the production function all of one's life and not learn one technique that will last indefinitely over time. One can continue to learn even if knowledge changes.

The importance of education can be readily demonstrated by observing the differences in uneducated and educated societies. This difference is also that between societies that are poor and wealthy. It is generally the poorest countries that are spending the least, even in a relative way, on primary education (Myrdal 1972). These countries are likely to remain poor because there will be little improvement in production. All the information

we have suggests that children of illiterate parents tend to fall behind scholastically and in turn lapse more easily into illiteracy. The detrimental effects of an illiterate home are felt most strongly in preschool years, when attitudes are shaped that will tend to persist (Myrdal 1972). People learn in many ways but the formal education that leads to literacy is crucial in the struggle to overcome poverty.

If the relationship between education, literacy, and the ability to improve the production function, thereby reducing poverty, is so clear, why isn't there more investment in education? Poor countries that spend so little on education will have lost an opportunity that will probably never be regained. The reason is that children have an immediate value to families that will not easily permit the families to invest in a long term education. Children have traditionally participated in work at even a tender age; they are regarded as a reserve pool of cheap labor (Myrdal 1972). This lack of incentive makes it difficult to improve the production function of future workers. However, in Chapter 2 an even more fundamental reason for a lack of or a late investment in formal education was noted: the culture of some societies. Some cultures have already established a means of educating or at least of teaching their children. They find it difficult to believe in schools whose values they don't share and whose teachers, or perhaps practices, seem hostile.

It may not be clear to some that education is the reason for their lack of income. A family may have concluded that fate or some nefarious situation explains their economic position. It may blame foreign influence, evil powerful individuals, or politics as explanations. No factor, however, displays as great an impact on the production function, and the increase in productivity, as education.

In some countries the quality and nature of education has an impact on people. Education and the provision of new skills or mix of skills is indispensable for development (Meir 1970). Sometimes going to school is not enough. The schools themselves may be providing values or knowledge that is an impediment to progress. The wrong kind of education leads to the wrong kind of advice being given as well as setting up ideas that stand in the way of development (Meir 1970). Old traditional values or an emphasis on elitist (upper class) demands can inhibit a spirit of growth or change. The wrong kind of education, especially in an environment of limited resources, can do even more damage. This form of education is a deliberate effort to support an educational system that prepares a few students for leadership roles. In some societies administrative careers were the only way to fame and wealth, unless one belonged to one of the great feudal landowning or merchant prince families (Meir 1970). School, in many parts of the world, was for an advanced group entering into the management of poorly skilled workers. Narrowing education so that the few will control the many will not improve the general labor supply or improve the production function throughout society.

For a further evaluation of the impact of education on a society we can examine the lives of those who experience little or no education. The difference in values and opportunities for those who get an education and those that do not becomes more evident over time. The monopoly of education is—together with monopoly of land—the most fundamental basis of inequality, and it retains its hold more strongly in the poor countries (Myrdal 1972). The inequality in access to education is damaging enough but a more fundamental problem is the lack of belief that the struggle for knowledge is an important part

of daily life. For the vast majority of lower-class children who do attend school, the home environment is not conducive to educational progress. The family lives in a crowded shack, usually without a table or chair; reading and writing rarely have a place in family life and the materials are not available; when the sun sets there is no light, especially in the poorer districts. As a factor in school success, the difference in the home environment of the very well to-do and educated families and that of enormous numbers of lower class families is tremendous (Myrdal 1972). The home life outside of school is marked by lack of motivation, material support and opportunity to learn. All of this occurs at a most sensitive time in life. Even if the schools were excellent there would be a serious problem of inducing the children to enter school, to remain in school and succeed (Myrdal 1972).

My overriding point is that, initially, it is the values of individuals and societies themselves, provided by their cultures, that begin to differentiate the amount and kind of education they receive. That there is a deterioration of material life and the motivation of individuals who remain poor and uneducated is indeed true and is a serious consequence of the differentiation of education. The view that culture is the initial reason for the differentiation of education between societies remains unaltered. The additional problems of a lack of material support and motivation for those who are left without education only strengthens the sentiment that over time the differentiation of education becomes more pronounced. This is because the external consequences to individuals (material support and motivation) are cumulative. This causes a downward trend for the poor that is difficult to reverse.

It is possible to demonstrate the opposite effect of the upward trend towards

economic development that is initiated by education. By examining the relationship of education to entrepreneurial activity, science and technology, I will try to show the process by which knowledge increases the production function and consequently economic development.

[2] Education, Entrepreneurial Activity, and Economic Development

Education is not the only ingredient needed for economic development. Entrepreneurial activity is also needed. Many economic historians have emphasized the importance of entrepreneurship, which is the willingness and the ability to seek out investment opportunities and to run an enterprise successfully—in the development process (Meir 1970). Without this ability it would seem most other efforts on behalf of development would not come together in a coherent process. One must recognize that entrepreneurship is of prime importance (Meir 1970). This "prime importance" can be regarded as leadership or making the decisions that cause other activities to happen. Nearly all writers on economic development attach great importance to economic leadership: the ability to recognize opportunities for the successful introduction of new commodities, new techniques, and new natural resources, and to assemble the necessary plant and equipment, management, and labor force and organize them into a going concern, whatever the form of economic and political organization (Meir 1970). This bringing together of loose or unknown quantities into a coherent operation is the indispensable role of the entrepreneur.

Given this description of entrepreneurial activity, what characteristic in a society contributes to this activity? If a society values and encourages entrepreneurial activity it

should benefit by having a greater rate of development. A higher desire for achievement will make more energetic entrepreneurs who, in turn, produce more rapid economic development (Higgins 1968). This statement refers to a theory, on the part of the psychologist, McClelland and Winter (1969), that values or psychological desires stimulates individuals to become entrepreneurs. What's more the greater the value or stimulation the greater the number and energy of entrepreneurs in a given society. Like education the value placed on this quality will stimulate the rate of development. The reason for this is in part is due to technology. The key figure in this technological advance is the entrepreneur. The rate of technological progress and, therefore, economic development, depends greatly on the number and ability of entrepreneurs available to it (Higgins 1968).

How does a society develop or stimulate entrepreneurial activity? There is a point of view that does not emphasize the values a society has for the encouragement of entrepreneurial activity but rather emphasizes the opportunities a society provides for potential entrepreneurs. Schumpeter's entrepreneurs have unique types of imaginations and creativity who make things happen. They are the initiators of the new production functions which once proven profitable are initiated by others. When this happens an economic expansion gets under way. The availability of these entrepreneurs, according to Schumpeter, depends on the rate of profit and the prevailing social climate. In this regard, Schumpeter links economic and social factors (Kondonassis 1991). This is an idea that confirms and perhaps explains why technology, brought in by the entrepreneur, can be so important to rapid growth. It is a view that also expresses how opportunity in the form of economic rewards is an important factor in entrepreneurial stimulation.

What are the characteristics of a society that encourage entrepreneurial activity?

There is some agreement that entrepreneurial activity is important and needs encouragement in the form of rewards, opportunity, and social values. It may be worthwhile, however, to sharpen our understanding of this broad term. Not everyone agrees on what entrepreneurial activity is, but there are several important descriptions and characteristics that have been associated with the term.

We may distinguish between two broad types of entrepreneurial activity: at one pole there is routine entrepreneurship, which is really a type of management, and for the rest of the spectrum we have Schumpeterian or 'new type' entrepreneurship (Meir 1970). In one case the markets and the necessary ingredients to serve the market are well known. It is the responsibility of the entrepreneur to "fill in" or coordinate these known quantities. This is no small task even for a capable person. The other form of entrepreneurial activity, the Schumpeterian form, requires insight into finding markets or techniques in enterprises that are generally unknown to society. The ability to have these insights or act on these management skills are the very characteristics a society will have to encourage if it is to have a high rate of growth. Thus the entrepreneurial personality theories developed by McClelland which connect nurture to the creation of entrepreneurial drives are significant elements on the supply side (Meir 1970). These important characteristics can be traced, at least by some authors, to early child rearing.

A similar concept is associated with the values linked to the desire for education. Many scholars have stressed that economic modernization and growth require a whole new set of values and attitudes, and marked changes in social organization. In a cross cultural

study Inkles identified the following attitudes accompanying modernization: a disposition to accept new ideas and try new methods; a readiness to express opinions; a time sense that makes men more interested in the present and future than in the past; a better sense of punctuality; a greater concern for planning, organization and efficiency; a tendency to see the world as calculable; a faith in science and technology; and, finally, a belief in distributive justice (Meir 1970). These sets of characteristics and the linkage to attitudes formed in childhood help identify entrepreneurship as something valuable, identifiable, and possibly something that can be consciously developed or at least encouraged.

Can a society, therefore, help to create an entrepreneurial personality? There are apparently many characteristics of entrepreneurs. To some extent these characteristics are related to values initiated in childhood. These values and their development deserve a closer look. To reiterate a point established earlier, the need for achievement promotes entrepreneurship which in turn is a key to economic growth (McClelland and Winter 1969). There is some evidence that the need to achieve has been observed under different conditions. We have introduced the psychological concept of achievement motivation or nonachievement to account for the differences in response to similar conditions. There is impressive evidence that achievement is associated with more vigorous effort and greater success in economic activity (Meir 1970). This idea has apparently been tested and observed by several researchers. Meir (1970) reported, the laboratory research on n-achievement shows that different n-achievement (and fears of failure) levels will lend itself to very different responses to situations and incentives which are externally identical. Evidently in a general population individuals will react as though they have different needs to achieve.

Will this variability in the need to achieve be associated with child rearing? Meir (Meir 1970) found that achievement motivation was significantly aroused in students from working-class backgrounds following failure only when they had been promised a reward for dollars if they succeeded. For the middle class students, failure alone was sufficient to arouse achievement motivation. There is, therefore, some evidence that family background will lead to differences in the intrinsic need to achieve.

A final question about entrepreneurial activity is, can we create a society that encourages entrepreneurial activity? If differences in values point to differences in entrepreneurial spirit then a greater understanding of the development of these values would be helpful. The statement has already been made that much of this value development takes place in childhood. How and why do these values develop differently? It is believed by many researchers that social development—the influence of the family, community and society at large—is very important. This research tradition was guided by the theoretical supposition that since motives are formed early in life, one must study how parents treat their children to find out how n-achievement is produced (Meir, 1970). In so doing, some things have been learned. For instance, entrepreneurs tend to come from families in which there has been stress on early self-reliance and mastery (Higgins 1968). Another comment on family influence comes from a familiar source, McLelland and Winter (1969) stresses the importance of family and particularly that of the mother in producing high achievers (Kondonassis 1991). There is another example of the importance of families' roles in developing entrepreneurs especially in traditional societies. "Traditional societies are not

prone toward change. Change comes about by foreigners or by a group in society that becomes socially disaffected and retreatist. Retreatist parents produce a home environment which favors creative personality behavior. Creative children, in turn, become the basis of social change" (Kondonassis 1991: 6, citing Hagen 1962).

Can a society direct the development of people who are motivated to work for an education and also have the need to achieve? Another way of saying this is, can economic policy foster personalities that strive for education and entrepreneurial activity? Most theorists feel that education must be the answer to the problem. And in its more general sense people must learn new habits, values, motives and attitudes (Meir 1970). The best guess is that education is most likely to produce the kind of people motivated to improve when it takes place in an achievement oriented atmosphere (Meir 1970). Theorists and planners feel as though they have identified an important ingredient on the road to economic development. Providing that missing part is difficult. By examining society and parents in high and low achieving groups school authorities can identify a common quality present in high achievers and absent in low achievers. The motivation factor or willingness to study or need to achieve is instilled in people by the environment. That environment is the immediate society around them, in particular their parents.

Planners hope what may be lacking in parents and society will be brought to the children by a well-designed educational system. Most good educational systems were established because society and the parents insisted on them over time. The system and the motivation comes about from the society and not the other way around. At least it has in the past. Having said this planners still believe while the n-achievement mystique may be

maintained in various ways by the social structure, it is hard to imagine a more effective way to introduce it than by some kind of direct educational technique (Meir 1970). However, there are some caveats. McClelland and Winter (1969) is not overly sanguine about what can be done by education alone. The crucial years for creation of high levels of n-achievement are probably those between the ages of five and ten (Higgins 1968). Some process will probably have to account for the way society and parents change the way they raise children and not just the school system alone. Several steps, as yet undetermined, will need to be taken for the early motivation of children.

A society with a high rate of education and entrepreneurial activity is very different from a society with low rates of these same phenomena. The impact on economic development has been described as follows, "the effective use of physical capital depends on human capital" (Kondonassis 1991: 9). Education's impact on the production function by way of labor improvements and its believed impact on entrepreneurial spirit makes it very important in the effort to increase economic development.

[3] Education and its Relation to Science and Technology

The use of capital may be even more influenced by science and technology than entrepreneurial activity. As science and technology increase so does the capacity of entrepreneurial activity to bring increased amounts of physical capital together to provide economic growth. Science and technology is the likely mechanism by which education improves the "know-how" of labor, thereby improving its productivity and simultaneously the ability of entrepreneurs to recognize new opportunities. These new opportunities will

combine previously unlinked resources and provide more valuable production. The question as to how education enhances labor and increases entrepreneurial activity for the sake of economic development will be answered after a close examination of science and technology itself.

Science, according to McGraw-Hill (1997, V. 18: 178), is "the study of native and natural phenomena." Normally, the question asked is "why" or "how" do things happen. Nature is largely thought of as anything perceived by the senses and not man-made. It is anything that is "real." This is in contrast to some concepts such as thoughts or perceptions. Usually there is a systematic approach to the scientific method, including inductive or deductive reasoning or the experimental method of research. True science would include those demonstrations of phenomena and their relationships that can be duplicated. False science would include those things that have no demonstrable relationship or those things that can not be reliably duplicated such as palmistry or astrology.

Technology, on the other hand, is "systematic knowledge and action, usually of industrial processes but applicable to any recurrent activity. Technology is closely related to science and engineering. Science deals with humans' understanding of the real world about them—the inherent properties of space, matter, energy and their interactions. Engineering is the application of plans, designs, and means for achieving desired objectives. Technology deals with the tools and techniques for carrying out the plans" (McGraw-Hill 1997, V. 16: 119). It is this process of understanding, planning, controlling and applying the knowledge of the world about us that generates improvements in labor, resource use, and entrepreneurial activity. Economic development can find no greater source of stimulation

than science and technology. They are the knowledge and application of the principles governing the world around us.

So far there have been logical assertions, supported by research, about the links between education, labor, and resource enhancement as well as education and the increase in entrepreneurial activity. There are also logical links between education, science, and technology and the very same potential improvements in labor and resource enhancement leading to economic development. However, is there any research linking education to science and technology and economic development? The answer is yes: education impacts science and technology which in turn influences labor and resource enhancement, entrepreneurial activity, and finally economic development. The relationships may even be mutually benefitting such as education impacting science and technology rebounding to help education. Some elements in this model may impact other elements indirectly or employ reverse causation. It is unlikely that these relationships are only one way relationships.

According to Mason (1962: 442), "science was becoming more complex and less easily apprehended by the untutored mind, whilst experimental research was beginning to involve costly apparatus. Science too was entering more and more intimately into the process of industrial advance, so that a need began to be felt for more educational and research facilities in the sciences." Earlier a lone researcher with a modest but good education could advance the field of science by his own observations and experimentation. In time the fields of science became so difficult to understand that a long period of learning became necessary to grasp the many supporting ideas that would advance science. The problem became so serious in the early nineteenth century that John Playfair, the professor

of natural philosophy at Edinburgh, remarked in a review of Laplace's *Celestial Mechanics*, written in 1808, that there were scarcely a dozen people in Britain who were competent enough mathematicians even to read Laplace's work (Mason 1962). Education was needed to increase scientific knowledge due to the increasing demands of "industrial advance." The link of education to science, and thus economic development in industry, was clear early on.

Education is also needed in the improvement and dissemination of technology. The rapid rise in Germany in the late nineteenth century was due in large measure to its concentration on education specifically devoted to technology. "Among the roots of this striking technological progress were the close relations maintained between the universities and industry and the large provision of technological education of all kinds. Soon after the end of the century a British journalist was noticing with surprise that in Saxony one technical school was provided for every 10,000 population, and that the average chemical manufacturer had one chemist with university qualifications to every forty workers" (Derry and Williams 1960). These advances were largely due to a conscious effort to improve technical education to help economic development, an effort that paid off by allowing Germany to become a leader in many industrial fields that it had previously lagged in. The importance of education to technology and technology to economic development was not limited to industrial concerns. Denmark, more than any of her neighbors, found salvation, when corn growing ceased to be profitable, in a technical efficiency which was made possible by a high level of rural education and the inspiration of the folk high schools (Derry and Williams 1960). Agriculture processes were just as susceptible to technological knowledge fostered by formal educational institutions.

If education is so helpful to technical and economic change, what is the impact of a lack of education? Did that state of affairs provide any recognizable impact on economic development?

In the 1820s mechanics institutes were set up in industrial areas to teach workmen the science that would help them in their work. The lack of primary education for the workmen hurt their efforts at improvement (Derry and Williams 1960). Technology in the early nineteenth century was so complex that an inadequate basic preparation in education was a barrier to progress. This problem showed itself even earlier. The period of the eighteenth century revealed a difference between educated and uneducated men. Educated men began to realize that industry was becoming more complex. Uneducated men didn't have the skills or understanding of their new crafts to contribute to progress (Derry and Williams 1960). It was the beginning of the differentiation of economic equity because of education and access to technology. The differentiation of economic development due to participation in schooling happened not only within societies but between nations. In Britain the first industrial lab was established in 1873, well after the great age of industrial progress had started and begun to subside in Britain. In Germany, on the other hand, the most spectacular achievements of her chemical and electrical manufacturers were squarely based on the research developments of the universities and the training of scientifically minded technicians in a carefully planned network of technical institutes and trade schools (Derry and Williams 1960). The differentiation of economic equity between nations was also due to a difference in educational facilities devoted to the transmission of technology. Germany and Great Britain were fundamentally similar cultures in terms of their appreciation of

education and literacy. The difference in their efforts to create an advanced system of technologically oriented educational institutions rewarded one society. Germany, over the other. Despite Britain's lead in the industrial revolution, Germany's economic development overtook Britain's due in large measure to investment in educational facilities.

How did this turn around take place? The learned societies, which were an early product of the scientific movement, also exercised some direct influence upon technology by organizing the systematic collection and publication of data to illustrate existing conditions and histories—to quote a Royal Society statement of its intentions in 1718—of all sorts of curious and beneficial trades in any country (Derry and Williams 1960). The encouragement of knowledge and diffusion of information by publications may have given Britain an early start but it could not match the later accomplishments of schools and facilities wholly focused on their students' acquisition of knowledge. In time Germany's systematic approach to education contributed more to knowledge and economic development than did the early success of the collegial atmosphere in Britain's scientific societies. These societies' discovery and circulation of new found knowledge was of immense importance to the beginning and propagation of the industrial revolution, but could not compete with the more comprehensive systematic approach to technological education and research of Germany. As it was later explained, "on the morrow" of the Great Exhibition of 1851, Lyon Playfair had declared that Industry must in the future be supported not by a competition of local advantages, but by a competition of intellects (Derry and Williams 1960). Knowledge was recognized as a product that would bring more economic products within the grasp of society at large. The advantage would eventually go to well designed compulsory schools

and not to the voluntary establishment and participation in inspired schools and societies.

Why should there be this link between education, science and technology, and economic development? There reached a point that knowledge was too complex for people to discover on their own. It also became too difficult for a small group of like-minded informed people to educate one another. The curious individual and inquisitive society gave way to the practical advantage of organized, specialized institutions of education devoted to research and instruction. No society hoping to engage in rapid economic development could do without these institutions.

[4] The Impact of Science and Technology on Economic Development

Did technology actually have an impact on economic development? Perhaps growth would have taken place with the growth of the population and there would be no need for science or technical developments. We should evaluate the advantages these new discoveries gave to people and determine if people were deceived by novelty or if these new devices had any practical value. Were these new economic developments needed or just wanted? There are many new developments since the start of the Industrial Revolution (circa 1750) that can be evaluated. Some of the general categories include: power, control devices, materials, chemicals, medical and health, transportation, communications and information, and quality of life. This partial list can help us to arrive at a decision about the value of these technical devices.

The development of power may be the most important aspect of economic development. "The average power which a man can exert by muscular effort throughout the

day has been estimated to be about 35 watts (1/20 horsepower). This would amount to 67 kilowatt hours per year. Each individual engaged in manufacture has under his control an amount of energy equivalent to the muscular effort of 244 men (circa 1954). On the same basis of calculation the family employed the equivalent of about 33 laborers each day to help in household duties (circa 1954)" (Kirby et al. 1990: 496). This is an enormous increase in the capacity to do work and that just takes us to the 1950s. If we go one step further, the switchboard operator of a large power plant may control by a twist of his fingers over 1,000,000 horsepower—more than the entire population of the state of Connecticut could produce by muscular effort (Kirby et al. 1990). This evaluation of power, and the tremendous increase of use without the physical effort of man, is one of the surest signs of efficiency per person and the increase in economic development. Economic development is not just the increase in economic activity due to a population's ability to do work. Power and its dramatic growth is probably one of the best measures of economic development and its advantages to individuals.

Another means of evaluating technical and thus economic improvement is control of power and the machines that use power. The social significance of the introduction of automatic controls is analogous to that of the power revolution of the Middle Ages. Whereas the development of mechanical power relieved men from being the source of power for the operation of various processes, the application of automatic controls has tended to remove men from such operations. Many modern processes can operate only under automatic controls, human control would result in an expensive and inferior product (Kirby et al. 1990). Power needs to be directed precisely and redundantly for it to be used most efficiently.

Auto-controls permit this and at the same time relieve men of more demanding work. Men aren't the only ones to benefit. Mechanical power has changed that status of women in our society. A motor which one worker in a plant has to control is operated by pushing a button or twisting a dial, and this can be done by a girl without expenditure of strength; she may well be more useful in that capacity than a big burly man with brawn and perhaps less brains (Kirby et al. 1990). This has greatly expanded the work force and made possible for more productivity as well as more purchasing power for families. This is an added reason to believe that the size and variability of economic development will increase.

The implications may be almost as impressive as power. The history of automatic control shows that it can produce things of finer quality in abundance and can perform tasks that direct human control cannot accomplish. In addition to furthering a reduction of work hours, automatic control, like mechanical power has eliminated much drudgery. As a consequence many workers are now being trained to be masters of their machines. This raising of the status of the worker contributes to the general welfare (Kirby et al. 1990). The contribution of power and control technology has had direct and apparent impacts on the economy and the people who are served by that economy. The loss of these control mechanisms would be a serious loss to the economy and welfare of people.

There are a great variety of areas of technical advance that improve our lives whether they have a direct or indirect impact on increased productivity. Technology has contributed to the improvements of material; polymers, fibers, and alloys have helped with new strength, flexibility, water proofing, durability, and cost. The chemical industry has provided new fertilizers, pesticides, herbicides, preservatives, and fuels. Medicine and health advances

have been aided by antibiotics, antiseptics, anesthetics, vaccines, and safe water. Transportation has mirrored improvements in power by improvements with cars, trains, ships, and airplanes. Communications has rapidly increased with telegraph, telephone, radio, television, and satellites. Information technology has surged ahead with the computer contributions in information storage, calculations, and decision making.

What is the point or even the value of all of this development? In Kirby's view (1960) engineering has contributed to the increased production and enjoyment of beauty, the purpose of knowledge and the elevation of social justice. Not everyone accepts this conclusion. There are many who are doubtful about the broad value of technology because some see it as having negative impacts on their lives in health risks and environmental destruction. The evidence that science, technology, and economic development have improved lives, as previously stated, is enormous. In the main people have not turned away from technology to solve their problems. "The fortunes of mankind have been closely affected by the growth of technology" (Derry and Williams 1960). This is not only true of the past but the considerable advantage technology provides is likely to continue into the future. There are problems that are perceived to need solutions and technology is usually called on for these solutions. Most of these problems come from the natural environment or from the technology that incorporates natural phenomena. As Derry and Williams (1960) state, "The slow methodical investigation of natural phenomena is the father of industrial progress." Science will be used to investigate these natural phenomena and the resultant engineering and technological knowledge will be used to solve or partially solve these problems. Few people want to relinquish the quality of life provided by technology by

changing their behavior so they are likely to turn to the same means to solve future issues of quality of life.

[5] Summary

In summary, culture is related to educational values, and both are related to economic development. There is considerable evidence that increased education leads to increased economic development and that little education means a lack of economic development. The explanation for this is a concept called the production function: increased economic development comes from factors improving the ability of resources to produce new goods and services and to create goods and services more efficiently. The factors improving production are the production function. Education impacts three factors that improve the production function: entrepreneurial activity, science, and technology. It is the relationships of education to entrepreneurial activity plus education to science and technology that account for the large scale relationship of education to economic development. This model is supported by the findings of several authors.

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Chapter 4

Asian Culture and Educational Values

The purpose of chapters 4 and 5 is to review the history and context of Asian and Hispanic societies as they relate to cultural and educational values. The Asian area investigated in this chapter includes the rimlands and mainland of East Asia. This is sometimes described as the Confucian cultural area and includes China, Korea, Vietnam, and Japan (Fairbanks, 1978). The commonalities of Confucian culture, as in all cultures, have permitted some differences in society and economy. The Confucian culture is strong, however, and links all these cultures, especially when concerning education.

Authority and Organizations

One of the most significant aspects of East Asian society is the use of education to encourage authority and accept government organization (Dore 1974). Because education encouraged authority the upper classes did not oppose it. In most cases they even encouraged education to keep the population in a position of obedience and cooperation. This attitude endures to modern times. Japanese workers tend to accept organizations as allies and are responsive to their requirements (Rohlen 1983). Any effort by the individual on behalf of an organization they belong to is seen to ultimately benefit the individual. Any personal sacrifice for a larger organization is seen as helping all, including the individual. This is largely a result of values provided in education and school. Culture, work, and study are seen as part of one whole and as needed (Rohlen 1983). These elements come together

to support the ethic that organizations are good and should be conscientiously served. All will benefit from knowledge, work, and cooperation with others, including organizations.

Groups within Society

This idea may be better understood if I consider the need and importance of groups of people in East Asian society. Groups are very important, the focal point of effort and the entity whose demands or needs surpass the individual (Yang 1945). This seems to be a great burden to those who would emphasize individualism. It would appear that the individual's desires or needs would be lost inside of the group. The East Asian belief is that the individual is relieved of making decisions by himself and can avoid some of the foolishness and self-indulgence individuals are prone to participate in. In this way individuals can benefit with all of society if they subordinate their desires for the group. Indeed people tend to live in nested groups. In China their relationships follow this pattern—the individual, primary groups, secondary groups (Yang 1945). Even groups need the assistance of larger groups to help them on their way to good decisions or actions. This is balanced by the idea that subgroups are seen as part of a whole (Yang 1945). There is little or no conflict since a small group is subordinated to the decisions of a large group just as an individual is subordinated to small-group decisions. Small elements will contribute to increasingly larger organizations that are designed to overcome the weaknesses and multiply the strengths of their parts. All should gain from this process. The demand from the individual, however, is hard work, study, obedience, and cooperation. If all participate in this way, life will be greatly enhanced without the challenge or need of conflict.

The Family

The family is the inspiration for all other groups. It also serves as the buffer between individuals and groups. It can therefore help take some of the sharp edge out of conformity and provide a pattern for obedience and cooperation that individuals can adjust to. What constitutes the family in Asian life and does this ultimately relate to education?

The living believe that the ancients keep a close eye on the living (Yang 1945). They also believe that the family not only includes extended relations outside of the immediate family, but it includes the deceased and unborn (Yang 1945). While one is alive his/her behavior is very important; it reflects on the person and the rest of the family. Actions are watched by the ancients and it will have a great beneficial or damaging effect on the unborn. The responsibilities of time on earth weigh heavily on one's shoulders. Since family reputation is a basic social value, one's contribution to the family reputation for all of those people living, dead or unborn is very important (Yang 1945). Most people are reminded of these responsibilities again and again.

The family may be the most important link between individual behavior and national culture. The family governs behavior and is the foundation for social and economic life in the village. The core of the family is the behavior to each other (Yang 1945). The children learn how to treat each member of the family according to their position and are reinforced in these lessons for the rest of their lives. One of the most important functions of the family is economic. The family is the primary economic group. All three generations in a household have an interest in the family economics, and all benefit or suffer from it (Yang 1945). People also take the lessons about personal behavior they have learned from home

and apply them to their relations with people in the village. In this way the family was the foundation of village social life just as it was the foundation of economic life (Yang 1945). The prime motivators of life, the economic measures that sustain life, and the social relations that give meaning and purpose to life are grounded in a family's structure and relationships. All of these social and economic matters are reinforced in the family dominated economic and social life of the village. As long as there are children their lives were continued. If generation succeeds generation, predecessors and the living were perpetuated (Yang 1945). The family, village life and their behavior continued. Ultimately national life and behavior also continue.

How did the family become so important in this hierarchy of groups and interlocking social relationships? The Confucian doctrine of the "way" or how one should conduct one's life was based on the family (Creel 1949). The way was the incubator of morality and model for the state (Creel 1949). Those relationships learned in the family and applied to village life extend all the way to the provincial and national governments. Everyone acknowledged and realized their importance and in most cases wanted to follow them to sustain family, economic and social relations. No other order seemed reasonable and violations of this order were feared by most. If family ties are not respected the heavenly principles will go into disarray (Creel 1949). All of society came to the conclusion that only one "way" was possible and violations were destructive of everyone's well being. All rested on the good order of the family and those institutions that derived from it.

Confucian Basis

The system described above came as a reaction to the problems of an earlier period in history. Around 500 B.C. in China "might" seemed to have power, not religion or ethics (Creel 1949). People suffered from warfare, banditry and social disorder. The insecurity and vile nature of life at that time seemed to bring no relief. Many were concerned that government was often a source of disorder rather than a means of curing the afflictions of the day.

In that period of chaos Confucius discussed ways to make life better for his students (Creel 1949). He and his students traveled and discussed the problems and their possible solutions. The teacher and students considered many subjects: the importance of previous (classical) works; a society that benefitted all; the role of government, individuals, business; violence; and education.

Confucius and his students arrived at some major rules for a new society. Their foremost principle was don't struggle, cooperate, and promote welfare and common good (Creel 1949). They thought that the suffering of the era was due to desire and greed satisfied by violence or deceit. When most people engaged in this behavior, especially government officials, all suffered. How could they change the present state of affairs? Most importantly they wanted a bloodless revolution. Cooperation and a distaste for violence meant that change would have to come without force. How could this change without violence take place? They decided that it was the ability of leaders that would make the difference in society's behavior. Leaders would make decisions that would encourage law and order without the use of violence and fear. To the Confucian scholars, the leaders ability was more

important than wealth and power in decision making (Creel 1949). Wealth and power could be gained by violence or guile and this method would encourage imitators that would eventually lead to the chaos they so wanted to avoid. The Confucians concluded that they wanted leaders to have educated men working for them who had virtue (Creel 1949). Virtue became an important part of education for without it educated men would use their power for inappropriate ends.

How should a society choose its leaders? Without a good means of selection the wrong people would be educated or the wrong education (one not based on "the way") would be applied. Perhaps a society might mistake someone who was not educated for someone who was. The selection process was critical for the entire system might be lost if it failed. The very worst kind of people might be selected by mistake, the kind that corrupted society in the first place. The important thing to remember was that the right education for the right people was the best method of changing people's behavior, not power or violence.

Who should be educated? It was opened to all except for those who were related to questionable businesses (taverns and inns). The poor were just as available for education as anyone else (Creel 1949). Nearly any person could therefore become educated. For the most part education was limited to those who would have time to study, purchase the important books, or perhaps have a tutor. Education was the measure of both capable men and above all virtuous men. It was, after all, intended to create governors and their aides chosen by ability and virtue (Creel 1949).

The selection of appropriately educated men was of utmost importance. The finding of knowledgeable and virtuous men became the responsibility of an examination system

designed and created for just that purpose. The Confucian followers believed in an examination system for the selection of rulers for several reasons (Creel 1949). It omitted the use of power, prestige, or violence in the selection of rulers. It could be made completely anonymous so the person being examined would not be made known to the examiners.

The examination process that evolved had rigor and for centuries was free of corruption. The process to find virtuous rulers or advisors to rule, became all the more difficult because of the belief that there was no single formula for governing. It was widely believed, however, that integrity was the best virtue (Creel 1949). A commentary on the classics was considered the surest way to find virtue. The final selection was often arbitrary, but the group who passed did provide a pool of talent that was capable and virtuous. In the end, the scholar-bureaucrats knew that words could not outrun deeds (Creel 1949). Their behavior in power, not exam results, would provide the decision making and example that other people would follow and respect. These scholars would provide the leadership for society. People would emulate "the way" in local government, village, and family life where the inspiration for "the way" was originally created.

How could this system be sustained? Isn't the attractiveness of personal gain and ease of violence powerful enough to overcome a system delicately built on education and the respect of the leaders' subjects? Evidently the system was not delicate. It lasted hundreds of years from approximately the ninth century to the early twentieth century. It survived floods, natural disasters and several foreign invasions. The system was durable if not always helpful to the people it tried to serve. An important reason for this durability may have been the success of the education and examination process in developing and selecting leaders.

Physical comforts were not to be sought (Creel 1949). This removed much of the motivation for the acquisition of wealth and power. One had the moral responsibility to do one's best. Finally, the point of government was the welfare and happiness of people (Creel 1949). These three important points did not lead to perfection in Chinese society but it did lead to a stable society that could endure the worst of man-made or natural disasters. Violence was avoided but not eliminated in the leadership of its people. Above all education and virtue were the hallmarks of government not violence and the search for power. Revolutions and invasions come, but in the end society relied on the products of the educational and examination systems to rule the largest concentration of people on earth.

Philosophy behind Education

Because of the history and purpose of education, Confucian societies developed a specific philosophy to guide all educational activities. Originally, Confucian ideals were used to overcome the sense of chaos, instability and injustice. Later, however, after Confucian ideals were accepted, the plan was to develop an examination system that would overturn the nobility as a source of power between the emperor and the people. The emperor was pleased with this idea since it meant less conflict and rivalry for his power. As the head of the examination system he would bestow authority on those who would help him rule. The intellectuals approved because it would increase their authority and give them the responsibility they thought they deserved. All benefitted because education would counter hereditary power (aristocracy) and violence as the source of power (Miyazaki 1974).

Thus, hereditary power except that of the emperor was reduced. The emperor was

bound to the system because scholars reported to him. The new power elite of scholars believed a man's nobility depended on mind and not on his grandfather's position. Their respect for the emperor was the only exception to that belief. They believed in him because he was the source of their selection and their authority. He was also inclined to listen to their advice and provide an example for others, lesser subjects, to heed the scholars in an advisory or official capacity.

Education had a greater impact in improving the individual rather than society (Creel 1949). It has long been a Confucian belief that the challenge is to improve the person and the improvement of society would follow afterwards. One who is able must govern self before governing others (Creel 1949). If one had the moral ability to make decisions for oneself then it was much less difficult to exercise an ability to govern others. If one could not govern oneself no amount of knowledge or skill would help to govern others. The responsibility of education was, therefore, the cultivation of character without which one could not lead by example or make the appropriate decisions for society.

The Confucians believed that nobility of character could be learned. In their judgment, people had a great capacity to be influenced by education. Only the very wise or very stupid could not be changed (Creel 1949). All of education was designed to make a better person who could cope with unforeseen circumstances that, in detail, could not be anticipated by education. Study was to make a man sage (Dore 1974). He could bring his wisdom to bear on any problem no matter how great the complexity or strange the circumstances. Virtue, not usefulness, was the main goal of education, virtuous conduct not acquisition of knowledge was the fulfillment of education (Dore 1974).

The intention was for education to perfect the will, not the mind (Dore 1974). In this way the scholar bureaucrat could both determine the proper course of action and execute the decision despite the difficulty of the situation. If he could do this his education was a success.

Out of these educational goals came the daily work of the schools and tutors. How did they try to achieve the goals of education? That moral learning should not give way to practical learning was the first and foremost creed of schools (Dore 1974). The qualities of morality were defined in school (Dore 1974); students could then know what was expected of them. Overall, school was regarded as the place one learned good manners and the techniques of the worthies (Yang 1945). School was a place where one was trained to be trained (Dore 1974). As a student one would learn the basics of a good life, but one's instruction would go on indefinitely as an adult. The life-long pattern was set in school and expected to be followed throughout a student's career. More learning and experience would aid in decision making, but all officials owed their method and motivation to their scholarship in their early studies. This was a highly demanding process because the expectations for learning the classics was very high. The hope of discovering virtue was nested in the vigorous study of these old writings. It was said to be easy to grow old but difficult to be learned (Rohlen 1983). Acquiring virtue was a great struggle, especially with so many competing to be recognized in the massive government tests.

The importance of study could not be overstated. If man's character was able to be improved it nevertheless required great effort. Its importance to the individual was enormous, but the contribution to society was also significant. The prevailing belief was that

study was the duty of man (Dore 1974). The development of personal character was so important that study became a social duty for the happiness of the state (Dore 1974). Members of the family that were making great efforts to study were often given help to make their studies go more smoothly. Either materials, a quiet area to study, relief from other family duties, books, tutors, or food might be brought to the young student. Anything that could conceivably help the young scholar might well be provided. All of these efforts, it was believed, would finally bring a good end for students, family and society. It was a cooperative effort that would help everyone.

What was the anticipated result of all of this scholarly effort? It should develop the very thing that was needed most in society, the ideal man (Creel 1949). In so doing, society would have a person that had the moral responsibility to do one's best. It would also result in a person who was aware of his highest calling. The reward for this was inner peace and thus the individual would be worthy of a good education (Creel 1949). An individual who was worthy of a good education and aware of his responsibilities would find a reward that transcended the material wealth and praise from others that he was bound to gain. He would do his best to improve society, whatever the situation, and thus find inner peace and satisfaction that only the educated man could appreciate. This was the ideal man, motivated by service, not distracted by fear or prospects for gain. The person who wanted and needed to serve beyond the customary motivations that weakened societies was the person the exams were trying to identify. A large number of these educated people, though small in percentage terms, were needed to improve society, to make it just and functional. None of this could happen without the ideal men leading the way. And the ideal men could not be found

without the aid of a rigorous education.

Educational Organization

In time then, highly demanding tests determined a person's ability and, in a sense, character. Tests sorted individuals into recognized levels of ability. How one answered questions in two days became the sole and final measure of academic accomplishment (Rohlen 1983). Students could not retake exams. What a child did during the recognized test periods in life became final. One outcome was a social hierarchy based on exams (Rohlen 1983). Wealth, gender or previous family academic achievement meant little or nothing. How one did on tests was what counted. Differentiation began in ninth grade (Rohlen 1983). The many tests before then measured the progress of young children. In ninth grade children were divided into secondary schools that had different career paths or different reputations for preparing students for the great universities. After secondary school the last set of tests determined which college or university the student would enter. This became the final determinant for a student's success in life. The higher the test scores the better the university and the better the career.

The emphasis on exams and education came from a widespread belief that all men are the same. The ability to rule was differentiated by their education. All men were potentially equal, they should not be awed by great rank or be contemptuous of poverty (Creel 1949). Because everyone started out the same and had equal potential for the benefits of education, none should be overly impressed with the material rewards of life or their impact on people. Educated people should be even more aware of the unimportance of

physical rewards in life. After all, virtue is its own reward. Today the imperial examination system is no longer used to select government officials, yet examinations are still seen as being useful to learn what is deep inside the mind and character of a person. Today exams still select students for the best schools in secondary or higher education. This view has not fundamentally changed with the change of governments. Everyone begins the same. education separates them, and tests recognize the differentiation.

Diligence, outward conformity, persistence in the pursuit of goals and significant self-denial are the outcomes of this system. Students even have a dedication to deprivation in schools (Rohlen 1983). In China, one can say that one studies hard to glorify ancestors (Yang 1945). Whatever the motivation in China, Japan or some of the other countries in East Asia, the direct outcome of the system is very clear. The students are dedicated to their goal of education. The larger goal of dedication to ancestors or development of good character may not be understood by everyone, but the constant work and dedication are known to one and all. There appears to be no alternative to this effort to acquire both good character and a good education.

There are some important principles that students should know and use when they are preparing for the exams. The responsibility for learning is on the individual. Another important point in the search for good character and the needed virtue to rule and be ruled is that every man must find these qualities for himself (Creel 1949). No amount of memorization or virtuosity in debate will help. The individual must sincerely find these qualities of good character by his own observation and evaluation.

The Impact on People

People in society are evaluated by school performance and growth in character. Employees would choose new workers by a school's reputation (Rohlen 1983). Because this policy is almost universally enforced, the message is learned by parent and pupil alike: study for the rewards of society. In modern times however, a great irony has occurred. What was originally done to find people not distracted by material rewards and punishment has been adopted by businesses to find those people who are best able to lead or follow. Materialism or monetary reward is now a major reason why the educational examination system is perpetuated.

Education has provided needed characteristics for material success and is credited for this contribution. The initial justification for hard work and dedication to education was the development of good character by the educational process. Education has also succeeded in developing the qualities needed in establishing a successful material society. This is particularly true in the post-industrial age. Initiative, preparation and acceptance of education by people was important for Meiji society (1860-1900) (Dore 1974). This period of rapid industrial growth relied heavily on an educated duty-bound society. Social problems did not appear in the rapidly developing economies of East Asia as they did elsewhere. Orderliness and diligence were accepted as was education and social problems were few by Western standards (Rohlen 1983). This is one of the outcomes of education that helped gain respect and compliance for the educational process.

Societies made schools and schools helped make society. This process in time, helped make a highly literate society. The number receiving higher degrees even surpassed

the economic demand for higher education. Schools are shaped by social environment yet contribute to it (Rohlen 1983). The acceptance of education and its rigorous demands is so pervasive that some East Asian societies have one of the rarest phenomena in the world, a society that creates more highly educated students than a developed economy needs. The number of college-prepared students exceeds the job market (Rohlen 1983).

What Type of Education has Developed?

The type of education that developed was rooted in the fundamental East Asian ideas concerning the nature of human beings. It was believed that the child is weak and ignorant due to a blind preoccupation with self-needs; he/she could learn to become the perfect adult by education (Rohlen 1983). Children in Japanese and Chinese societies studied intensively for exams. Written exams began at the Bakufu level in Japan, an imitation of Chinese policy (Dore 1974). What children studied was defined by a central authority and was thought to be the appropriate subject to learn for one and all.

Knowledge based on experiences was not helpful. Knowledge to be drawn on for exams was the only important form and was very demanding. Gaining skills and experience were not considered helpful for university entrance (Rohlen 1983). The practical knowledge of the world was not important. It was the rare knowledge of the ancients that had already taken into consideration the "practical" knowledge that mattered. Their overview of life and the world was considered most important in developing character. This was the work that East Asians applied themselves to, even in modern societies, to obtain virtue and entrance into higher education. Many considered exam pressures to be too much (Rohlen 1983). Yet

reform of the rigorous study and intensive exam pattern has not yet been initiated despite some criticism of the process.

In East Asian societies exams concerned the writings of ancient philosophers. All worth knowing was invented (Dore 1974). Just as practical knowledge was discredited, curiosity or personal search for information was considered a distraction from worthwhile knowledge. Learning was not built on the assumption that knowledge awaits discovery. Truth was known and it was contained in the classic tradition. Learning was submitting to and mastering the sages, the emphasis was on facts. The process was long and arduous for wisdom came slowly (Rohlen 1983). As one learned you had to look into the deeper meaning of words and bring those ideas with you to the tests. Broadening one's knowledge was of no value.

In the process of learning the sages, attitude, not aptitude, dominated the work. A shoestring budget was all that was needed, the only requirement that a student had to bring with him/her was the appropriate attitude to learn (Rohlen 1983). One could be very intelligent but not have the appropriate willingness to labor and concentrate on his/her work. In high school the differentiation in ability was allowed (Rohlen 1983). Students were separated by work accomplishment, not potential, just as they would be separated later in life.

The presentation of material in a class room setting was straight forward and relatively simple. The pace was adjusted for learners of varying ability but the national curriculum had to be covered. The lecture followed the book with no aides, no diversions, and no discipline problems (Rohlen 1983). Setting the pace to individual abilities may not

seem consistent with the conformity of the educational themes. but this may have been a concession to practical considerations (Dore 1974). It was difficult for every class or every person to follow a ready made time-table regardless of the rest of the educational program. The devotion to a national curriculum did not rule out debate or discussion but they were of secondary concern (Rohlen 1983). The point was always to sharpen the students for their examinations.

An additional important concern for education was the feeling that being a gentleman should be "sincere" and not for show. It is often times easier to appear to be a gentleman, in a stylized way, than actually paying the price to be a gentleman. Consequently sincerity was the most important of virtues. One of the most important themes of education was that the love of wisdom without study was thought to be superficial (Creel 1949). The triumph of knowing something that someone else didn't know can lead to a distraction from wisdom being used to build character. It was, therefore, considered useless to memorize books (Creel 1949). This made no contribution to establishing virtuous conduct in one's self. The outcome of this serious devotion to education was a larger percentage of graduation from twelfth grade than any other place in the world, at least for Japan. Taiwan and Korea fare very well in this category as well.

Women

An important way to measure a society is to determine the extent women participate in the educational experience. For centuries almost no women engaged in the great examinations of China and Japan. More recently women have been given access to

education and can excel with little stigma attached to this accomplishment. In seventeenth century Japan, where education became common even among the poor, the lower classes sent girls to school with boys. The reason was that the proper regulation of the home requires that women as well as men be given the chance of instruction (Dore 1974). At the conclusion of their education girls were on parity at exam time (Rohlen 1983). Many women now excel in academics and almost all mothers are as educated as the father of the family. For growing children this means two sources of literate information in the formative years.

Honors and Rewards

Originally education was meant to develop people who were free of worldly concerns and devoted to that which was considered right and virtuous. Honors and rewards later encouraged the search for virtue. To reward people with material wealth and prestige when virtue and "right thinking" should be their reward appears contradictory, but this was the decision that was finally made. Scholars became wealthy and held prestigious government offices. To become an official was the most lucrative as well as the most honored career in China. The chin shih (highest position) received his honorable status from the emperor, his eminence was acknowledged by a public opinion formed and controlled by intellectuals (Miyazaki 1974). Apart from inheriting the imperial throne itself, becoming a scholar bureaucrat was the surest way to find fame and wealth in Imperial China.

A family could gain a good reputation in Imperial China in five different ways. In descending order there were:

- (1) to have members of the family with a ranking official position

- (2) to have scholastic fame
- (3) to own land with sons to cultivate
- (4) to be wealthy (wealth alone cannot build reputation)
- (5) to have conspicuous virtue (Yang 1945).

The top two positions required a thorough education. With these two accomplished, the other three methods could be achieved in their turn.

How did society at large view education and those who were educated? When some families grow rich and there are educated members among them, the status of that clan rises (Yang 1945). The most important point to remember is that wealth alone meant little. Wealth without the virtuous guiding hand of education counted for little among village members. The village regarded education as a means by which a family could raise its position (Yang 1945). One of the most important perceptions concerning education was the sense that it was admired by one and all regardless of the amount of education that was involved. Learning was fashionable (Dore 1974). Even if common people didn't quite understand its utility, they accepted that it was a good thing to have.

Farming and studying were the two safe roads to prosperity and glory (Yang 1945). It was hard to farm all of one's life and acquire wealth. If one passed the exams one could acquire wealth and prestige. Passing only the first level of Imperial exams accrued honor to a clan. In one village near the east coast, although the scholar in the family died years ago, the family is still referred to as *Yang Kwang Shan* (a highly revered title) and has been respected in the village for several generations for this distinction (Yang 1945). The wealth and prestige of being a public official was very important, but in part the honor was due to

the rarity of the accomplishment. Only one man in three-thousand had the good fortune to receive the chin-shih degree (Miyazaki 1974). This fact alone insured distinction quite apart from any reflections on superior character, wealth, and power.

Promotions on Merit

One of the most important characteristics of the educational efforts in any society is when educated individuals are given the responsibility to make decisions. When this takes place institutions, including government or other institutions run by families or military leaders, begin to change. When the decision are people of "merit," decisions are likely to improve. Decisions will rest on the hours and eventually years of study and contemplation. Leadership will rely on knowledge and reflection, not brute force or traditional rule. Sons of hereditary rulers often proved worthless, then house commoners were promoted. This encouraged the search for meritorious people who deserved promotion. The recognition of this need for able commoners for the good of society led to standards of excellence that were objective and an education that was not denied to common men (Dore 1974), Objective standards and education open to all men provided a great impetus for scholars to be the prime decision makers in society. The first step was to recognize that military rule and hereditary ability were inadequate for all of the situations a ruler faced. It was the search for virtue, derived from education, that gave individuals the ability, or merit, to lead society.

Teaching Young Children

In order to establish an appropriate environment to develop and appreciate

scholarship, families had to teach the young the importance of education and the need to respect the educated. This began with the parental attitude towards study. Parents believed in sacrifice and in improvement for self and society (Dore 1974). Consequently parents don't worry about having a "brain" in the family. There is no peer pressure opposed to excelling in studies. Indeed, school exam results are precious information for ambitious parents. This is part of the general anxiety of whether everything is being done to educate the child. Parents worry about every little thing. The degree of this worry is indicated by the use of the sometimes meager family fortune. Despite high quality schools education is a large part of the family budget. Home is where the hard work of preparing for exams comes in and the family sponsors this (Rohlen 1983). It is the best families that make this kind of effort, but many take this or a similar approach to supporting a child's educational labors. All families hope their children will do well and feel bad if they can't help them in some way.

Do parents' attitudes and efforts make a difference? Parents work and save to have capital for future generations, including prospective grandchildren (Yang 1945). This is not only for the acquisition of wealth, in Japan if a family is well off, it is evidence of good family character. This willingness to prepare for the future and use the family fortune for education is reenforced time and again. The difference in family plays a role in Japan. Despite homogeneity in population and small family differences, parenting makes a great difference in educational outcomes (Rohlen 1983). The dedication of the family towards education is a major explanation for childhood success.

The parents support for teachers and schools is also high in East Asian households. Most East Asian parents believe the schools and their staffs are specialists who know what

is best for the children and have the children's interests at heart. Support is so serious that the parents have second thoughts about the demanding atmosphere of the schools. There is public criticism but private adherence to the system. Indeed, parents regret sending children to these kinds of schools, but are afraid they would lose out in the race, the loss of childhood is regretted (Rohlen 1983). They feel as though they don't know how to change this system for the benefit of their children and society.

Family cooperation with the respected school authority is high. In the main, families and school reinforce each other easily. Teachers are rarely interested in being popular with students. They even give supervision away from school. Parents actually look to teachers for the discipline their affection keeps them from giving. One of the most important decisions parents make is to delegate moral instruction and discipline to school, a Confucian pattern (Rohlen 1983).

This is a social structure that is not new but is built on the firm foundations of the past. The diverse functions of the clan included supporting schools (Yang 1945). In earlier times, families specifically hired teachers for their children so they could be better disciplined and better educated in the morals of society. When government gained this responsibility, the attitude of the parents was that schools were a dedicated ally and that attitude has been perpetuated to the present.

The situation of the child in the family or society may help explain the relationship to education. Poverty and broken homes hurt children in Japan just as in other areas of the world (Rohlen 1983). The role of the school is to help affect the loss of a valuable institution such as the family by providing structure and moral lessons in school. Even if there is a wide

range of suitable family involvement in the students' lives, the school can help add to that by stern but useful moral leadership. Rather than exaggerate differences between students due to family background, its structure and purpose narrows the differences between families. Schools persist in their function as parents away from home by not letting them take jobs that they disapprove of (Rohlen 1983). Furthermore, if the family is not a good, stable environment for children, then the neighborhood can exert great influence on the young (Yang 1945). East Asian society expects good instruction away from home whether it be school, neighborhood or even further afield. If you have a child, send him on a long journey (Dore 1974). East Asians do not fear the influences outside of the home, they encourage their children to seek proper guidance even at long distances.

Chinese Perceptions of Cultural Superiority

The role outsiders play in China is different from other societies. Invaders were always Sinocized. They became Chinese or behaved like Chinese. The Chinese, in contrast to other conquered societies, showed no sign of a feeling of cultural inferiority. Political subjugation may have been feared, but cultural conquest was unimaginable. China reacted not as a cultural subunit, but as a large ethnic universe which remained quite sure of its cultural superiority even when inferior in military power to peripheral elements (Fairbanks 1978). This explains why Chinese culture and educational methods endured for so long. Chinese leaders always thought that there was no need to cross-examine their society or their methods. Conquerors might win, but they were never superior. Consequently, China until very recently, felt no need to reform or change. This left China with many qualities that have

been preserved such as a long-standing and highly-dedicated interest in education. It also left China with an unwillingness to criticize its fundamental social character or to change its behavior.

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Chapter 5

Hispanic Culture and Educational Values

The Hispanic cultural area in the Americas stretches between Mexico and Tierra del Fuego. People there speak Spanish or Portuguese, languages derived of course from Latin. The beliefs and history of Hispanics guide their expectations and attitudes towards education. As we shall see, Hispanic behavior, as it relates to education, influences economic development.

General Philosophy

The basic belief of Hispanic people about themselves is that the divine spirit of Spanish-speaking people is infinite and is bound by the common destiny of their souls (Madsen 1964). There is a great sense of destiny associated with a God that is in control of the universe. There is a counter-balancing theme of pessimism that helps explain the disappointment of reality. In the Hispanic view, originally, God planned a glorious future, but it will probably not be attained. Over all there is the belief that the people of La Raza (the people of the race) always suffer.

There is a kind of fatalism that Hispanic people feel toward God and destiny. All that happens is pre-ordained and one shouldn't struggle against life's course for life is balanced by God in the end. Suffering is made acceptable by fatalism. Hispanics generally believe that good or bad fortune is predestined. Even though good or bad things are out of one's hands, there is ultimately hope. God's ledger sheet is held to be exact and without error.

Through creation and destruction God does not give death without life or pain without pleasure (Madsen 1964). In the end the troubled mind can be reassured that earthly suffering leads to heavenly joy.

Basically two reasons account for the failure to achieve God's promise. One is the powerful forces the individual cannot control. When these forces occur the individual blames adverse circumstances, not self, for errors and problems. Disobedience is the other factor. Hispanics have weaknesses because God's commandments are not obeyed. The outcome is that there is nothing the individual can do to change things. There is, therefore, a difference between the Hispanic concept of fatalism and Anglo beliefs. What the Anglo tries to control, the Mexican-American tries to accept (Madsen 1964). This does not mean that Hispanics never seek to control events, but there is a difference in self-determination when compared to others. The general belief is that there is much suffering but Hispanics should accept it for it comes from God. Life is sad but beautiful (Madsen 1964).

Accepting uncontrollable circumstances or large scale problems is common in Hispanic life. The reaction to smaller problems may be very different. Here the Mexican-American wants to arrive at his own conclusions, not just accept facts as they are (Madsen 1964). This seemingly contradictory statement applies to the lesser problems that Latinos believe they can impact by their own actions. If authority or nature overwhelms them, however, they see it as something out of their control. More immediate problems are teneable by their own initiative.

Local males (family or officials), priests, and Anglos all present a problem. There seems to be a three step reaction to authority. If you are alone or in a small group, you can

seize the initiative and make your own creative decisions. If it is a distant power or the circumstances of nature that troubles you, they are to be endured. Family authority, local officials or priests provide a grey area that allows for personal action and perhaps even resistance to others' decisions. The closer the root cause of a problem is to an individual, the more likely that he/she will take personal action. The further away the cause or the authority controlling the circumstances, the greater the likelihood of acceptance and nonintervention.

Relations to Family

The importance of family life is central to all Hispanic social relationships. The most important role of the individual is his family role. The family is the most valued institution in Mexican-American society. The family is the main focus of social identification in all classes of Mexican-American society. Only with the most Anglicized Hispanic does individual desire become a more powerful motivating force than concern for the family (Madsen 1964). Not all Mexican-Americans feel the familial relationship to be completely beneficial. On the other hand, some perceive it to have strong advantages. The family is a rock and a refuge from the rest of society that could also reach out and draw one back when needed (Madsen 1964). Even though the devotion to family life would sometimes provide weighty responsibilities it is still seen as a source of strength and an antidote to life's considerable anxieties.

A highly supportive family provides a division of family responsibilities that is very important to each family member. Parental and sibling obligations have greater importance. Age and maleness command respect in the Hispanic family (Madsen, 1964). Besides their

age-gender division, a spatial division also exists. Male life is in the public sphere, while a female's life is in the home. Males outrank females except in the case of older females. Equality as a concept makes no sense in the life of the Hispanic family—males are king (Landis 1963). The division of labor, responsibility and respect are clearly defined in Hispanic homes, but are designed so that everyone knows what to do and everyone can help or be helped.

Although Hispanic families have structure individual families members do have the ability to express themselves. A person may think as he/she pleases but must not impose his/her ideas on anyone else (Madsen 1964). Consequently, conversation and personal relationships may be very exciting. Home life is lively—emotions run high and are easily changeable, from noisy to calm, angry to sweet (Landis 1963). In an Americanized Hispanic family the balance of roles shift but keep within the same pattern and the social discipline of the family continues to be strong (Landis 1963). Structure and responsibility in the Hispanic family does not preclude individuality, emotion, or defiance of authority. Indeed, the firm backdrop of Hispanic family rules permits the gyrations of emotions to play out without harm to the family bond.

Elements in the Life of La Raza

Hispanics feel that there are three major points in their life that play a major role in social relationships or society at large. These are envy, suffering, and violence. Envy is seen as one of the most potentially destructive. In fact, it is considered prudent to conceal personal gain or advancement. The reason is clear in Hispanic society: envy is too powerful

to overcome. The implications of this are very important: if one tries to get ahead he/she makes enemies (Madsen 1964). The impact on those who excel in education is apparent: they may not be accepted by their peers.

Suffering is the second important element in Hispanic society. It has connections to God and fatalism, but the attitude towards suffering predates the conquest by the Europeans. In Mexico, the Aztecs provided much of the philosophical orientation for this concept. Aztecs believed there is suffering on earth. Should we always be afraid and must we live weeping? No, there is also pleasure (Portillo and Portillo 1963). This may have helped provide the deep- rooted fatalism of La Raza and the concept of balancing in life.

The major provider of suffering is the third element, violence. This is a very powerful part of the history of Hispanic societies. Violence has led to fragmentation, preference for local leadership, and dynamism in action as opposed to reflection. Since violence led to fragmentation in national life, the male hero became important in Hispanic life (Gale 1969). Local violence against central authority was very popular in parts of Latin America and has led to revolution and national fragmentation. The local male hero would often become very popular compared to the central government. Caudillismo (leadership) requires skill, energy, arrogance, but not conventional responsibility (Gale 1969). This was what impressed people and motivated them to follow a leader who was near at hand and responsive to them rather than a distant power. Traditionally people rested short term confidence on local leadership (Landis 1963).

Violence in relation to leadership has become important in Hispanic life. Resources channeled to the police and military might otherwise have been used in education or

economic development (Gale 1969). The penchant for violence and the defiance of central authority provided an unexpected turn when democratic governments became less provocative—and possibly less productive for fear of a breakdown in social order. The direct and indirect cost of violence, because of the avoidance of conflict by decision makers, directed resources and effort away from a more productive investment in education.

History

Here I try to view history in one sweep and as a topic itself setting the stage for educational values and actions in society. The loss of Indian society is one of the first great events after the conquest that changed Mexican society and ideas towards education. The loss of Indians after the conquest, 1520 to 1620, was about 95 percent (Gerhard 1993). The primary reason for loss of life was the European diseases that spread throughout the Americas.

It was mixed bloods of European, African, and Indian decent that reconstituted much of the population. By 1821, upon independence, a third of the population, 1.35 million, was Mestizos of European and Indian ancestry, and approximately one million people, one-fourth of the total population, was African and mixed with other races (Gerhard 1993).

The Indians themselves had recovered from their depopulation, to a very small extent, at the time of independence. There were two million Indians in Mexico in 1821, less than one-tenth their number (22 million) at the time of the conquest (Gerhard 1993). A large Indian population, thoroughly reduced by disease, slowly recovered with a large mixed race of Indian, Europeans, and Africans taking over much of the population. The Europeans were

a large number but never dominated the population.

Mexico was governed by the new Spanish rulers after 1521 and their policies shaped the population in new ways. The church initially took the responsibility to help the Indians, especially in the fields of religion and education. The churches efforts were prodigious and the response encouraging. The leading officials of New Spain devoted themselves vigorously to the development of education. The friars taught the Indians reading and writing and Christian doctrine. Grante at Texcoco had a school in which there were a thousand pupils. Mendoza founded an institution, that of San Juan Letran, for the education of foundlings of mixed birth, while Zumarroza organized a college at Tlatelolco for the higher education of the sons of caciques (Indian officials). The Indians at Tlatelolco learned Latin and theology, and they made such rapid progress that within ten years their teachers were able to turn the college over to the Indian alumni. There was a period when pure blooded Indians were to be found teaching Latin to the sons of Spaniards (Parkes 1960). Apart from the troubles associated with disease the early conquest seemed like a period in which two societies were adjusting to one another and learning much. Priests studied Indian culture and translated books into Indian languages. The early decades of the conquest appeared to have a promising beginning and good colonial administration for all.

There was opposition to Indian assimilation on the part of Spanish colonists. The laws and administration came directly from Spain and were well intentioned. Spanish colonists were concerned about the Indians they had just conquered and who now outnumbered them. Colonists opposed Indian education (Parkes 1960). Even the Indians outside the formal schools were learning Spanish crafts and the skills of their artisans. Indian

schools, before the conquest, taught manual skills to good purpose. With the Spanish occupation Indians copied Spanish artifacts but were denied entrance to guilds (Parkes 1960). Indians were highly skilled and learned quickly. The Spanish were not reassured but worried about being supplanted by the Indians they conquered. It would be hard to maintain a position of supremacy if the Indians learned as well as the Spanish.

Because of the Spanish alarm at Indian accomplishments, laws were not enforced, separation and hostility began. Early laws were humane, enforcement was lax, schools degenerated and became extinct (Parkes 1960). The intentions of the early laws were never realized, the races became sharply divided. The fear and suspicion of early colonists led to the end of any hope of mutual growth by sharing education.

Indians began to lose land and material benefits as well. Early on the Indians were materially well off; in time illegal appropriations and landowners encroachments took material life downwards. The situation further deteriorated when landowners took advantage of Indians by putting them into debt and making peons out of them. Not only did the opportunity for education collapse, but the population and the material life of the Indians collapsed as well in the first century of colonial rule. How did this turn of events happen with such a well conceived beginning? The degeneration of administrators and the serious decay in the courts led to the disintegration of society. The races subsequently became distrustful and unincorporated; Indians were compliant but considered whites enemies. The decay of institutions continued for two hundred years; energy and progress for both whites and Indians came to an end (Parkes 1960).

The past set the stage for hostility, disenfranchisement and educational dualism. The

colonial governments contributed to the educational disparity between the rural-urban division in society (Gale 1969). The decisions and actions from the past set the stage for the great challenge Hispanic societies and governments have had to cope with for the last hundred years or more. It has also set the stage for educational behavior that is a feature of contemporary society.

Philosophy Behind Education

The beginnings of education in Latin America predate the European conquest. Whereas in Europe education emphasized the personal development of the individual, this was not the case among the early Nahuatl-speaking peoples of Mexico. They wanted the individual to assimilate into the highest ideal of the community (Portillo and Portillo 1963). This, in a sense, was similar to the East Asian desire to have citizens conform to a national and local model of the family where all conformed to a higher standard that everyone recognized.

The idea of conformity to state values, accepted by Nahuatl-speakers well before the European conquest, had to be modified under European control. In colonial times, the church assumed the responsibility for education and displaced Indian educational facilities. When revolution removed colonial European governments new ideas about education were adopted, discarded, and adopted again. There was an ebb and flow of populist to elitist educational systems, depending on the political waves surging through the region (Brock and Lawlor 1985). Such changes were taking place throughout all of Latin America often times at the same moment in history: The outcome of a political change often meant a change in

the goals and methods of education.

Positivism shaped Mexican education in its early years after the revolution of 1821 (Epstein 1985). Justo Sierra, head of the Department of Education, believed knowledge helped people, and that the state should help in the learning process as it did in Europe. Individualism and liberty were less desired than order and growth. Under these conditions all would benefit. Sierra believed that the state should use schools to improve society. The poor and Indians should also learn, a novel idea for in colonial times they were largely left out of the educational process. Under Sierra, schools were to be assigned the tasks of molding a homogenous people equipped with modern values, attitudes, and skills. When giving a child access to the benefits of a modern life and society, parents' wishes were not to be considered (Epstein 1985). These policies led to an expansion of education, modern science & technology as a basis for education, and a sense of national cohesiveness. A questioning of church and family sowed the seeds of social dissension that would often times interrupt the quest for cohesiveness.

In reality, despite these grand plans, education changed but little after the revolution, except for budgeting changes. The content of education remained the same, even after the 1821 revolution and its turmoil (Epstein 1985). Later on, secondary female education gained, but mostly tertiary education gained in budgets after the 1920 revolution (Brock and Lawlor 1985). It was very hard to change the curriculum and the teaching methods for an entire nation. The budgetary increases were very helpful for some segments of society.

Many saw education as crucial to peaceful economic and social development. The experience of violence showed the need for new ways to solve differences in rural areas; it

was hoped that education could provide these ways (Gale 1969). The emphasis Hispanic culture placed on local leaders and their call to action, many believed, would be overcome through education. Beyond the hope of peaceful growth was the belief that education would improve the material aspects of society. The spread of technology prompted a need for education to teach the skills of modern life (Gale 1969). The acquisition of skill in technology and the peaceful resolution of conflicts made education the indispensable key to a better future.

Outside Influence

The philosophy of education changed in pre-colonial, colonial, and post-colonial times. These different periods saw great contrast. The most important impetus to change in education and the social structure of society was outside influence. Even after independence, outside influence would inspire and even govern the philosophy and practical behavior of educational institutions.

The initial outside influence over the indigenous Indian institutions was the Catholic Church. The Inca and Aztec had a fairly extensive educational system. In some cases it included the nobility and lower classes. Both had a philosophy of incorporating the individual into the higher ideals of the state. After the conquest this changed. The Catholic Church took responsibility for establishing the Catholic culture but did little overall to advance education. Primary schools were rare and by the end of the eighteenth century, only ten primary schools existed in all of Mexico (Parkes 1960). The "take-over" existed in higher institutions as well. Higher education was represented by the University of Mexico.

It provided narrow scholastic training with none of the inductive reasoning of European institutions of the post-Renaissance era. Jesuit schools in Mexico gave good educations and graduated some excellent students. For the whole of society there was little or no education, however.

European influence during and after the enlightenment (1700-1790) increased, even after the independence from European colonial rule. Many of the formal educational systems of Latin America derived from the same formative period of national political development as do the major European systems. These Latin educational systems have been influenced by European educational development (Brock and Lawlor 1985). European thought had previously influenced colonial Latin America and helped begin their quest for national sovereignty. The age of enlightenment impacted many Latin American states by influencing their independence movements. The European influence in nation building and educational systems building did not always reflect the ideals of universal education in republican constitutions. Sometimes Europe provided restrictive elitists models that were less concerned with education for all but education for those who excel. The model of the English public schools is still favored by some Latin American elites. This is a part of the ebb and flow of politics. In some administrations universal education is emphasized, in others, economic and academic elites.

The outside influence on Latin America persists into modern times. Europe was not the only source of educational inspiration. Since 1920 Dewey began to influence some educational systems (Brock and Lawlor 1985). The emphasis on the child and the individuals own guidance in exploring their world and learning why things happen became

important. The individual's own quest for knowledge and independent desire for learning was to be the focal point for some educators entering Hispanic schools. This was very different from the old idea of accepting suffering and conforming to important principles so everyone would be better off. This new idea has few adherents but, it points out the persistent search in Latin America for a suitable ideology. Mexico is a highly fragmented society and looks to others for guidance in creating social institutions (Epstein 1985).

Integration

Another important topic that has had a big impact on education and the increase in education in the region is integration. In this case it means integrating the many diverse elements in Hispanic society. In the early days after the conquest, the government brought together two similar educational cultures, hierarchical and elitist (Spanish and Aztec) (Epstein 1985). The Aztecs had schools for all members of society but the nobility attended military or priestly schools. The Spanish had schools or tutors for the ruling elite and a few church schools for the rest of society. The traditions of discipline and conformity were similar. There were very few schools to integrate, however, so continuity was not difficult to achieve. After the revolution integration and the school system became important. Integration and assimilation were important in planning budgets and as a social movement. One reason for a resource increase for education was due to a national consciousness movement in Mexico. The new rulers wanted to integrate all of society into a stable cohesive unit. Education was intended to elevate the status of Indians and Mestizos, a major goal for the revolution. Part of the cohesiveness of society was to come about by equity in

education. The education policy in Mexico, even when influenced by Indianist ideology (those sympathetic to and respecting Indian culture) has always tilted to assimilation. No matter the desire to include Indians in national life, assimilation was an important goal. There were many educational themes in Mexican history but integration was pre-eminent. Even though the educational themes were sometimes contradictory, with the changes in government, national integration was always a central theme (Epstein 1985). Educational integration was the one educational policy that had consistency over the years.

Hierarchical and Authoritarian Belief

Another cohesive and consistent theme over many years was the belief in hierarchy and authority, even as reflected in the school system and its teachings. The Nahuatl believed the first ethical and legal responsibility was to respect and obey those invested with authority (Portillo and Portillo 1963). This was mentioned earlier in the philosophy of education section. Further the Nahuatl schools taught students to respect the state and obey administrators, legal organizations and rules (Portillo and Portillo 1963). Indigenous tradition emphasized submitting to authority. The church emphasized suffering and other worldliness. Neither encouraged self-help, initiative or self-improvement through education (Gale 1969). This was the opposite of the Greek Paedia principle of self-improvement.

The hierarchial aspect of school life became clearer, even in recent times. Highly selective, high academic schools were used for regional control (Brock and Lawlor 1985). This was true even after the liberal constitutions of Mexico called for universal education. Mexico is troubled by the difference in written law and practice (Epstein 1985). The upper

classes in Mexico, even after the revolution, were willing to support this elitist concept of school. Schooling was a rare privilege that was a support against uncertainty (Gale 1985). It was believed by some that the spreading of education would lead to a more volatile future. The advantage of education helped protect those who sought stability in society. The wealthy did not see large scale education as a social stabilizer, but more likely a threat. This was the opposite view from that held in East Asia.

Type of Education and Accomplishments

The legacy of hierarchical education led to different curriculums through out the region. There is an uneven provision of schools in all of Latin America (Gale 1985). This began with the educational beliefs of the early Indian empires in Latin America. Inca schools trained leaders; Aztecs had schools for all classes. The Nahuatl schools had higher classes that learned sacrifice, penance and academics; the lower classes learned manual skills, self-defense, religion, and the arts (Epstein 1985). All of these schools had the higher classes learning those skills that would lead to the major decisions an entire society would depend on. The rest of society received no education or in some governments (Aztec) they received the education of a warrior, handicraft worker, or artisan. The distinction was between those who trained the mind and those that trained the hands. In some governments the educational system was complex but still divided society into two distinct groups with little sharing of responsibilities or change in social positions. As previously mentioned the changes after the conquest, during colonial times, were little different in terms of hierarchial divisions. The one major difference is that Indians seldom participated in education and

almost never in the higher levels of education. The only exception might be through religious schools. There were no exceptions in secular life.

Early schools after independence were well intentioned in their hopes for expanding education. Early liberal legislation laid the foundation for a series of laws enacted in the 1860s that made elementary schools free and compulsory (Epstein 1985). Benito Juarez, the president of the nation at the time, led the drive for free, compulsory, secular education that was executed by his minister for education, Barreda (Parkes 1960).

Schools were held in high regard by the government and had a high degree of support. Barreda's positivism came from Comte (of France) and Barreda led the Mexican school system (Parkes 1960). It was the first time that Mexico had a vigorous effort to expand education to those who were not served. This was by a government that believed education was the key to all of its goals. To Barreda and Sierra (another minister) fell the task of creating a primary school system that was obligatory, uniform in content and extended to the entire nation (Epstein 1985). This was a near impossible task considering the obstacles of few teachers and little initial funding. A change in government after another revolution did not bring a lack of enthusiasm in education. Obregon, a later president in the 1920s, put Vasconcelos in charge, and gave a large budget; education spread rapidly as rural schools multiplied (Parkes 1960). Education enjoyed great purpose and expansion after the 1860s and 1920s governments placed so much emphasis on it. But the vigorous efforts were hard pressed to overcome centuries of neglect. Even after the expansion, problems remained.

Education quality degrades with distance from power centers. Educational

incompleteness from city to village to rural areas, even for primary schools, lessens Hispanic education (Brock and Lawlor 1985). Local officials either didn't have the resources or the inclination to eliminate the inequities in education.

Recent expansion is underway as it has been at different times in the past. From 1946 to the present education expanded rapidly (Epstein 1985). The Juarez and Obregon expansions were very important and built on precious little that had been left over from the past. At the turn of the century, 1800, there was 1 percent literacy in Mexico. Going from 1 percent in 1800 to 20 percent in literacy in 1920 was no easy task. It was a great accomplishment that any nation could be proud of.

Hispanics were not only being educated in their own country but outside of their borders as well. The level of educational benefits that Hispanics have received in the United States depends on their time of immigration. Chicano (United States Hispanic) school problems are cultural in the view of some authors (Romo 1984). There seems to be different school experiences by recent, transitional and old school arrivals. Recent arrivals are in the last few years (three to five), transitional have been here longer, up to a generation, and old arrivals have been here a generation or more. The most acculturated students get the most benefit from school (Romo 1984).

Discipline is one of the biggest problems for students in the United States. Mexican obedience is considered apathy; indifference is considered a lack of interest in progressive education (Landis 1963). The observations made earlier about a high respect for distant authority and a highly reactive feeling for local leaders may present itself in American schools. Students may see the local leader-teacher as an authority that must be listened to

but not by their own choice a teacher must be respected, yet without decision-making a nonreactive acceptance without challenge or enthusiasm may be the result. This could be a long-suffering coping behavior that is familiar to Hispanic society. It does interfere with education but is less prevalent for those who have adopted the new culture. Apparently, it is less threatening or confusing behavior for Hispanics and it makes it easier to cooperate with authorities.

Importance of Literacy

Literacy and its political influence is one of the most important considerations in the development of education. The considerable difference in the kinds of policy that are usually present in Latin America means that political decisions are very important. Some hold the strong belief that the right to vote is meaningless without literacy and knowledge of the language (Parkes 1960). Modern communication may allow direct verbal or pictorial contact by radio or television. The more deliberative and detailed contemplation of a subject is more likely to come with literacy, however.

Achievements in the field of literacy have been dramatic in recent years. In Mexico the literacy rate was 49 percent in the 1940s. By the 1960s the rate had risen to 62 percent (Parkes 1960). According to United Nations statistics it was up to 80 percent by the early 1990s (Kindersley 1996). This was a rather rapid increase in less than a century.

The need for literacy in the United States has been more clearly seen than in most areas of Latin America. For those Latinos who move to the United States the best jobs need literacy and, over time, they respond to that need and opportunity. Older resident Chicanos

had jobs needing literacy, new immigrants did not (Romo 1984). This is a very important idea. Those Hispanics who have just arrived in the United States are unprepared for United States employment except for jobs that do not require literacy. These are presumably jobs with lower salaries. Over time, however, Hispanics gain literacy and can get jobs that require literacy. Presumably these are higher paying jobs. The adaptation process of learning literacy and increasing income over time is the theme of this research..

New migrants come to the United States with a belief in success and a willingness to learn. School achievement is correlated with learning English (Romo 1984). This is something Hispanic newcomers know and try to participate in. Hispanics are shifting to English quickly (Romo 1984). The pattern of entering the United States, learning English, acquiring literacy and getting English literacy dependent jobs is apparently on going and successful. This is a very different pattern from the old colonial and early independence experiences of most people not having access to learning, literacy and schooling.

Women in Education

Another important point is the provision of education for half of the population. In some societies the skills that women need to conduct their lives does not include education or literacy. It might even be believed that education would interfere with household duties or at best be a waste of time. Once a society concludes that a woman's life, regardless of the nature of her responsibilities, is better served, then education may spread to everyone. A society in which everyone has the benefit of education should raise the level of discourse and decision-making to a more informed and rational process. In the case of Hispanic society

there has been improvement in this area of education. In the time of greatly expanded educational budgets (after 1920), female secondary enrollment increased, tertiary enrollment greatly increased (Brock and Lawlor 1985). This had a very big impact on girls in upper income families. Lately there has been a broader improvement in education. Female enrollment is almost half in primary schools (Epstein 1985). This is an enormous improvement over the previous experience in Latin American education.

Honors and Awards

One of the best ways to understand a society is to learn what kind of behavior is rewarded and how extensively these rewards are provided. In Indian cultures the priests who achieved the greatest levels of education were highly honored and made many of the important decisions in society. Later on after the conquest and in the early independence era educated men outside of the church were rare. The men who had military skills, as mentioned earlier, controlled local life and usually national life. Even in modern times the military is still seen as the counterbalance to government activity especially when the government is acting against the interest of church or economic establishments. People who have education are playing a greater role in society but usually they are recognized through economic rewards.

Family Attitude to Education

The family support and expectations for education are widely considered important in the development of a good attitude of respect and motivation for education. Early Indian

support for education was clear but it was intended to instill a certain sense of appropriate behavior. Aztecs would encourage, even from infancy, strength and self-control (Portillo and Portillo 1963). The schools were designed to sustain this attitude especially for the higher class students. The school system wanted to instill a spirit of dedication and conviction that would later help them lead. These values were found in family life as well. There was no discrepancy between school and family.

Later, however, when the great advances in education were taking place, there was a theme in the positivists approach that was somewhat different from the values of the family. The positivists, as mentioned earlier, had a view of the world that placed a heavy emphasis on education but was suspicious of the old family influences. The teachers were sometimes even critical or contemptuous of the life and views of village and family members, consequently some friction developed. Informal education in the family was regarded as more important than formal schooling (Madsen 1964). To some extent education, though respected, was seen as foreign and even interfering in family life. This belief followed the same view, that far off power sources were ignored but local power sources (in this case the family) were familiar and appreciated. They were seen as more fair and understanding. Far off ideas or power were seen as suspicious even deceitful. They were not part of the full fledged world of the common Hispanic.

Despite their suspicions, parents do try to help. They see the outside school as having some useful power and prestige available to their child. In the United States the parents see schools as potentially very useful. Parents praised childrens' accomplishments, children behaved well, and were praised by their teachers. Their help was limited due to their own

schooling limitations. Parents supported children in homework but eventually they could not help because they could not understand (Romo 1984). Their hopes and intentions are very good but there seemed to be a practical limit to improvement.

Though parents had high hopes, the illiterate parents have poor functioning children. All parents desired college for their children, they thought school related to achievements and English was related to assimilation (Romo 1984). These people want to help and concentrate on the right goals but they have trouble giving practical support that translates into success for their children. A success that both they and the Anglo community would interpret as success. The children who start late and drop out early do so because of their parents' own illiteracy (Landis 1963). The very people who want to help the most can not because of their own past illiteracy.

Anglo-Americans are puzzled by what takes place and often see the Hispanic family as a problem. Anglo-American officials are troubled by features of the Hispanic family (Landis 1963). This is probably due to a misunderstanding or lack of familiarity because the Hispanic family is highly supportive and wants the same goals as the Anglos. They are morally a great potential help and not a problem as is often believed. There may be some problems in relation to education that the Hispanics themselves are unaware.

Travel

One measure of a person or families interest in learning is their willingness to engage in travel and see new things or become aware of new ideas. Travel is an important way to

broaden one's horizons and perhaps learn directly how the world really works. Many Hispanics think this is one way the Hispanic lifestyle may have held them back. On one occasion a highly talented vocalist had a chance to leave south Texas and attend a music school in New York on a scholarship. Her father polled 11 aunts and uncles who unanimously said no. It was too dangerous a trip for a young girl (Madsen 1964). A promising career was lost. Anglicized Mexican-American families see the Latin family as an obstacle to education because they don't want their children to leave. The family is so strong and the role in family life so clearly defined that a disruption is difficult for all members to adjust to. Just moving away for any reason is considered a serious problem. A conservative family considers a child's moving away to be bad, abandoning the family and offending God. Moving away is a difficult experience for a lone Hispanic child to overcome by him or herself. They have been used to a protecting and cherishing family for so long that going away alone is seen as too difficult a task, even if opportunity is available.

Differences in the United States Hispanic Community Over Time

There is a conflict between Anglo and Hispanic base values. The Anglo values of individualism and democracy are ideas that conflict with the Hispanic view of family above self in the name of God, the foundation of La Raza (Madsen 1964). This basic conflict is resolved in varying degrees within the Hispanic community and is related to time in the United States

There is a division of new Hispanic families in the United States, at least according to one researcher. These divisions are associated with time and similar behavior within each

division. The three types of divisions are families that are recent arrivals, transitional and old families as described earlier. They see school experiences differently (Romo 1984). One difference is between recent immigrants and that of old Chicanos. The older group is more skeptical and expect more from schools. Recent immigrants integrate physically but not socially in the Chicano community. They communicate and relate more to other recent arrivals. Although old Chicanos and recent immigrants lived and worked in similar areas their social interactions were small. The primary interaction of recent immigrants is with recent immigrants from the same sending community. This is an interesting view of the Hispanic community and how inward looking they are upon their first arrival. They feel more comfortable with people from their home community let alone their home culture. They also have fertility rates that are similar to Mexico's. Chicano, older arrivals, have fertility rates more like that of the United States. Older members of the community may be more associated with other older Chicanos or perhaps even with Anglos of the larger community. Whatever the cause, there is a clear difference in behavior between the two groups.

There are some other differences. Early undocumented immigrants have a high respect for education but little ability to help. Undocumented immigrants believe learning English and education are very important, but they are busy earning a living and have little personal ability to help. (Romo 1984). Even though primary attention was given to survival recent immigrants had high aspirations for children in the professions; they wanted a better life for them. The parents appreciation for schools in the United States was a reason for their immigration; they seldom criticized schools, however. The differing views and behavior of

old Chicanos and recent immigrants are striking, especially their views on education. Both had a high opinion of education. One, the recent immigrants, could not understand how to help, had little time and greatly appreciated schools without engaging in a dialogue with school officials. The older arrivals had a better chance to help and were more supportive of children and demanding of local schools.

Transitional family attitudes, the ones between older Chicanos and new arrivals, were yet another category of behavior. These families identified more with the United States than did the new arrivals (Romo 1984). This probably indicates a change in attitudes that simply requires more time to mature but will ultimately end up in a very similar position as the old Chicanos. Time is the primary indicator of change that nearly all Hispanics will experience as they live in the United States. It is an adaptation process that is apparently certain, continuous and universal for this group of people.

Language change and school attitudes is an important part of this adaptation. Language shift is more rapid for children than adults or adolescents (Romo 1984). In half of Chicano families, children speak English and Spanish. With this language change and ability comes the previously mentioned suspicion of schools. Chicano parents had the most alienation from schools (Romo, 1984). The adaptation process provided a greater ability to understand both language and culture. Greater understanding developed into a skepticism that may have grown out of an awareness of what the schools really were and what they could be. Since Anglo parents also have a questioning relationship with schools, this indicates a more mature approach compared to the overt optimism of the newcomers.

One of the important points in understanding Hispanic group behavior over time, in

the United States, was that all families interviewed valued education (Romo 1984). The first step in achieving an education, recognizing its importance, was completed. What steps must a person or society go through in order to actually accomplish this goal? One author believes there is some value in comparing immigrant experiences to see how accomplishing the goal was done differently. What does it take for immigrants to make it in a new society, compared to other groups in the United States or immigrants in other countries (Romo 1984)? This is one of the goals in this research.

Children in Family or Society

One of the important issues in the development of culture in a society is the role of children in the family. What are the difficulties children have between school culture, family life, and peer culture. Lower class Hispanic family children hear family teachings contradicted in school, behavior is uncomfortable and sometimes hostile (Madsen 1964). This is true in Mexico or the United States. There are additional problems, sometimes the peer group, the most important group of people outside of the family, is also hostile to school. Successful Hispanic students are often mocked or shunned by peers (Madsen 1964). Finding a school hostile to family values and a peer group hostile to school can take away much of the incentive to participate in school activities, at least to the extent needed to be successful. No matter the stated value of education, these conflicting values can be dispiriting.

The modern Hispanic society still has vestiges of these old societies that preceded them. People who were immigrants from Mexico (to the United States) were often poor and

poorly educated, from a corrupt hierarchial government. This is true after many years and several revolutions. To them, however, old Mexico still means independence, secular government, redistribution of land and glorification of Indians (Landis 1963). Hispanic arrival in the United States has meant change but a change that is heavily dependent on the culture and values of a society they left behind.

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Chapter 6

Asian and Hispanic Differences: A National Perspective

In Chapter 6 I examine Asian and Hispanic population, education, income and residential differences on a national scale. These variables I refer to as PEIR variables (population, education, income and real estate) in the remaining chapters. I establish a national baseline of PEIR data to determine differences between national and metropolitan Asians and Hispanics. The metropolitan analysis takes place in Chapter 7.

National Differences

Asians and Hispanics can be seen from three perspectives: the total population, recent increase, and the projection of the population. The total United States population in 1990 was 248 million. The Asian and Pacific Islander total was 7 million and the Hispanic was three times as large at 21 million (Table 6.1). Both populations are very significant as a part of the total United States population. The United States increase overall was 9.8 percent while the Asian increase was 95.2 percent and the Hispanic increase was 51.5 percent. Both increases are much higher than the total increases. Projected Asian and Hispanic numbers will be much higher therefore than the present populations. In the year 2050 the Asian percentage of the population should rise from 2.8 percent in 1990 to 10.1 percent. For Hispanics the percent of population should rise from 9 percent in 1990 to 21.1 percent in the year 2050 (Table 6.2). These two populations will account for almost one-third of the United States population in the future.

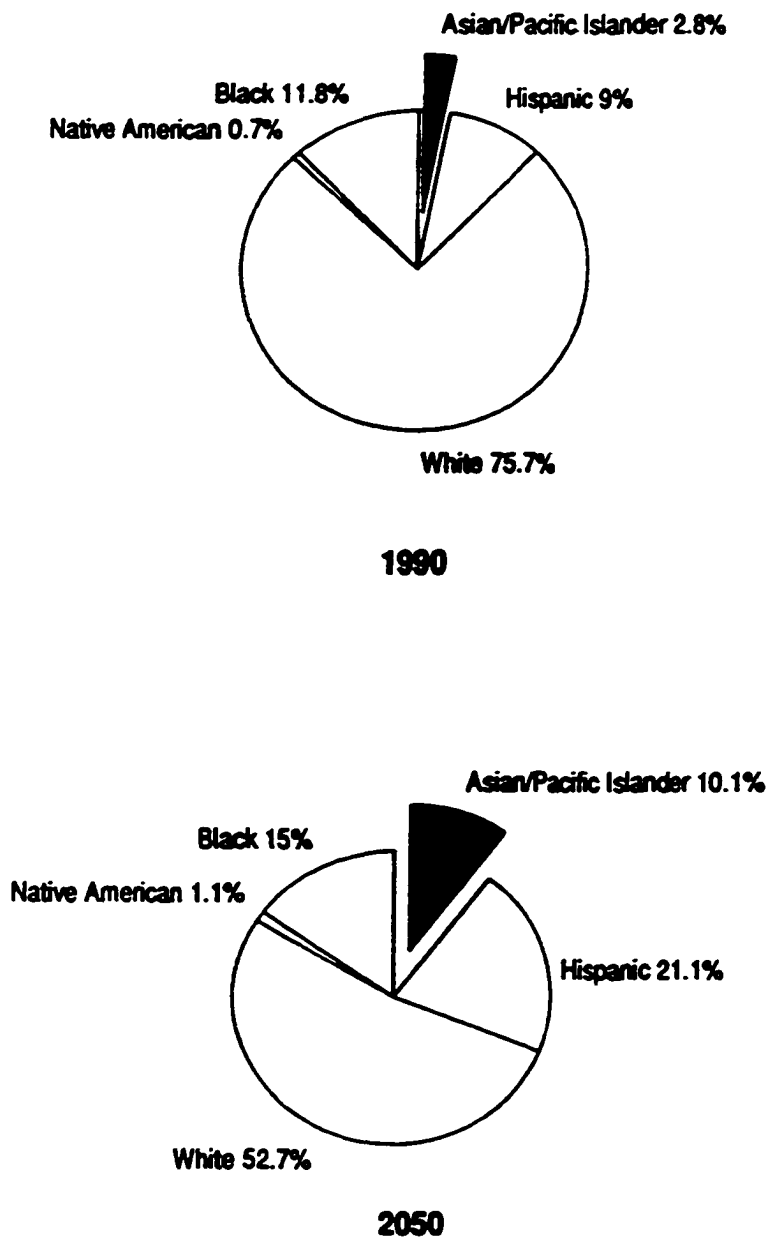
TABLE 6.1

Population in the United States by Race/Ethnicity, 1980—1990

Race/ethnicity	U.S. population, total		Increase, 1980 to 1990	
	1990	1980	Number	Percent
Total U.S. Population	248,709,873	226,545,805	22,164,068	9.8%
Asian/Pacific Islander American	7,273,662	3,726,440	3,547,222	95.2%
Chinese	1,645,472	812,178	833,294	102.6%
Filipino	1,406,770	781,894	624,876	79.9%
Japanese	847,562	716,331	131,231	18.3%
Asian Indian	815,447	387,223	428,224	110.6%
Korean	798,849	357,393	441,456	123.5%
Vietnamese	614,547	245,025	369,522	150.8%
Cambodian	147,411	16,044	131,367	818.8%
Hmong	90,082	5,204	84,878	1,631.0%
Laotian	149,014	47,683	101,331	212.5%
Thai	91,275	45,279	45,996	101.6%
Hawaiian	211,014	172,346	38,668	22.4%
Guamanian	62,964	39,520	23,444	59.3%
Samoan	49,345	30,695	18,650	60.8%
Other Asian/Pacific Islander	343,910	69,625	274,285	393.9%
White, non-Hispanic	188,128,296	180,602,838	7,525,458	4.2%
African American	29,986,060	26,482,349	3,503,711	13.2%
Native American Indian, Eskimo, Aleut	1,959,234	1,534,336	424,898	27.7%
Hispanic	21,113,528	13,935,827	7,177,701	51.5%
Other Race, non-Hispanic	249,093	264,015	(14,922)	-5.7

Source: Asians and Pacific Islander Center for Census Information and Services, San Francisco, CA, 1993. Primary source: U.S. Census Bureau, Summary Tape File 1A.

TABLE 6.2
Population Projections by Race, 1990—2050



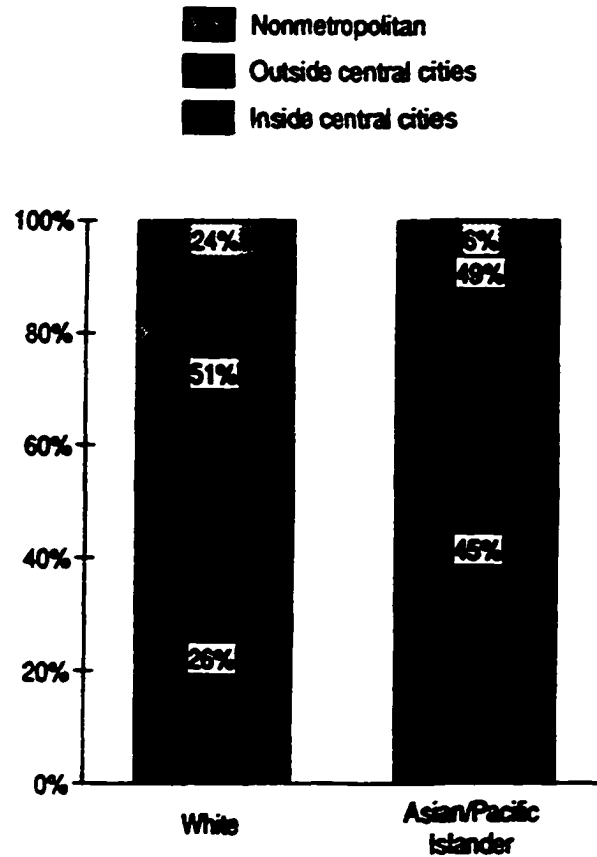
*Source: Jennifer Cheeseman Day, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, Current Population Reports, P25-1092, *Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1992-2050* (Washington, DC: U.S. Government Printing Office, 1993), table I, p. xviii.*

Asian and Hispanic populations are decidedly urban. The Asian populations is 6 percent non-metropolitan compared to 24 percent for the white population, 49 percent suburban to 51 percent suburban for whites, and 45 percent central cities compared to 25 percent central cities for whites (Table 6.3). The Hispanic population is 92 percent urban compared to 74 percent urban for the total population with 8 percent rural Hispanic and 26 percent rural for the total population (Table 6.4). Both Asian and Hispanic populations are over 90 percent urban. This places them in the highest income and highest opportunity part of the country.

A review of the state populations shows Asians and Hispanics represented in every state in the country including the smaller rural states. They are most highly represented in larger states as the urban/rural ratio would indicate (Table 6.5). Finally, the percentage in both communities that is married is high (Table 6.6). Asian and Pacific Islanders have 76 percent of their members living as married couple families. The total United States population is a little less at 69 percent with Hispanic families at 66 percent living as married couples. Most are living as families. This will probably encourage strong community attachments and growth over the years.

Asian and Hispanic communities represent a significant all the Americans. They are likely to grow much larger in vibrant metropolitan areas all over the country. These two populations cannot easily be ignored when considering the future of the United States.

TABLE 6.3
Population in Metropolitan Areas



Ninety-four percent of all Asians and Pacific Islanders lived in metropolitan areas in 1991. Almost half (49 percent) of all Asians and Pacific Islanders lived in the suburbs of metropolitan areas; a little less than half (45 percent) lived inside the central cities of metropolitan areas.

Source: Claudette E. Bennett, U.S. Department of Commerce, Bureau of the Census, Current Population Reports, P-20-459, *The Asian Pacific Islander Population in the United States: March 1991 and 1990* (Washington, DC: U.S. Government Printing Office, 1992).

TABLE 6.4**Urban/Rural Residence Distribution, by Hispanic Origin, 1991**

Urban/rural residence	Total population	Hispanic-origin population	Non-Hispanic population	Mexican origin	Puerto Rican origin	Cuban origin	Central and South American origin	Other Hispanic origin
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Urban	74.0	91.8	72.8	90.5	95.2	95.7	97.0	84.9
Rural, non-farm	24.2	7.5	25.4	8.6	4.7	4.3	3.0	13.9
Rural, farm	1.7	0.6	1.8	0.9	0.1	0.0	0.0	1.2

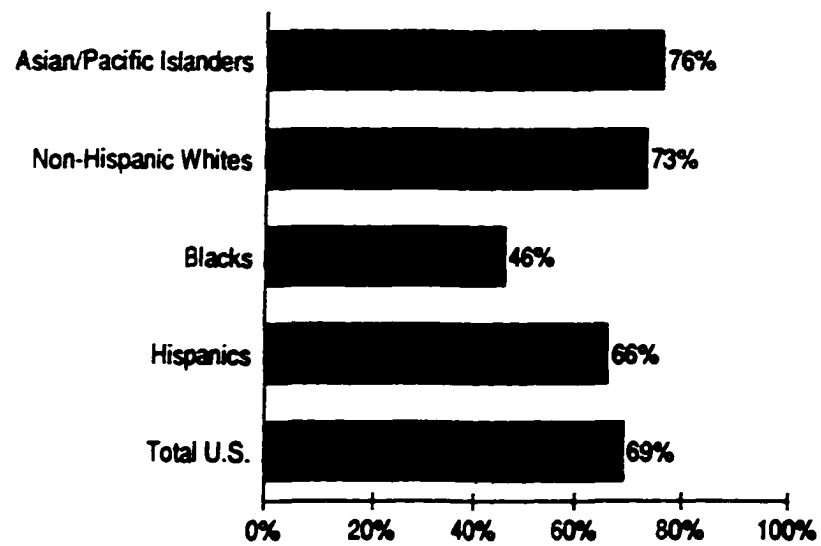
Source: U.S. Bureau of the Census, *Current Population Reports: The Hispanic Population in the United States: March 1991*, Series P-20, No. 455, U.S. Government Printing Office, Washington, D.C., 1991, pp. 16-17.

TABLE 6.5
Population by State, Race/Ethnicity, and Hispanic Origin, 1990

State	Non-Hispanic origin					Hispanic origin				
	Asian/ Pacific Islander	White	Black	American Indian, Eskimo, or Aleut	Other race	Asian or Pacific Islander	White	Black	American Indian, Eskimo, or Aleut	Other race
Alabama	21,217	2,960,167	1,017,713	16,221	640	580	15,630	2,992	285	5,142
Alaska	18,730	406,722	21,799	84,594	395	998	8,770	652	1,104	6,279
Arizona	51,530	2,626,185	104,809	190,091	4,275	3,676	337,001	5,715	13,436	328,510
Arkansas	12,144	1,933,082	372,762	12,393	468	386	11,642	1,150	380	6,298
California	2,710,353	17,029,126	2,092,446	184,065	56,093	135,306	3,495,201	116,355	58,099	3,882,977
Colorado	56,773	2,658,945	128,057	22,068	4,249	3,089	246,529	5,089	5,708	163,887
Connecticut	49,114	2,754,184	260,840	5,950	3,912	1,584	105,169	13,429	704	92,230
Delaware	8,854	528,092	111,011	1,938	453	203	7,002	1,449	81	7,083
District of Columbia	10,734	166,131	395,213	1,252	860	480	13,536	4,391	214	14,089
Florida	146,159	9,475,326	1,701,103	32,910	8,285	8,143	1,273,959	58,431	3,425	230,185
Georgia	73,725	4,543,425	1,737,165	12,621	2,358	2,056	56,723	9,400	727	40,016
Hawaii	646,404	347,644	25,916	4,001	2,874	38,832	21,972	1,279	1,098	18,209
Idaho	9,053	928,661	3,211	12,418	479	312	21,790	159	1,362	29,304
Illinois	275,568	8,550,208	1,673,703	18,213	8,464	9,743	402,770	20,570	3,623	467,740
Indiana	36,618	4,965,242	428,612	11,999	2,900	999	55,458	3,480	721	38,130
Iowa	24,926	2,663,840	47,993	6,765	1,084	550	19,250	597	584	11,666
Kansas	30,814	2,190,524	140,761	20,363	1,442	936	41,462	2,315	1,602	47,355
Kentucky	17,201	3,378,022	261,360	5,518	1,211	611	13,810	1,547	251	5,765
Louisiana	39,302	2,776,022	1,291,470	17,539	2,596	1,797	63,116	7,811	1,002	19,318
Maine	6,505	1,203,357	4,937	5,898	402	178	5,003	201	100	1,347
Maryland	136,619	3,326,109	1,177,823	12,143	3,672	3,100	67,855	12,076	829	41,242
Massachusetts	140,338	5,280,292	274,464	10,545	23,237	3,054	125,082	25,666	1,696	132,051
Michigan	102,506	7,649,951	1,282,744	52,571	5,929	2,477	106,135	8,962	3,067	80,955
Minnesota	26,229	4,101,266	93,040	48,251	2,429	1,657	29,129	1,904	1,658	19,536
Mississippi	12,543	1,624,198	911,891	8,316	337	473	9,263	3,166	209	2,820
Missouri	40,087	4,448,465	545,527	18,873	2,419	1,190	37,763	2,681	962	19,106
Montana	4,123	733,878	2,242	46,475	173	136	7,233	139	1,204	3,462
Nebraska	12,026	1,460,095	56,711	11,719	865	396	20,463	693	691	14,726
Nevada	35,897	946,357	76,503	17,480	1,177	2,230	66,338	2,268	2,157	51,426
New Hampshire	9,197	1,079,484	6,749	2,042	447	146	7,949	449	92	2,697
New Jersey	264,341	5,718,966	984,845	12,490	9,685	8,180	411,499	51,980	2,480	265,722
New Mexico	12,587	764,164	27,642	128,068	3,384	1,537	381,864	2,568	6,287	186,968
New York	666,843	12,460,189	2,569,126	50,540	29,731	26,917	925,066	289,929	12,111	960,003
North Carolina	50,593	4,971,127	1,449,142	78,930	2,119	1,573	37,364	7,181	1,225	29,383
North Dakota	3,345	601,592	3,451	25,590	157	117	2,550	73	327	1,598
Ohio	89,195	9,444,622	1,147,440	19,137	7,025	1,984	77,134	7,386	1,221	51,971
Oklahoma	32,366	2,547,588	231,462	246,631	1,378	1,197	35,924	2,339	5,789	40,911
Oregon	67,422	2,579,732	44,982	35,749	1,729	1,847	57,055	1,196	2,747	49,862
Pennsylvania	134,056	10,422,058	1,072,459	13,505	7,303	3,382	98,143	17,336	1,228	112,173
Rhode Island	17,584	896,109	34,283	3,629	6,107	741	21,266	4,578	442	18,725
South Carolina	21,304	2,390,056	1,035,947	8,004	841	1,078	16,918	3,937	242	8,376
South Dakota	3,013	634,788	3,176	49,648	127	110	2,727	82	927	1,406
Tennessee	30,938	4,027,631	774,925	9,685	1,265	901	20,437	3,110	354	7,939
Texas	303,825	10,291,680	1,976,360	52,803	21,937	15,634	2,483,082	45,272	13,074	1,782,843
Utah	32,490	1,571,254	10,868	22,748	893	881	44,591	708	1,535	36,882
Vermont	3,159	552,184	1,868	1,651	235	56	2,904	83	45	573
Virginia	154,183	4,701,630	1,153,133	14,347	3,757	4,870	90,089	9,861	935	54,533
Washington	203,668	4,221,622	146,000	76,397	4,435	7,290	87,315	3,801	5,086	111,078
West Virginia	7,252	1,718,896	55,986	2,363	491	207	6,627	309	95	1,251
Wisconsin	52,284	4,464,677	241,697	37,769	2,148	1,299	47,846	2,842	1,618	39,589
Wyoming	2,622	412,711	3,426	8,857	221	184	14,350	180	622	10,415

Source: Asian/Pacific Islander Data Consortium (San Francisco, CA: Asian and Pacific Islander Center for Census Information and Services, 1993). Primary source: U.S. Census Bureau, Summary Tape Files 1 and 3.

TABLE 6.6
Population Living in Married Couple Families, 1990



Source: U.S. National Center for Health Statistics, U.S. Bureau of the Census, 1990.

Establishing inequity differences between Asians and Hispanics requires a knowledge of the population, education, income and real estate values for the two groups. Determining any PEIR differences between these two groups for different geographic areas helps determine if patterns of behavior are consistent over different levels of spatial analysis. If so, the process of establishing these behavioral patterns may be universal. If there is a general pattern of relationships between population, education, income and real estate values for all geographic areas we may be able to look at small geographic areas more closely and determine the attitudinal differences, if any, that explains behavior. Understanding the behavioral process behind differences in education, income and spatial location is my goal.

The first variable I evaluate is population at the national level. In Table 6.2 we can see that the Asian population has 7.273 million people in 1990 in the United States and 21.113 million Hispanics. This is .03 percent of the population and .08 percent of the population respectively. This is almost a one to three ratio of the nation's Asians to the nation's Hispanics. This is a relationship that will be used for the comparison to other variables at the national and metropolitan geographic areas.

In the field of education we can use several measurements to understand Asian and Hispanic educational differences. Table 6.7 shows terminal degrees for 1980 high school seniors in 1986. For Asians the terminal high school diplomas are about 10 percent less than whites and 20 percent less than Hispanics. For bachelors degrees Asians have about one-third more than whites and nearly four times the percentage for Hispanics. The stark contrast comes with graduate and professional degrees. Asians have twice the percentage

TABLE 6.7
Education Attainment: 1980 High School Seniors, 1986

Highest level of education attained by 1980 high school seniors, in percent, by race/ethnicity and socioeconomic status^a, spring 1986.

Socioeconomic status	Highest educational attainment of 1980 high school seniors in 1986, percent of total					
	No high school diploma ^b	High school diploma	License ^c	Associate degree	Bachelor's degree	Graduate/ professional degree
Asian	-	49.6%	12.6%	8.7%	27.3%	1.7%
White non-Hispanic	0.8%	60.0%	11.5%	6.6%	20.2%	0.9%
Black non-Hispanic	1.2%	69.4%	13.9%	5.3%	9.9%	0.2%
Hispanic	1.7%	70.2%	13.8%	7.3%	6.8%	0.1%
American Indian	-	61.3%	18.6%	9.3%	10.8%	-
Lower 25%						
Asian	-	53.4%	17.3%	15.7%	12.0%	1.6%
White non-Hispanic	0.9%	75.1%	12.2%	5.0%	6.6%	0.3%
Black non-Hispanic	1.4%	73.0%	12.7%	5.1%	7.7%	0.1%
Hispanic	1.6%	73.9%	11.8%	7.8%	4.9%	-
Middle 50%						
Asian	-	51.1%	11.7%	11.1%	26.1%	-
White non-Hispanic	0.3%	62.0%	13.0%	8.0%	16.3%	0.4%
Black non-Hispanic	0.3%	67.5%	14.7%	6.5%	10.7%	0.3%
Hispanic	1.0%	67.0%	14.7%	6.5%	10.7%	0.2%

Source: National Center for Education Statistics, U.S. Department of Education, *Digest of Education Statistics 1992* (Washington, DC: U.S. Government Printing Office, October 1992), tables 296 and 298, p. 303-304. Primary source: U. S. Department of Education, National Center for Education Statistics, *High School and Beyond* survey, September 1987. A dash (-) indicates less than 0.05 percent. Because of rounding, percents may not add to 100.0. Notes: (a) Socioeconomic status was measured by a composite score of parental education, family income, father's occupation, and household characteristics in 1980. (b) Seniors who dropped out of high school after the spring 1980 survey and had not completed high school by 1986. (c) Includes persons who earned a certificate for completing a program of study.

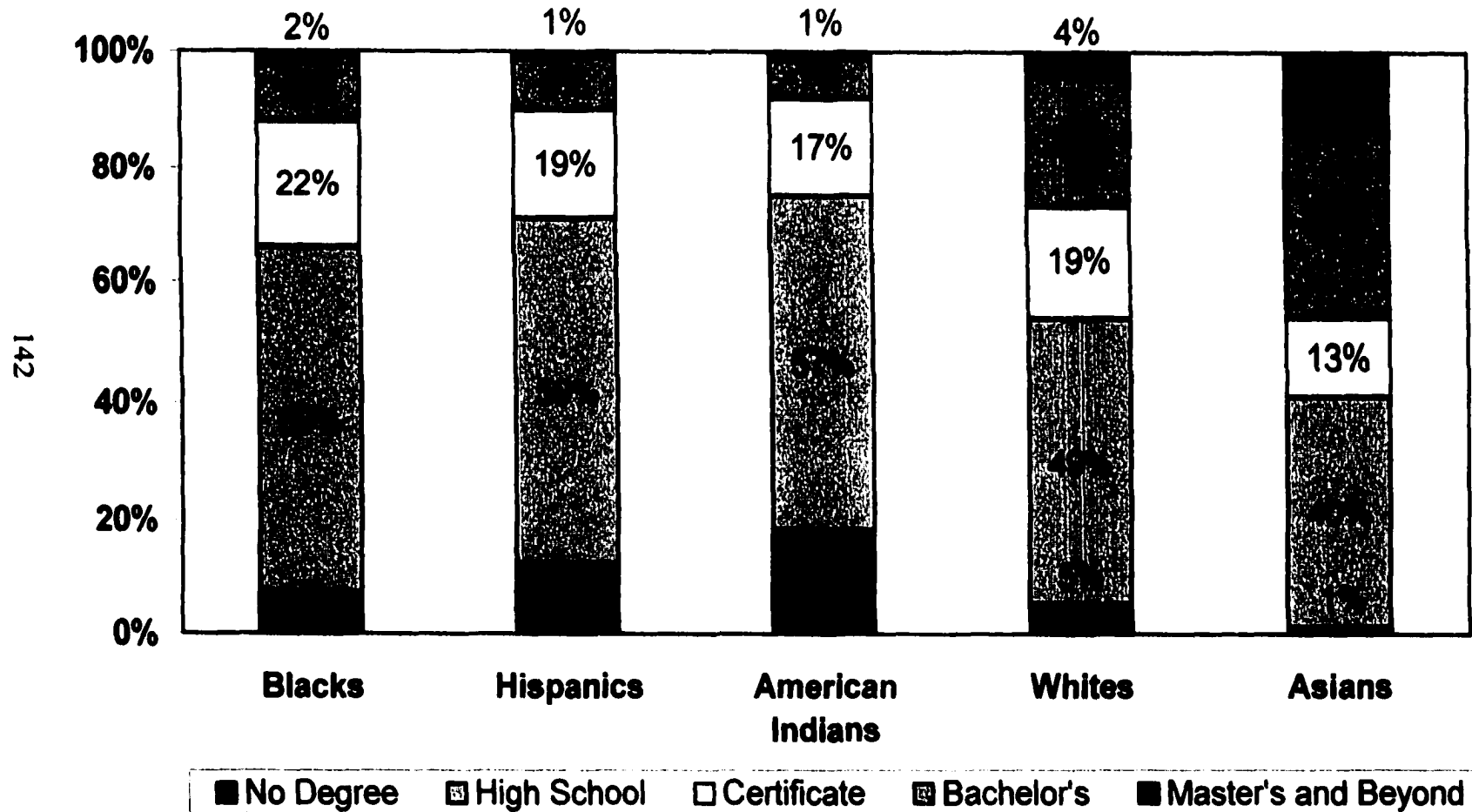
of whites and 17 times the percentage of Hispanic graduate and professional degree holders. The higher the degree the greater the advantage of Asians over whites and particularly over Hispanics.

Another study of degree holders in Table 6.8 provides similar results. This table examines educational attainment by race for 1980 high school sophomores and their degrees as of 1992, a longer period of time. Asians had only 1 percent with no degrees, whites had five times that number, while Hispanics had 12 times the number of non-degree holders as Asians. There were fewer high school and certificate holders among Asians when compared to whites and Hispanics. At the bachelors level the numbers improve for Asians, they have about 10 percent more bachelors degrees than whites and nearly four times the bachelors degrees of Hispanics. The contrast deepens at the point of masters degrees and above. Asians have three times the graduate degrees of whites and thirteen times the graduate degrees of Hispanics. As in the previous case the Asians increase their advantage at higher levels of education.

In Table 6.9 the doctoral recipients by field of study for 1989-90 are profiled. The whites never fall below their percent of the population. The Asians surpass their percent of the population in all but three categories: education, the humanities and social sciences. They have five times their percentage of the population in engineering and double their percentage in total physical science, math and business. Hispanics are nearly one-third of

TABLE 6.8

Education Attainment by Race: 1980 High School Sophomores by 1992



Source: National Center for Educational Statistics, U.S. Department of Education, *Digest of Educational Statistics*. Washington D.C.: U.S. Government Printing Office, 1997.

TABLE 6.9

Profile of Doctoral Recipients by Field of Study: 1980—1990

Total number and percent of students who earned doctorate degrees^a by race/ethnicity and major field of study, 1989-90.

Race/ethnicity	Field of study									
	All fields	Education	Engineering	Humanities	Life sciences	Physical sciences ^b				
						Total	Math	Business	Social sciences/psychology	Other professional fields
Doctor's degrees conferred (number)	36,027	6,484	4,892	3,820	6,613	5,859	892	1,038	6,076	1,245
Racial/ethnic group (%)										
Asian	4.9	1.7	15.0	2.4	5.5	6.9	6.0	8.8	2.9	3.5
American Indian	0.4	0.6	0.2	0.3	0.2	0.1	0.2	0.3	0.5	0.7
Black	3.8	8.2	1.7	2.3	1.9	0.9	1.0	2.3	4.3	5.7
Mexican-American	0.7	0.9	0.6	0.6	0.8	0.5	0.7	0.6	0.9	0.6
Puerto Rican	0.8	1.0	0.3	0.9	0.7	0.9	0.5	0.2	0.9	0.4
Other Hispanic	1.6	1.4	1.5	2.6	1.2	1.4	1.2	0.8	2.1	1.5
White	86.5	85.4	78.9	89.7	88.3	87.0	88.2	85.7	87.2	86.1
Other/unknown ^c	1.4	0.9	1.9	1.3	1.4	2.3	2.2	1.4	1.2	1.4

Source: National Center for Education Statistics, U.S. Department of Education, *Digest of Education Statistics 1992* (Washington, DC: U.S. Government Printing Office, October 1992), table 283, p. 295. Primary source: National Academy of Sciences, National Research Council, Office of Scientific and Engineering Personnel, *Summary Report 1990: Doctorate Recipients from United States Universities*. (This table was prepared February 1992.) The above classification of degrees by field differs somewhat from that in most publications of the National Center for Education Statistics (NCES). The major differences are that history is included under humanities rather than social sciences and psychology is included under social sciences. The number of degrees also differs slightly from that reported in the NCES "Degrees and Other Formal Awards Conferred" survey. The above tabulation excludes some non-research doctorate degrees such as doctor's degrees in theology. Because of rounding, percents may not add to 100. Notes: (a) Includes Ph.D., Ed.D., and comparable degrees at the doctoral level. Excludes first-professional degrees, such as M.D., D.D.S., and D.V.M. (b) Includes mathematics, computer science, physics and astronomy, chemistry, and earth, atmospheric, and marine science. (c) Includes 2,439 individuals who did not report their citizenship at time of doctorate.

their percentage in nearly all fields except they are one-half of their percentage in social sciences. Asians and Hispanics excel in different fields but Asians are more highly represented than all other ethnic groups in doctoral degrees granted.

In non-degree measures of academic ability the respective ACT scores reveal something that may not be expected. Asian and white scores, represented in Table 6.10, are nearly the same with Asians a little higher. Hispanics average about two and one-half points below white scores. This is not a very large number for Asians considering their great success in obtaining degrees. Language inability may explain lower Asian scores, surely a handicap for new Hispanics as well. The ACT gaps are not great but Asian performance in the area of educational accomplishment is great. Differences between the groups increase with the educational level attempted. It is not because of a measurable difference in ability but the accomplishment is present nevertheless. This may be the first indication of an Asian difference in culture and educational values.

National comparisons in income are revealing. Table 6.11 gives a fairly straight forward comparison of median family income with references to unemployment and poverty rate. The median family income for Asians is 1,000 dollars more than for whites and Hispanics are nearly 13,000 dollars less than for Asians, a tremendous difference. The unemployment rate for Asians is 3.5 percent a little less than whites at 7.0 percent, but almost one-third that of Hispanic unemployment. The poverty rate is a little different with Asians almost twice the white rate of 14 percent to 8 percent respectively. The Hispanic poverty rate is almost twice that of Asians with a 26 percent poverty rate.

TABLE 6.10**ACT: Profile of Test Takers
1992**

Test takers and American College Test (ACT) average composite score by race/ethnicity, 1992.

Race/ethnicity	Number	Composite	Percent
Asian American/Pacific American	22,771	21.6	3%
Afro-American/Black	75,356	17.0	9%
American/Alaskan Native	9,784	18.1	1%
Caucasian American/White	604,469	21.3	73%
Mexican American/Chicano	26,163	18.4	3%
Puerto Rican/Hispanic	13,013	19.3	2%
Other	12,790	19.2	2%
No Response	15,454	21.2	2%
Did Not Respond	52,417	20.4	6%

Source: ACT High School Profile Report, *High School Graduating Class 1992* (Iowa City, IA: American College Testing), table 11, p. 11. All average scores are on the scale for the Enhanced ACT Assessment, which was introduced in October 1989.

TABLE 6.11**U. S. Earnings, Unemployment, and Poverty
1989**

Median family income, average number of earners per family, unemployment rate, and poverty rate by race/ethnicity^a.

Race	Median family income	Average number of earners per family	Unemployment rate, percent	Poverty rate, percent
Asian Americans	\$35,900	1.8	3.5%	14%
Whites, non-Hispanic	35,000	1.7	4.2%	8%
Hispanics	23,400	1.7	10.3%	26%
Blacks	20,200	1.5	12.3%	31%
All U.S.	\$34,200	1.7	6.8%	13%

Source: "Asian-American Demographics," *The American Enterprise* (November/December, 1991): 87-90. Primary source: U.S. Bureau of Labor Statistics, Bureau of the Census. Note: (a) Data is for 1989 (cols. 1, 2, and 4) and 1990 (col. 3).

Given the high level of income and employment Asians have many working poor in their numbers.

Real estate is the last, important variable and has a very important influence on spatial dispersion. In Table 6.12 the average value of United States housing is 112,000 dollars, a little less than the value for whites at 114,000 dollars. The Hispanic value for housing is also 112,000 dollars, about the same as the United States average, for those Hispanics born in the United States. Hispanics of Hispanic origin are a little less at 108,000 dollars. Asians have a staggering average value of houses at 210,000 dollars, with slightly larger incomes they've invested far more in real estate. The percentage ratio of real estate purchases, compared to the average, is Asians 1.88, whites 1.02 Hispanics (not of Hispanic origin) 1.00. Whites hold amazingly steady for income and real estate purchases. The great differences in Asian and Hispanic incomes is further exaggerated in real estate purchases.

Additional National Comparisons

A study by Charles Hirschman (1984) concerns socio-economic inequality in the United States. There are differences between minorities in the United States in relation to the degree of economic inequity when compared to the majority of United States citizens. Asians have a higher income than whites in a comparison of 1960-1976 incomes. Asian occupational status is about the same as the white population while Hispanics and Blacks are far behind. Blacks and Hispanics have gained but still trail. Why is there a difference? Asian parity with whites is due to educational overachievement.

TABLE 6.12**Average Value of Owner-Occupied Housing, by State, 1990**

Data show total values for owner-occupied housing divided by number of householders in each category. Values are shown in dollars.

State	Avg. value of housing	Avg. value of housing by race					By Hispanic origin ²	
		White	Black	American Indian ¹	Asian/ Pacific Islander	Other race	Not Hispanic origin	Hispanic origin
United States	111,667	113,710	68,572	72,389	209,725	99,818	111,822	108,359
Alabama	64,794	70,125	42,133	54,994	99,121	64,342	64,763	73,011
Alaska	103,739	109,037	103,969	71,973	107,771	101,569	103,781	101,049
Arizona	96,372	100,881	72,755	41,557	106,684	61,444	100,622	65,697
Arkansas	55,138	57,874	35,183	49,558	62,044	48,338	55,141	54,241
California	232,345	240,136	164,284	165,316	258,300	156,919	241,247	175,463
Colorado	95,760	97,372	79,300	74,227	96,517	63,632	98,522	66,072
Connecticut	213,726	215,297	162,700	174,761	240,643	162,386	214,127	188,932
Delaware	120,923	126,064	74,956	92,107	175,642	81,988	121,121	103,894
D.C.	194,317	343,177	118,767	170,047	266,684	168,054	193,819	223,375
Florida	99,224	103,646	58,045	74,636	109,991	82,183	99,225	99,220
Georgia	88,222	95,311	55,680	78,523	115,125	83,635	88,135	98,549
Hawaii	272,857	302,266	258,160	226,611	261,664	216,946	274,904	226,370
Idaho	67,478	67,898	61,452	53,350	68,678	43,083	67,917	50,403

Source: U.S. Bureau of the Census. 1990 Census of Population and Housing, Summary Tape File 1C on CD-ROM, United States Summary February, 1992. Notes: 1. Includes Eskimos and Aleuts. 2. Hispanics may be of any race.

Hirschman establishes that education is the primary reason for differences in income between ethnic groups. It is also the reason for occupational differentials. Indeed the relative importance of educational inequality as a cause of ethnic occupational differentials increased over the 1960-1976 span of the years investigated. Educational equality will not bring full equity to Blacks and Hispanics, but it has more effect than anything else. Years of schooling heavily impact African-American success. Of the Black and Hispanic earnings disadvantage, about one-third of the gross earnings gap can be explained by the lower educational levels of Black and Hispanic men. In contrast, it appears that a substantial share of Asian Americans economic success arises from their above-average educational achievements.

What is the impact on residence and what is the influence of residential selection on economic equity? Chinatown, the home of many new Asian immigrants, reduces the income growth of Chinese. Japanese and Filipinos disperse more quickly and reduce the economic gap. Residential segregation may limit opportunity. Self-segregation is harmful to equity considerations. This suggests that understanding residential dispersal is important. Location may be an indicator of increasing or decreasing equity.

Time is also an important factor in determining change in equity. Does dispersal indicate or encourage greater income equity between races? Will other variables change over time in a pattern similar to residential dispersal? If so, there may be other variables that correlate with dispersal and equity. Hirschman's point is that the low wages of immigrants and other minorities is reversed over time. It appears that education and residential dispersal may be two of those variables that are time sensitive and they may help cause a reduction in

inequity.

Some believe that as early as 1970 racial and ethnic inequality had been substantially eradicated. The gap, however, remains for Black and Hispanic men. The need is to learn the important variables that overcome that gap. These variables are apparently time, education, and possibly residential dispersal. These are evidently the variables that increase equity with some groups and are improving equity even in the two groups retaining equity gaps.

Frances Kobrin and Calvin Goldscheider (1978) studied ethnic equality with reference to residential segregation in three ethnic groups. They evaluated Blacks, Hispanics and Asians by degree of segregation and reasons for segregation. Their overall findings suggest that Hispanic and Asian segregation is lower at all socio-economic levels. Segregation for these two groups declines from low income to high, it also falls from immigrant to native (Denton and Massey 1988). Segregation is lower among high-status ethnics because spatial mobility rises as social status increases (Kobrin and Goldscheider 1978).

Hispanics increase spatial assimilation with added education, occupational status and income. Time is also an important element in assimilation. For Hispanics increasing generations mean less segregation. Native-born tend to be less segregated than immigrants. For most ethnic groups, segregation tends to fall with increasing social class and newer generations. Blacks and Puerto Ricans are to some extent exceptions. The pattern of falling segregation with rising social class is true of all three major Hispanic groups —Mexicans, Cubans, and Puerto Ricans (Denton and Massey 1988).

Asians follow the pattern of integration and spatial assimilation similar to Hispanics and European immigrant groups. In metropolitan areas with the largest Asian populations

residential dissimilarity falls sharply with rising socio-economic status. There are very low levels of segregation for immigrant and native Asians. This suggests that Asians may not be forming homogenous immigrant enclaves as other groups have (Denton and Massey 1988).

James Allen and Eugene Turner (1996) studied Los Angeles and its neighboring counties to learn the location and mobility of its many ethnic groups. They used the Massey assimilation model to evaluate the assimilation process (the degree of residential concentration over time) in Los Angeles. Important questions include: where did ethnic groups concentrate, did they change location, did they disperse after changing, what was the rate of change, and what variables, associated with various ethnic groups, were most closely associated with the rates of change in location and dispersal? The Massey model was derived from European immigrant assimilation patterns. According to the model immigrants who share a culture initially settled together. Over time, after adaptation to the new culture and an increase in income, immigrants left their initial location and dispersed. This model was applied to Los Angeles and the pattern of dispersal was consistent with the Massey model. The European and Los Angeles ethnic groups (Asian and Hispanic) behaved in the same way even though there was a difference in the rate of dispersal between ethnic groups in the Los Angeles study (Allen and Turner 1996).

The Los Angeles pattern had a gradient of assimilation going outward from zones of concentration. The zonal differentiation in English ability and educational ability was much greater for the first generation of immigrants. Cultural assimilation was much faster for

immigrants than their children (Gordon 1964). Zonal differences were significant for all groups (Allen and Turner 1996).

United States born ethnics have several characteristics that distinguish them from immigrants. They are more dispersed than immigrants, they are less likely to be in old concentrated ethnic areas, they have greater language ability, and they have higher education, higher naturalization, and higher income than immigrants. Immigrant cultural and economic assimilation is therefore associated with spatial assimilation. Changes in the characteristics of immigrants and an expanded metropolitan geography over the last half century have not invalidated the spatial assimilation pattern common to Euro-immigrants.

Residential and spatial assimilation patterns provide some important elements in understanding areal differentiation among ethnic groups. The residence of immigrants reflect the degree of cultural and economic assimilation. Before assimilation immigrants live in cultural support groups in central concentrated areas. Cultural and economic assimilation make it possible to disperse to higher economic areas. This encourages increased assimilation because of contact with the majority population. Distance from concentrated areas indicates assimilation and less involvement with older areas. Migration changes direct new immigrants to newer areas for friends and family. This is a variant on the over all dispersion pattern from old concentrated immigrant areas.

Education and language ability are important variables in determining dispersal patterns. They lead to better jobs and income acquired language skills and cultural skills. Education and income are strong indicators of assimilation patterns. Asians and Hispanics

of high income suburbs have higher educations and incomes and are closer to whites. Income differences in zones are statistically significant. Womens' income in these groups tend to have weaker and inconsistent correlations. They are probably not the major contributors to family income in these immigrant groups. The most important point is that income levels tend to increase with distance form older centers. This is true for immigrants and native born ethnics as well.

Time and nativity are important in evaluating change in income and the variables that relate to change in income. Foreign-born ethnic immigrants are more segregated than native-born. Native-born ethnics have higher levels of education, income and are more dispersed (Neidert and Farley 1985). On the other hand a residents' length in the United States was less influential on segregation than on economic variables. Income development was more important than time in determining desegregation. The final point on nativity is the fact that immigrants usually outnumber United States born residents in any ethnic group.

Ethnicity is a very important variable in inequity. In the Allen and Turner research ethnic identity is more important than birth in the United States for determining residential assimilation. Individuals will assimilate at a rate more consistent with their own ethnic group but nativity will increase assimilation no matter the ethnic group.

Ethnic group difference in income reflect variations in English language skills and occupational specialties. These skills and specialties may merely reflect educational differences between ethnic groups. The Allen and Turner findings, however, support the idea of early concentration and later dispersal regardless of ethnic group. Even the wealthy

individuals who could disperse more than they have followed the pattern of early rapid dispersal and less later dispersal. Recent immigrants are more zonally differentiated than native-born. This also suggests early rapid dispersal.

There are some important points to remember. Differences between ethnic groups are greater than zonal differences within ethnic groups, and ethnic group characteristics affect the size of zonal differences in assimilation. Ethnic group characteristics play an important role in assimilation and dispersal. These characteristics may therefore be the mechanism for the development of inequities between groups. This differentiation, however, appears to weaken over time.

There seems to be an exception to the process of ethnic assimilation described above. Recent immigrants sometimes settle out of concentrated areas because of chain immigration to partially-assimilated friends and relatives. This does not appreciably influence the assimilation gradient across metro areas. The Massey model survives intact even with this variant (Allen and Turner 1996).

There are other variants in the findings that do not discredit Massey but show some deviation from the main theme. Variables that explain deviations may actually strengthen the Massey model. There is essentially an Hispanic variant and an Asian variant. The Hispanic variant indicates that there are old dispersed Mexican communities that are caught up in urbanization. Older centers are therefore already more dispersed. These communities blur the assimilation gradient but do not reverse it. Old areas had such a heavy Mexican

influx of new immigrants that the Mexicans had to disperse faster than usual. Old ties eroded more quickly. There were still very high zonal differences between immigrant and United States born Mexicans. The United States born had 66 percent higher income. The spatial patterns of cultural assimilation remain the same even with these variants.

Asians have some variants of their own. Asians in the suburbs do not have the expected English language skills that other immigrant groups have. Perhaps this is due to higher rates of income and/or education. There is the Japanese variant of immigrants having high income and education with little language skills and few naturalized citizens. This is probably due to the high rate of Japanese employees from Japanese companies living in the area. This and low language skills in suburban areas are probably the only variants in the Asian communities.

In the Los Angeles study comparing the percent of ethnic groups in zonal areas has the same result as comparing absolute values for ethnic groups in each area. The study area of Los Angeles and counties surrounding Los Angeles has 20 percent of all foreign-born residents in the United States. Even though this is not a scientific sample of all immigrant groups it is a very reliable number for generalizations concerning economic and residential behavior . One concludes from this study that Hispanics and Asians have the same assimilation patterns and that rates of assimilation differ because of the important variables of time, education and English skills, income, occupational status and possibly cultural values.

My findings in Chapters 4 and 5, the answers to research questions 1 and 2, and previous research all indicate that Asian and Hispanic cultural differences lead to education.

income and real estate differences. As education increases for each group, perhaps at different rates, incomes and segregation decreases. There is a significant spatial component in these variables for a population that is large and growing in the United States.

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Chapter 7

Asian and Hispanic Comparisons in Oklahoma City and Tulsa

My intention is to show that different rates of assimilation and differences in economic equity are due to education and culture. Education impacts these other influential variables, and culture heavily influences education. These influences are reduced in importance over time due to adaptation or the assimilation of new educational and cultural values.

Oklahoma City and Tulsa Comparisons

First, I compare Oklahoma City and Tulsa PEIR characteristics and spatial patterns. Oklahoma City and Tulsa patterns I find are similar. I then compare these local patterns to patterns in the nation and Los Angeles. I conclude that the local areas of study are good surrogates for national comparisons between Asians and Hispanics. I then use one local area, Oklahoma City, for a more detailed analysis of school behavior between Asians and Hispanics. I also use Oklahoma City school parents in an educational attitude survey to determine the differences between Asian and Hispanic parents and changes in these differences. There are eight research questions I answer to better understand the differences in the Asian and Hispanic communities and the explanation for these differences.

QUESTION 1:

Is there a difference between the Asian and Hispanic populations in Oklahoma City and Tulsa?

The population data are derived from Tables 7.1 and 7.2. In this review I use percentage of the population to compare Asians and Hispanics of Oklahoma City (OKC) and Tulsa. The population percentages become a base to compare education, income and real estate data. The 1990 Asian population in OKC was .02 percent of the population and the Asian population was .01 percent of the Tulsa population. This was about one-half of the Asian population in Oklahoma City in absolute numbers. The Hispanic population in Oklahoma City was .048 percent of the population and in Tulsa about .025 percent of the population. Again, the Hispanic population in Tulsa was about one-half of the Oklahoma City Hispanic population in absolute numbers. A

matrix of Oklahoma City and Tulsa Asian and Hispanic populations rounded to the nearest thousands provides this ratio:

	OKLAHOMA CITY	TULSA
ASIAN	10	5
HISPANIC	21	10

If Tulsa Asians are considered 1 the ratio is:

	OKLAHOMA CITY	TULSA
ASIAN	2	1
HISPANIC	4	2

This is a very convenient ratio for remembering the relative impact of Asians and Hispanics in these two metropolitan areas.

TABLE 7.1**Oklahoma City Population, Education, Income and Real Estate Value, 1990**

		OKLA. CITY TOTAL	ASIAN	HISPANIC
POPULATION		444,730	9,843	21,148
EDUCATION	high school	75,701	1,010	1,808
	bachelors	41,813	912	649
	academic/ professional	19,820	712	353
INCOME	per capita	\$13,528	\$10,828	\$7,173
	mean	\$33,258	\$34,294	\$26,479
REAL ESTATE		\$69,294	\$69,294	\$64,594

Source: U. S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990. Summary Tape File 3A.

TABLE 7.2
Tulsa Population, Education, Income and Real Estate Value, 1990

		TULSA TOTAL	ASIAN	HISPANIC
POPULATION		367,193	5,060	9,340
EDUCATION	high school	62,588	504	978
	bachelors	42,476	617	454
	academic/ professional	19,194	466	158
INCOME	per capita	\$15,434	\$14,901	\$9,193
	mean	\$36,120	\$44,504	\$26,619
REAL ESTATE		\$69,975	\$87,040	\$70,055

Source: U. S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990. Summary Tape File 3A.

The education percentages is more complex because I compare Asian and Hispanic values for high school diplomas, bachelors degrees and graduate and professional degrees to the total population. These numbers for 1990 come from Table 7.1 and 7.2 and are rounded off to the nearest thousands in the cells below:

	HIGH SCHOOL		BACHELORS		GRAD & PROF	
	OKC	TULSA	OKC	TULSA	OKC	TULSA
ASIAN	1	.5	1	.6	.8	.5
HISPANIC	2	1	.6	.5	.4	.2
TOTAL	76	63	42	42	20	19

The percentage of total graduates determined from the absolute values for each category are as follows:

	HIGH SCHOOL		BACHELORS		GRAD & PROF	
	OKC	TULSA	OKC	TULSA	OKC	TULSA
ASIAN	.01	.008	.02	.015	.04	.024
HISPANIC	.024	.016	.016	.011	.018	.008

As in national data the higher the level of education the greater the relative increase in Asian educational levels. Minorities in Tulsa seem relatively more educated than the total population. Asians and Hispanics in Tulsa are about one-half the size of their respective numbers in Oklahoma City. In Tulsa their educational levels are higher. If the percentage of Asian or Hispanic graduates in Tulsa doubled they would almost always have a higher percentage than the Oklahoma City Asians and Hispanics. The one exception is Hispanic

graduate and professional degrees in Tulsa compared to Oklahoma City. Comparing ethnic groups provides a clear difference. Though smaller in number Asians begin to have a much higher number of bachelors degrees than Hispanics and by graduate level the ratio is either two to one for Oklahoma City or three to one for Tulsa. This compares favorably to the trends at the national level.

The income levels for Asians and Hispanics include absolute values from Tables 7.1 and 7.2 for Oklahoma City and Tulsa respectively and percentages derived from these two tables. The income data comes from per capita and mean average household data for 1990. The values listed below are the respective income data for Oklahoma City and Tulsa for Asians, Hispanics and the total population rounded to the nearest thousands of dollars.

	<u>PER CAPITA</u>		<u>MEAN AVG HOUSEHOLD</u>	
	OKC	TULSA	OKC	TULSA
ASIAN	11	15	34	46
HISPANIC	7	9	27	27
TOTAL	14	15	33	35

The percentages for Asians and Hispanics in OKC and Tulsa as compared to the totals are as follows:

	PER CAPITA		MEAN AVG HOUSEHOLD	
	OKC	TULSA	OKC	TULSA
ASIAN	.80	.97	1.04	1.26
HISPANIC	.53	.60	.80	.75

The difference between the two cities shows that Tulsa has the same or higher income in all categories. This may reflect the higher educational values in Tulsa as seen earlier. The relative percentage difference between the two cities again favors Tulsa when comparing the two ethnic groups. The exception is Hispanic mean average household income that favors Oklahoma City Hispanics over Tulsa Hispanics. When comparing Asians to Hispanics in both cities the difference is clearly in favor of Asians. Asians surpass Hispanics by almost .27 percent in Oklahoma City per capita income and .37 percent in Tulsa. The difference is probably due to the educational gap between Asians and Hispanics in both cities.

The mean average household income may be more interesting. The Oklahoma City difference between Asians and Hispanics is .24 percent. The Tulsa difference is .51 percent. This large gap may reflect both the educational advantage of Tulsa over Oklahoma City and Asians over Hispanics. The combined comparison leaves Tulsa Asians far ahead of Hispanics in that city. The premium paid for education may be even higher in a more educated and higher income city such as Tulsa. The important point is that higher education for Asians leads to higher income as it does nation wide.

Real estate in Oklahoma City and Tulsa is the final comparison between these two

ethnic groups. I compare the average value of housing for Asians and Hispanics and all people in Oklahoma City and Tulsa. The absolute values for these variables are rounded to the nearest thousands of dollars as follows:

	<u>AVERAGE VALUE OF HOUSING</u>	
	OKLAHOMA CITY	TULSA
ASIAN	69	87
HISPANIC	65	70
TOTAL	69	70

Between the two cities Tulsa's real estate values are higher. Between the two ethnic groups real estate values for Asians are slightly higher in Oklahoma City and much higher in Tulsa. This relationship also follows the national trend. The national trend shows even higher real estate values for Asians. The reason may be seen in the 1970, 1980 and 1990 population values in Table 7.3. The Oklahoma Asians are much more recent arrivals than they are nationally. They have probably not been able to establish the equity in their housing built up by multiple purchases over many years. The percentage relationship compared to the total real estate purchases for these two groups, in their respective cities, is as follows:

TABLE 7.3**Oklahoma Population, Education, Income and Real Estate Value, 1990**

		STATE TOTAL	ASIAN	HISPANIC
POPULATION		3,145,585	30,985	83,654
EDUCATION	high school	607,903	3,471	8,679
	bachelors	236,112	3,234	2,833
	academic/ professional	118,857	3,073	1,163
INCOME	per capita	\$11,893	\$10,435	\$7,145
	mean	\$30,644	\$32,769	\$25,063
REAL ESTATE		\$57,240	\$72,296	\$57,382
POPULATION	1970	2,559,229	3,019	36,007
	1980	3,025,290	16,372	57,831
	1990	3,145,585	30,985	83,654

Source: U. S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990, 1980, and 1970. Summary Tape File 3A.

	<u>PERCENT OF THE AVG VALUE OF HOUSING</u>	
	OKLAHOMA CITY	TULSA
ASIAN	1.08	1.24
HISPANIC	1.00	1.00

Hispanics have found equity in the real estate market in these two cities but Asians are well ahead in both cities. The higher education, higher income city has rewarded Asians in Tulsa with a much larger share of the real estate market than in Oklahoma City. As time passes and income gains increase the Asian participation in the market will probably increase to more approach the national level.

Question 1 asked about the Asian and Hispanic relationship between population, education, income and real estate data at the national and metropolitan levels. The population at the national and metropolitan levels in Oklahoma City and Tulsa would indicate that Hispanics outnumber Asians at about three to one or two to one, depending on the locations. For education there is also a clear pattern at the national and metropolitan levels. The higher the educational level the larger the Asian participation. The population ratio is often one to three for Asians to Hispanics, but the education ratio eventually reverses itself to three to one for college graduation and sometimes higher for graduate degrees. The income levels are also higher for Asians at all levels and especially for national levels. The real estate differences are huge at the national level in favor of Asians and very strong at local levels. Long term investment may one day raise levels at

the local level as well.

The relationship between these variables at different geographic levels is an important point. The population ratios are fairly similar at different levels and the education, income and real estate relationships are also similar for both Asians and Hispanics. The processes governing the relationships between these variables are apparently similar for national and local metropolitan areas in Oklahoma because the data are similar. It would therefore be reasonable to examine these processes at the local level and make generalizations about them at the national level. The following questions address local educational data, attitudes towards education and the spatial patterns in local areas. Examining these data helps explain how inequity develops for these variables between Asians and Hispanics nationwide.

QUESTION 2:

Is there a difference in educational performance within schools between Asians and Hispanics?

The local factors that I examine in the Oklahoma City school district are: enrollment, suspensions, grade point average, drop out rates and graduation rates. The data from these variables compare Asian and Hispanic performance to determine local difference in their behavior.

The high school enrollment rate from 1975 to 1995 is important for it shows the dramatic change in the number of Asian and Hispanic children in Oklahoma City public schools. In Table 7.4 we can see the growth of these two groups in five year increments and their relationship to each other. Asians began with 16 students and in 20 years grew

TABLE 7.4
High School Enrollment and Graduation Rates, Asian and Hispanic,
Oklahoma City School District, 1974-95

	High School Enrollment		Graduation Rate	
	<u>Asian</u>	<u>Hispanic</u>	<u>Asian</u>	<u>Hispanic</u>
1974-75	16	103	*	*
1979-80	165	241	*	*
1984-85	381	397	*	*
1989-90	317	485	93.8%	93.3%
1994-95	369	782	N/A	N/A

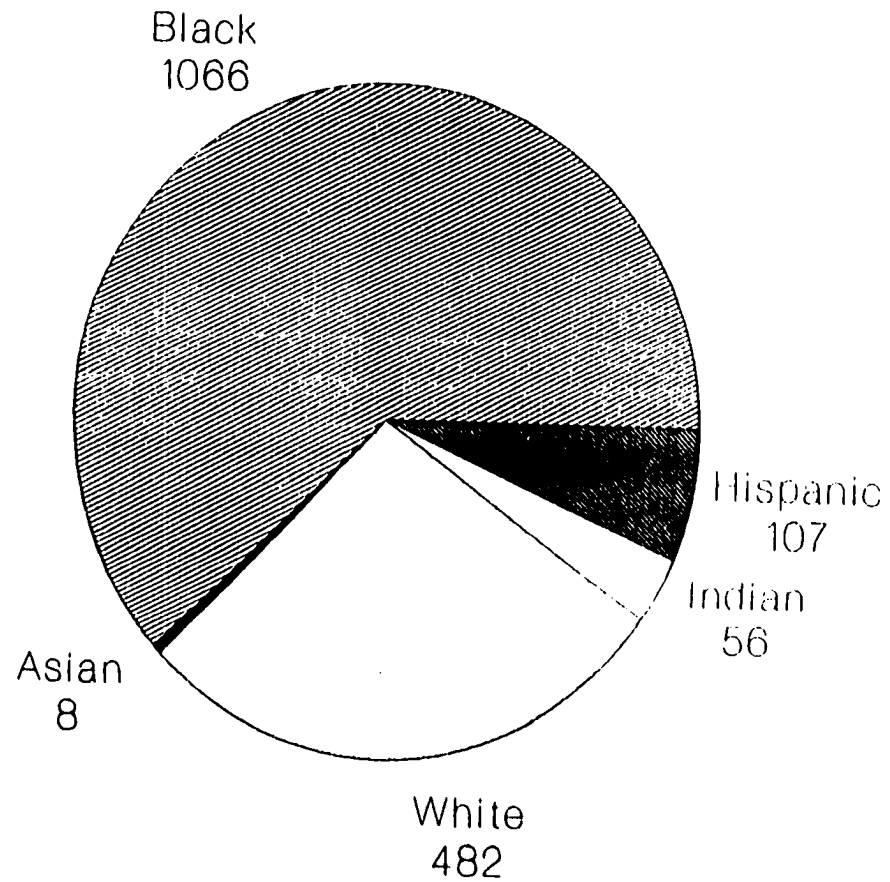
Source: Management Information Services, Oklahoma City Public Schools, 1996.

23 times to 369 students. Hispanics began with 103 students and rose 7.5 times to 782 students. The ratio between the two groups went from .16 percent Asian students to a high of .96 percent Asian students compared to Hispanics in 1985. In 1995 the ratio was nearly one to two with Asian being .47 percent of Hispanics.

Two graphs deal with short term suspensions. Table 7.5 addresses short term suspensions in 1991 and 1992. Five races, Black, Asian, Hispanic, Indian, and White, were counted for short term (less than five days) suspensions throughout the district. In percentages Asians had .005 and Hispanics .06. Hispanic suspensions were almost 12 times the number of Asian suspensions. In Table 7.6 short term suspensions are shown in 1992-93. There were more than twice as many suspensions, all totalled at 4033. The relative percentage of suspensions were similar at .007 for Asians (.002 percentage points difference) and .06 for Hispanics, exactly the same. The statistics for suspensions are remarkably stable even with an increase in total suspensions. The out-of-school suspensions are similar for Asians but a little different for Hispanics. Table 7.7 shows 1993-94 total out-of-school suspensions to be 6533. The Asian percentage was .006 just in between the two short term suspension percentages for Asians. The Hispanic percentage was .11 nearly twice that for the stable short term suspension numbers. The more severe the penalty the greater the Hispanic participation. Otherwise all of the suspension statistics were quite stable with Hispanics being represented by 6 to 12 times their population compared to the Asian population.

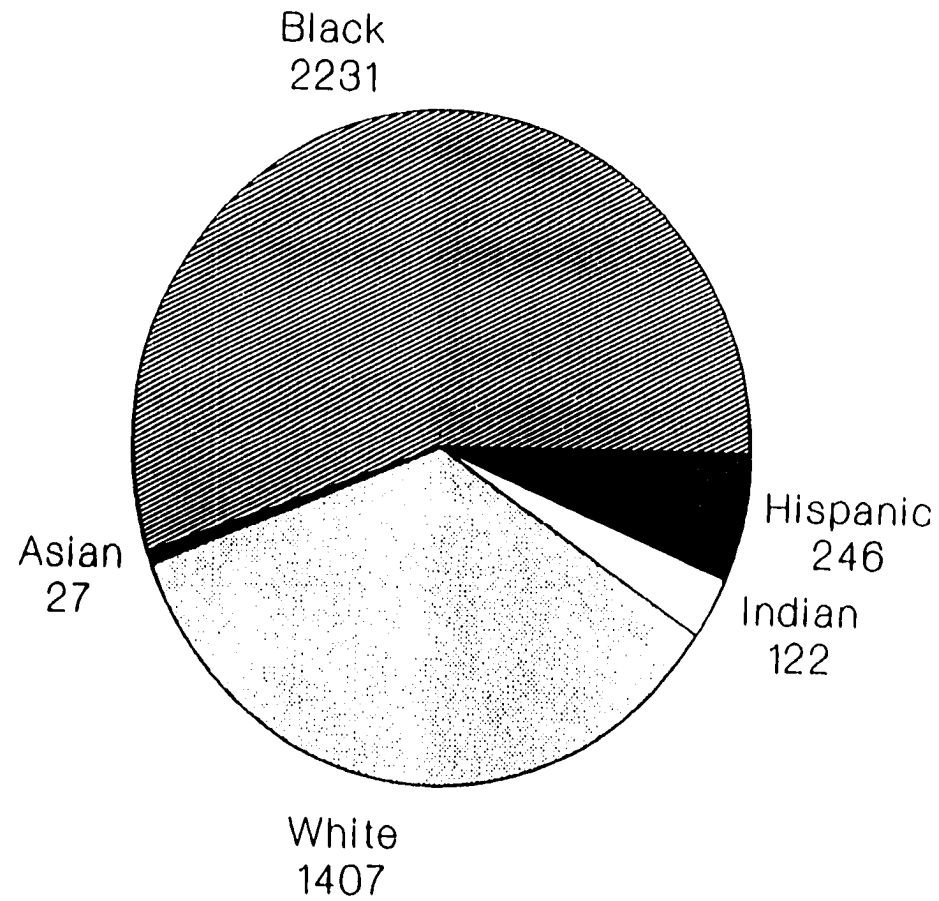
Grade point averages are shown in Table 7.8. Between three four schools were chosen for comparison because they had the largest number of Asians and Hispanics

TABLE 7.5
Short-term Suspensions by Race, Oklahoma City School District, 1991-92



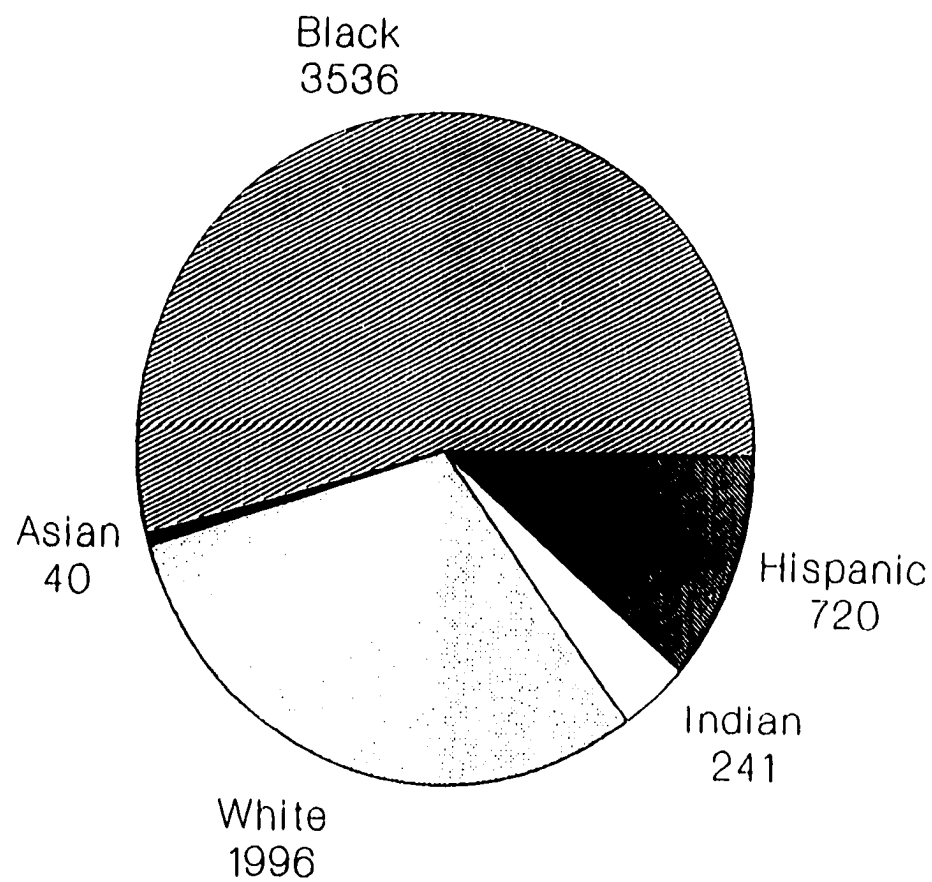
Source: Management Information Services, Oklahoma City Public Schools, 1996.

TABLE 7.6
Short-term Suspensions by Race, Oklahoma City School District, 1992-93



Source: Management Information Services, Oklahoma City Public Schools, 1996.

TABLE 7.7
Out-of-School Suspensions by Race, Oklahoma City School District, 1993-94



Source: Management Information Services, Oklahoma City Public Schools, 1996.

TABLE 7.8
Grade Point Average for Selected Oklahoma City High Schools,
Selected Years

	SCHOOL	HISPANIC mean cases	ASIAN mean cases	DIFFERENCE
1994-95	District Mean	2.22	2.93	.71
	Capitol Hill	2.25 197	3.09 4	.84
	Classen	2.73 30	3.51 20	.78
	Northeast	1.92 33	2.87 109	.95
	NW Classen	2.15 181	2.89 151	.74
1989-90	District Mean	2.20	2.89	.69
	Capitol Hill	2.21 115	3.05 14	.84
	Northeast	2.42 33	2.96 76	.54
	NW Classen	2.09 92	2.84 143	.75
1984-85	District Mean	2.21	3.00	.79
	Capitol Hill	2.05 59	2.93 9	.88
	Classen	2.22 53	2.91 23	.69
	Northeast	2.39 14	2.98 103	.59
	NW Classen	2.32 54	3.09 106	.77

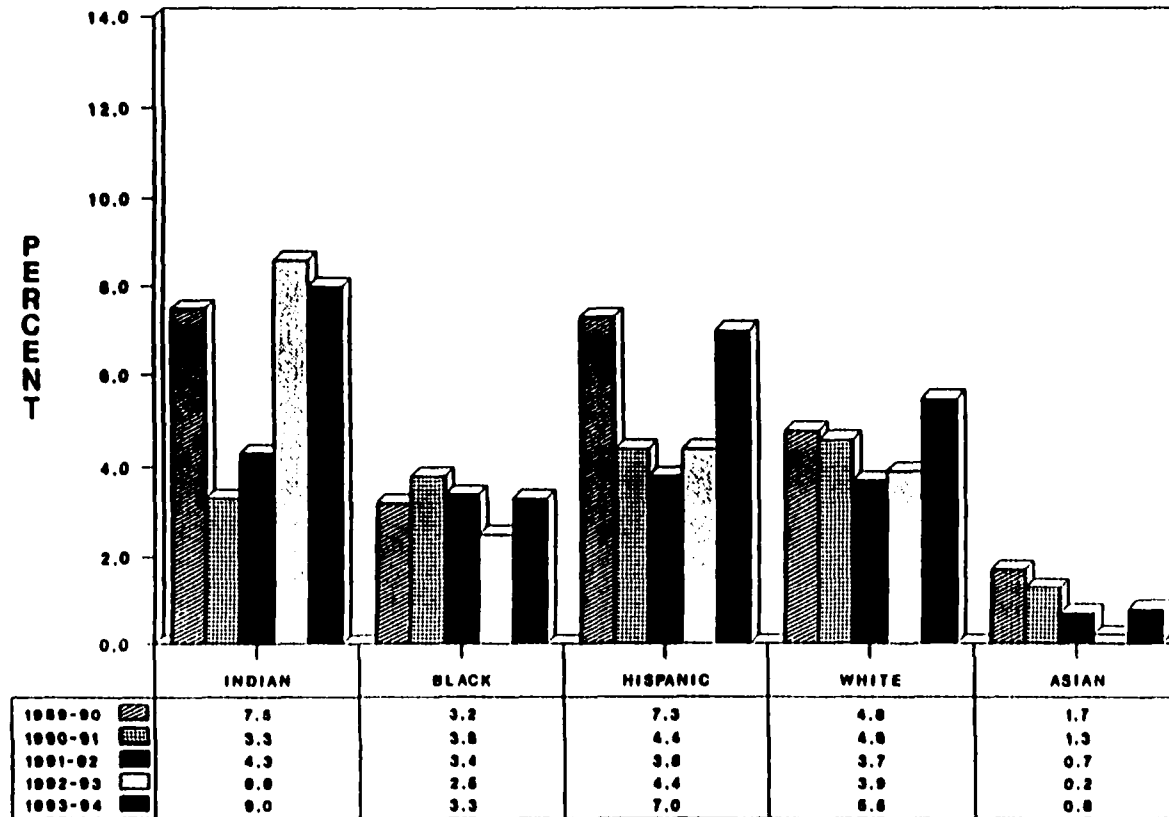
Source: Management Information Services, Oklahoma City Public Schools, 1996.

enrolled. The years for comparison were 1985 to 1995 in five year increments. The mean grade point average in the first semester is given for each school as well as the number of cases for Hispanics and Asians in each school for that semester. There is also a district mean grade point average for Hispanics and Asians that may be used as a base. The difference in grade point average between Hispanics and Asians for each school at each time interval is also given.

The first point to make is the remarkable stability of the mean grade point average of Hispanics over a ten-year period. There is less than a .02 percentage point difference on a 4.0 scale. Asians had less than a .11 percentage point difference in ten years; this is also a very stable set of averages. The Asians had a consistently higher grade point average than the Hispanic students. The difference was .79, .69 and .71 for their respective years. The average difference was .73 or three-fourths of a grade level above the Hispanics over one decade. This difference coincides with national Asian levels of achievement in education over Hispanics; it probably helps to explain increasing national achievement in the graduate and professional schools for Asians. These differences in grade point averages are probably the beginning of income and real estate inequity in future years.

The final comparison is between Asian and Hispanic drop out rates for a five-year period from 1990 to 1994. In Table 7.9 the comparisons are:

TABLE 7.9
Percentage of Dropouts by Race, Oklahoma City School District, 1989-94



Source: Management Information Services, Oklahoma City Public Schools, 1996.

	ASIAN	HISPANIC
1990	1.7	7.3
1991	1.3	4.4
1992	0.7	3.8
1993	0.2	4.4
1994	0.8	7.0

The difference in the drop out rate varied from 3.0 to 6.0 percentage points in favor of the Asians. This too contributes to the national trend of much greater education for the Asian community.

The local school district and local schools follow the national trend of greater education for Asians in every category listed. I now turn to learn the differences in attitudes or actions in home environments. To that end the next questions survey differences in the home environments that seem to lead to differences at school.

QUESTION 3:

Is there an attitude difference between Asians and Hispanics concerning education?

I designed a survey that asked Asian and Hispanic parents questions that may reveal differences in attitudes towards their childrens' education and their reaction to education in their communities. The survey had several questions about the parents' own life and their behavior and their childrens' behavior (Appendix A). The parents were chosen from Northwest Classen and U. S. Grant, the two schools that had the largest Asian and Hispanic populations on Oklahoma City's north and south sides. The parents were

randomly selected and I paid the children \$10.00 for the return of the survey. There were 50 Asian and Hispanic surveys each. I conducted the survey in the spring of 1996, and the results are in Appendix B.

Six questions and responses were chosen from the survey to answer Question 3. The following summary compares Asian and Hispanic answers to the selected question.

Question 1: Ethnicity vs. years of parental education. There are six categories of education (Fig. 7.10). Hispanics had poorer schooling. Asians had more college graduates and far fewer individuals with less than eight years of education.

Question 2: Ethnicity vs. childrens study habits (Fig. 7.11 and 7.12). More Hispanics study one to two hours or less. At two to three hours of daily work, Asians work more. At four hours or more Asians have two and one-half times more students working at that level. The higher the hours of study the larger the number of Asian students who participated at that level.

Question 3: Ethnicity vs. child expected to finish high school. All parents expect their child to finish high school.

Question 4: Ethnicity vs. years in the U.S. (Fig 7.13). There were far more Asians below five years and far more Hispanics over 20 years.

Question 5: Ethnicity vs. child expected to go to college (Fig. 7.14). Hispanics had far fewer expecting to go to college.

Question 6: Ethnicity vs. reason for success in schools (Fig. 7.15). For Hispanics good teaching was the highest response with hard work and ability providing secondary

Figure 7.10 [2.1 --> 2.2 Ethnicity vs. Yrs Edu]

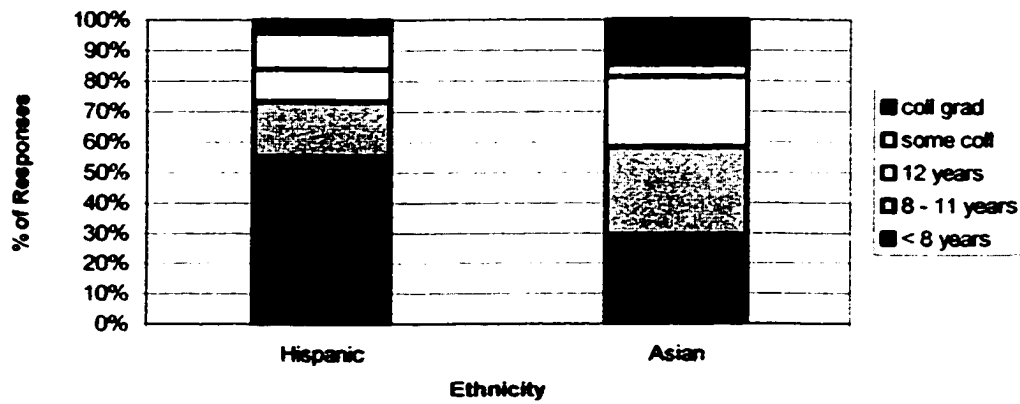


Figure 7.11 [2.1 --> 3.13 Ethnicity vs. Chld Stdy Hab]

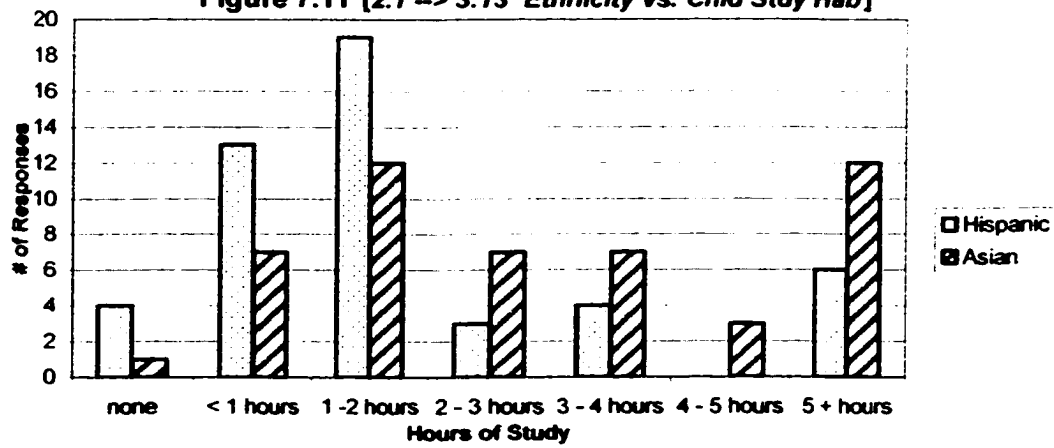


Figure 7.12 [2.1 --> 3.13 Ethnicity vs. Chld Stdy Hab]

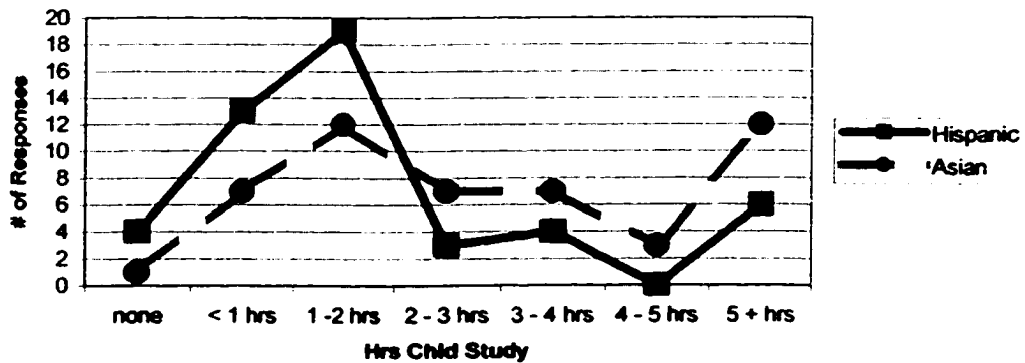


Figure 7.13 [2.1 → 3.10 Ethnicity vs. Yrs in US]

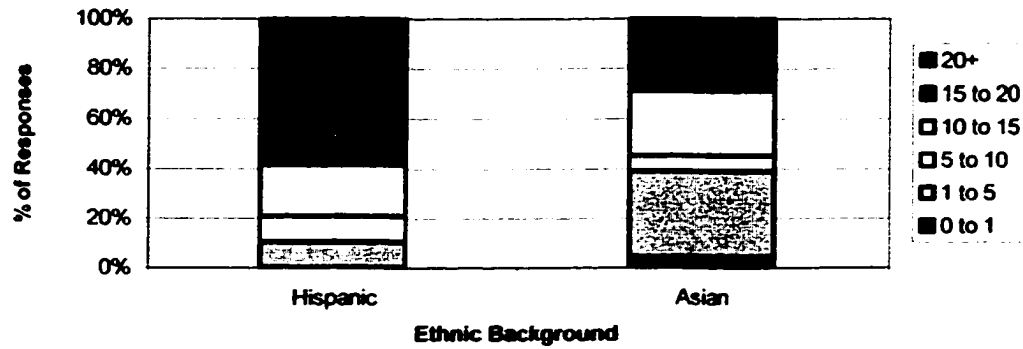


Figure 7.14 [2.1 → 4.5 Ethnicity vs. Chld will go to Coll]

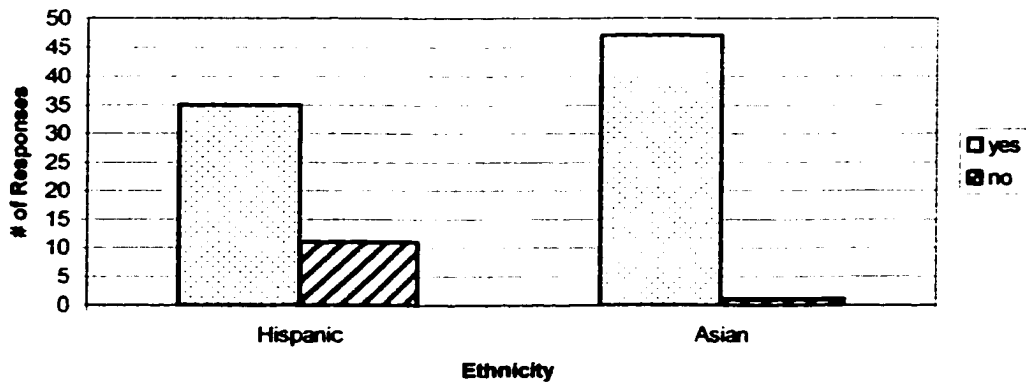
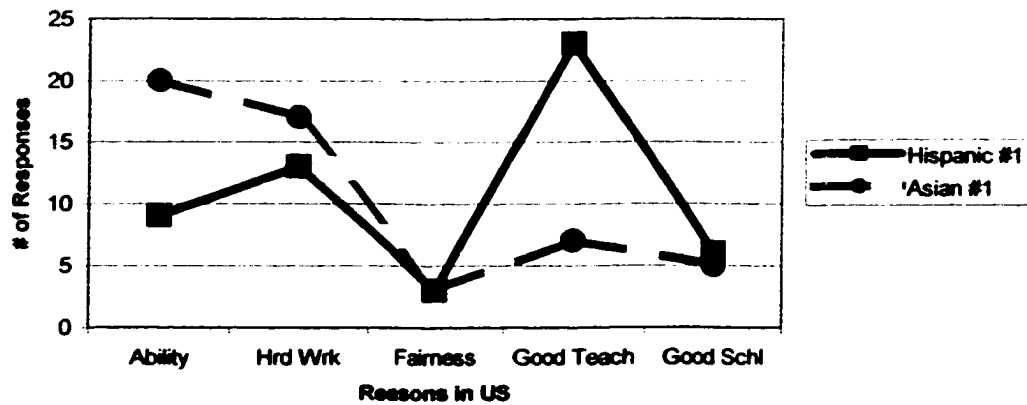


Figure 7.15 [2.1 → 5.6 Ethnicity vs. Reasons for Success In School]



explanations. For Asians ability and hard work were by far the highest responses.

In summary, there are some differences in Hispanic and Asian attitudes and characteristics. Hispanics have poorer schooling and have been here longer. Both Hispanics and Asians think their children will graduate from high school, but nearly all Asians and 80 percent of Hispanics think their children will go to college. For success in school Hispanics emphasize good teaching while Asians believe in ability and hard work. For hours of study I find the greatest difference. Hispanics have a higher number studying fewer hours (one to two or less) while Asians have a higher number studying many hours (two or more). These results will be matched to other survey and map data to draw additional conclusions later.

QUESTION 4:

Is there an attitudinal difference toward education that is correlated to parental education or time in the U.S.?

In the survey responses the difference in parents' educational levels and time spent in the U.S. between Asians and Hispanics may be as important as culture in determining the difference in educational behavior between Asians and Hispanics in the U.S. I use the same survey and questions in Question 3 but the controlling variable is now parental education and time in the U.S. For parental education I begin with:

Question 1: Years of education vs. children's study habits (Fig. 7.16 and 7.17). Over half of the Hispanic high study-hour children are from low parental education categories, while college parents have children in low study hour categories. Asians have

Figure 7.16 [2.2 --> 3.13 Hispanic Yrs of Edu vs. Chld Stdy Habits]

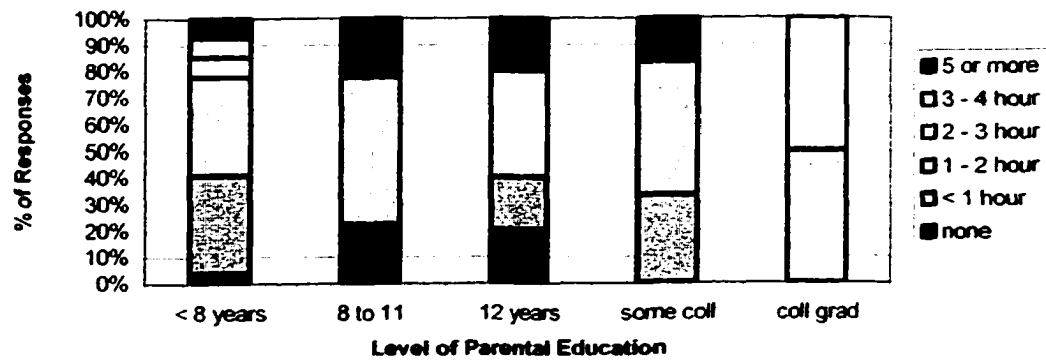


Figure 7.17 [2.2 --> 3.13 Asian Yrs of Edu vs. Chld Stdy Habits]

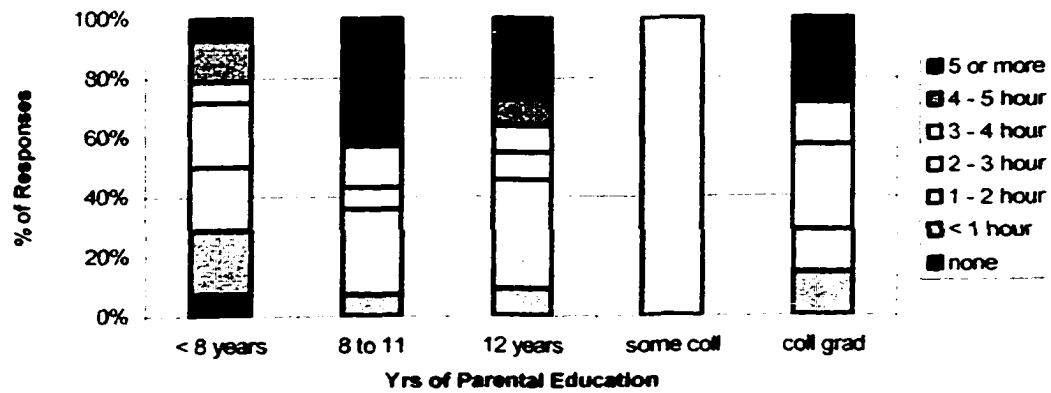
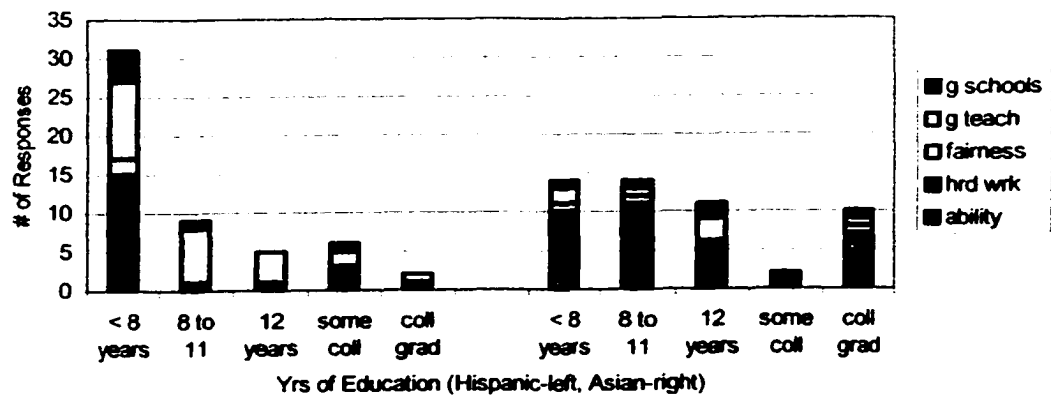


Figure 7.18 [2.2 --> 5.6 Yrs of Edu vs. Success in School]



high and low parental education children in higher study hours. Years of education have little predictive value for hours studied.

Question 2: Years of education vs. reasons for success in school (Fig. 7.18). Both highly educated and lower educated Hispanics emphasized good teaching. Some of both included hard work and ability. Asians of all education levels believed in ability and hard work; the lower educated emphasized good teaching and good schools.

Question 3: Years of education and expected high school graduation. All Hispanics and Asians felt their children would graduate regardless of parental education.

Question 4: Years of education vs. expected college attendance. For Hispanics the only children thought not to enter college were the lowest educated with two highly-educated parent exceptions. The only Asian thought not to enter college was from a low education family.

Parental education rarely provided a response to a question that differed from the groups' answer. The most interesting may be parental response to childrens' study habits. The highly educated Hispanics were mostly in the low study hour categories. Most of the high study group were in the lower-educated group. The Asians usually had high education families in high study groups but there were also many low education families with children in high study groups. Education was no guarantee of improved study habits. Success in school was largely viewed the same by Hispanics. Asians viewed ability as being much more important if the parents were highly educated. All parents expected their children to finish high school. Nearly all Hispanics thought his/her children would attend college but most who didn't were less well educated. Only one Asian parent thought

his/her child would not attend college and that person came from a less educated family. Education played a small role in differentiating answers to questions, whether Hispanic or Asian.

Question 4 continues with years in the United States as the controlling variable:

Question 1: Years in the United States vs. a child's study habits (Fig. 7.19 and 7.20). Hispanics' number of years in the United States had a major impact on study habits. Almost all of those with the most hours studying (over two) had been here more than 10 years. Almost all of those with more than three hours studying had more than 20 years in the United States. Asian study habits varied according to years in the United States but most of those with high study hours were here the shortest time. The pattern for these two groups was the opposite: time influenced in a positive way Hispanic study habits but not Asian study habits.

Question 2: Years in the United States vs. success in school (Fig. 7.21). Hispanics living longer in the United States believe more in hard work and especially good teaching for school success. Asians have a similar reaction. The longer in the United States the greater their belief in hard work and good teaching as the key to success.

Question 3: Time in the United States vs. child attending college (Fig. 7.22). Time greatly increased the ratio of Hispanics going to college over those that don't. The lowest category was 1:1, the highest category 7:1, a much larger ratio for entering college than lower categories. Asians consistently thought their children would enter college independent of time in the United States

Question 4: Years in the United States vs. child finishing high school. There was

Figure 7.19 [3.10 → 3.13 Yrs in US vs Chld Study Hab]

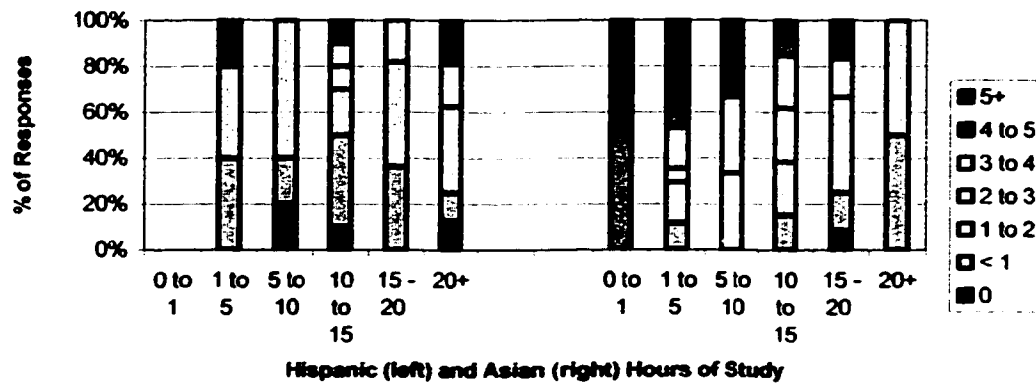


Figure 7.20 [3.10 → 3.13 Yrs in US vs Chld Study Hab #2]

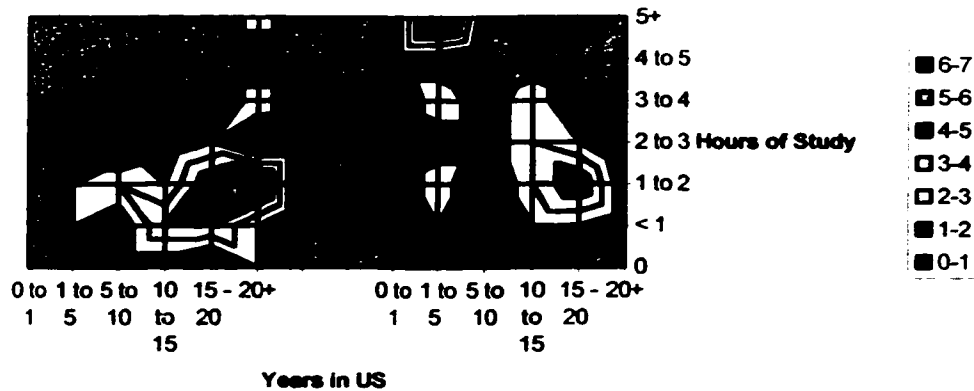


Figure 7.21 [3.10 → 5.6 Yrs US Resident vs. School Success]

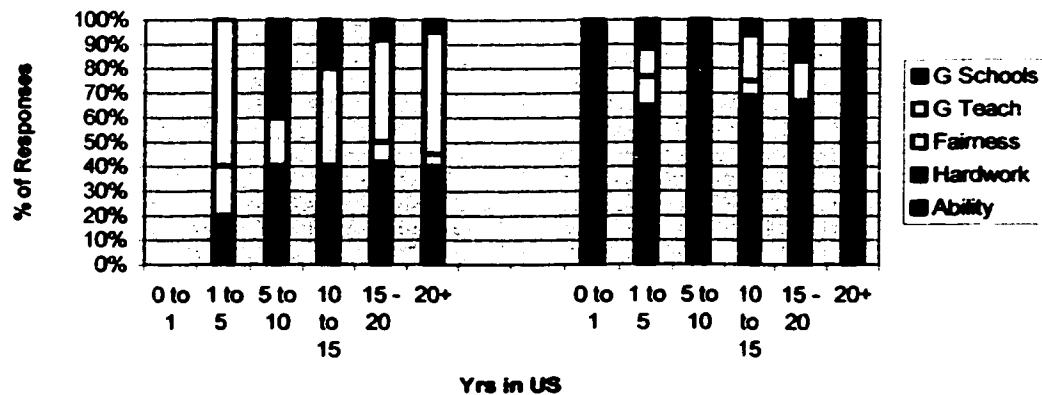


Figure 7.22 [3.10 → 4.5 Yrs in US vs. Chld attending Coll]

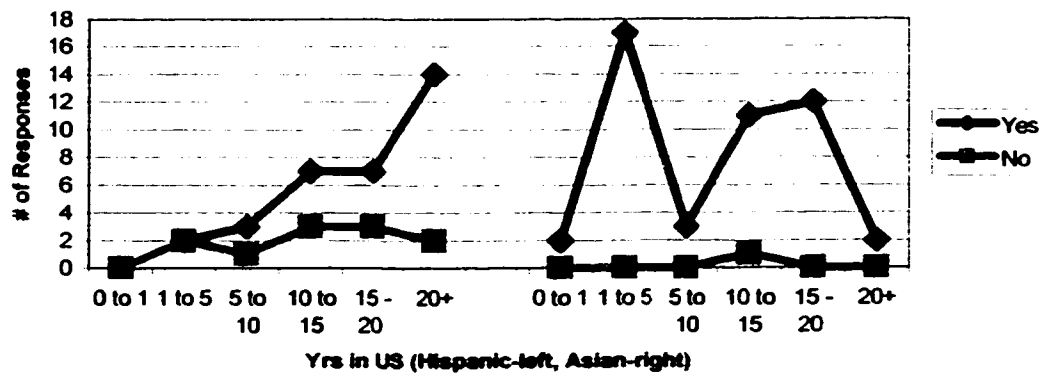


Figure 7.23 [4.5 → 3.13 Success in School vs. Chld Stdy Hrs]

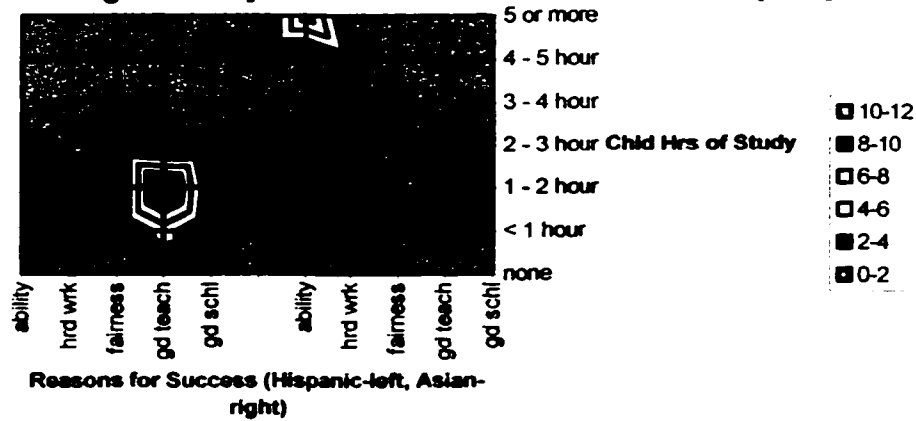
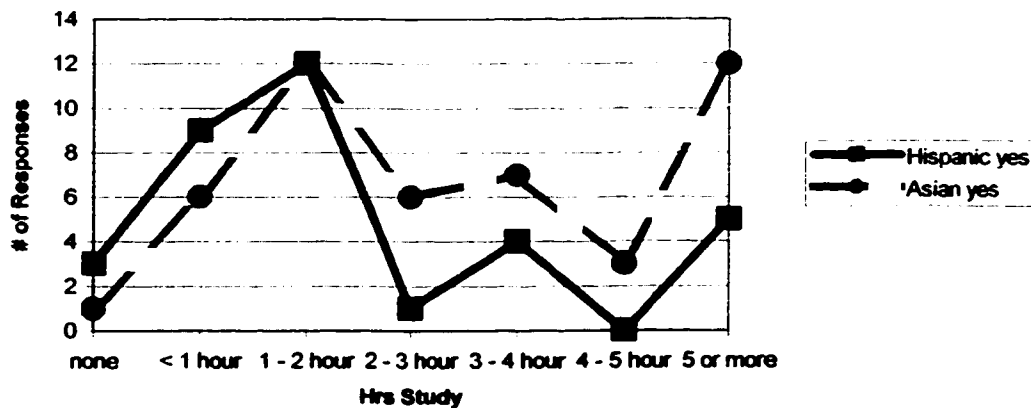


Figure 7.24 [4.5 → 3.13 Coll Attendance vs. Chld Hrs Study]



no difference between Asians and Hispanics in this category. All parents felt their children would graduate from high school.

Time in the United States tends to influence Hispanic opinion more. Time influences Hispanics and Asians in opposite ways. Hispanic study hours increase and Asian study hours decrease with time in Oklahoma. Both Hispanics and Asians increase their belief in hard work and school teaching for student success. For Hispanics, time increased their belief in children going to college. Asians always believed children would enter college. All categories of parents believed their children would finish high school. The major impact time had on Hispanics can be seen in several important categories: study habits, interest in college, and hard work for school success. All categories seem to encourage an interest and sacrifice for the education that few parents were able to experience in their life. Asians tended to remain steady in most education categories except their study habits greatly decreased. These behaviors may relate to the adaptation process described in Chapter 2. Both ethnic groups were beginning to behave more like those around them in their new community.

There are two special questions asked that may provide more understanding of Hispanic and Asian behavior. The two questions compare success in school vs. children's study habits and potential attendance in college to study habits. There was a significant difference between Hispanic and Asian study hours and a significant change in study hours for both groups over time. I am now going to see if childrens' study hours relate to important variables such as success in school and attendance to college.

Question 1: Success in school vs. children's study hours (Fig 7.23). Many more

Hispanics who believed in good teaching for school success had less than two hours study. Hard work was evenly divided among high and low study students. Those who believed in ability as an explanation for success were disproportionately represented in the above two-hour study group. Asians were remarkably evenly distributed among reasons for high success and high or low study hours. The one exception was that ability was heavily weighted in favor of very high study hours.

Question 2: Potential attendance in college vs. children's hours of study (Fig 7.24). For Hispanics the difference is clear, for those studying less than three hours a day the ratio of college bound to non-college bound students is 2.5 to 1. For those over three hours of study a day the ratio is 9 to 1. Studying and potential attendance to college are closely related. For Asians the only non-college bound student studies less than one hour a day. Studying is very important for all who are planning further education.

These two questions point up the importance of study hours in developing a self-concept that encourages school success and in motivating students and preparing students for future education. The differences between Hispanics and Asians in study hours and their changes over time may well explain past and present inequities and provide an explanation for a reduction in inequities over time (Chapter 6). Within each group those who study more regardless of the numbers have a greater belief in the importance of their abilities in school success and a greater belief in their abilities to continue education. As the divergent numbers associated with childrens' study hours converge there may well be a convergence in total educational success and a reduction in inequity in those variables dependent on educational success, income and real estate values. Inequity in these areas

have probably developed from these different educational behaviors and inequity will likely be overcome with adaptation to new behaviors over time.

QUESTION 5:

Is there a spatial difference in residential location between Asians and Hispanics in an urban setting? Does location change over time? Are there differences in locational change between these two ethnic groups? Are these differences related to education or income differences in the city?

There are two metropolitan areas in this study that can be mapped to determine any spatial patterns that may answer these questions. Oklahoma City and Tulsa have data that I have already used to determine Hispanic and Asian differences at separate geographic levels. I provide 32 maps that demonstrate spatial patterns for population, education, income, real estate values and change in population from 1980 to 1990. Both Oklahoma City and Tulsa maps are divided by census tracts, the numerical value for each census tract is in quintiles, the study area encompasses most of the central area of Oklahoma City and Tulsa and include the areas of highest population density. For each city there are maps for the 1980-90 Asian and Hispanic population data, 1980-90 median family income, 1980-90 mean housing value, 1980-90 percentage high school graduates, 1980-90 percentage college graduates, and the percentage of change in Asian and Hispanic population in quintiles and natural breaks method of statistical summary. An analysis of the spatial patterns for these variables in each city follows:

(Fig. 7.25, 7.26) The Tulsa maps for 1980 and 1990 Hispanic population show the percentage Hispanic in each census tract. The census tracts are divided evenly into quintiles with each quintile having 20 percent of the census tracts. The quintiles are

ordered from highest to lowest percentages of Hispanics for their respective census tracts. These two Hispanic population maps for Tulsa show the highest percentages beginning in the north side of Tulsa and spreading a little to the southwest and southeast in the 1990 Hispanic population map.

(Fig. 7.27, 7.28) Tulsa 1980 and 1990 percent Asian. The Asian highest population begins in the southeast, by contrast to the Hispanic population, and stretches to the southwest of Tulsa. In 1990 the Asian population concentrated in the south central area and abandoned some southeast census tracts to the Hispanic population. They generally occupy different areas over time.

(Fig. 7.29, 7.30) Tulsa 1980 and 1990 median family income. The 1980 income has a high in the south and particularly the south central area. There is one exception of a census tract with high income in the north. The 1990 income map is even more concentrated with high incomes in the south central area.

(Fig. 7.31, 7.32) Tulsa 1980 and 1990 mean housing value. The 1980 Tulsa mean housing value definitely follows a north-south dividing line with the north having lower housing values and the south having higher housing values. 1990 mean housing values show even more concentration in the south and southwest. These mean housing value patterns follow income patterns closely and become more correlated over time.

(Fig. 7.33, 7.34) Tulsa 1980 and 1990 percentage high school graduates. There are two measures for education percent high school graduation and percent college graduation. For the percent high school graduation in Tulsa for 1980 the census tracts form a clear and distinct line with low percentages in the north and high percentage in the

Figure 7.25
1980 Percent Hispanic

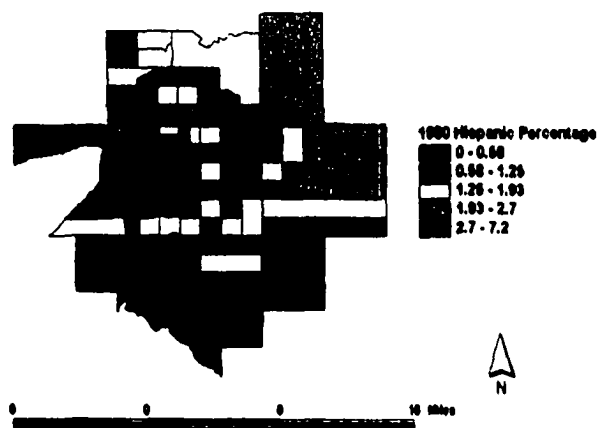


Figure 7.26
1990 Percent Hispanic

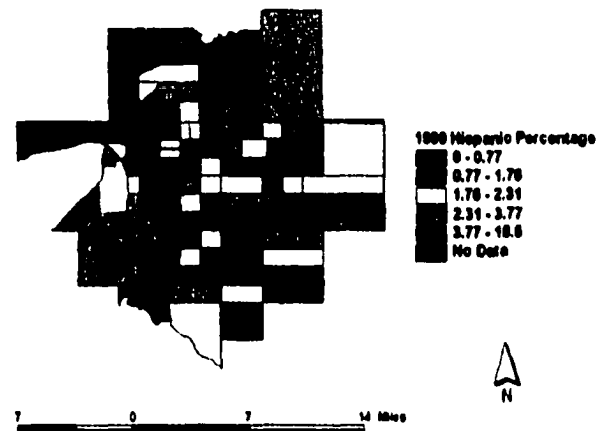


Figure 7.27
1980 Percent Asian

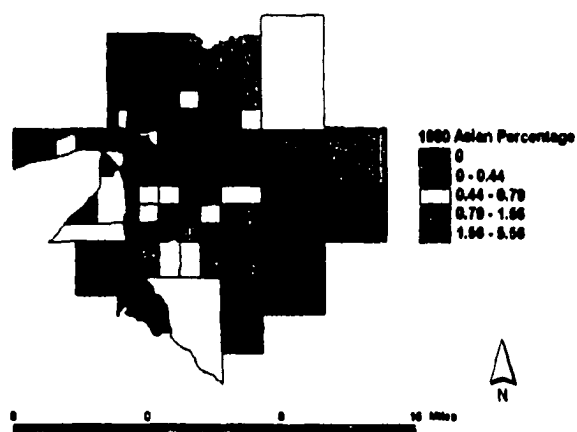
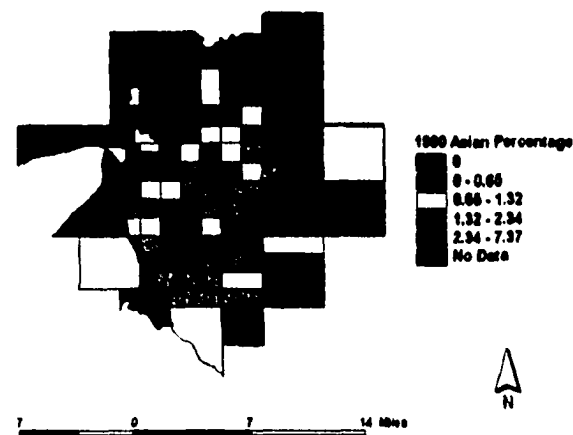


Figure 7.28
1990 Percent Asian



Tulsa Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

Figure 7.29
1980 Median Family Income

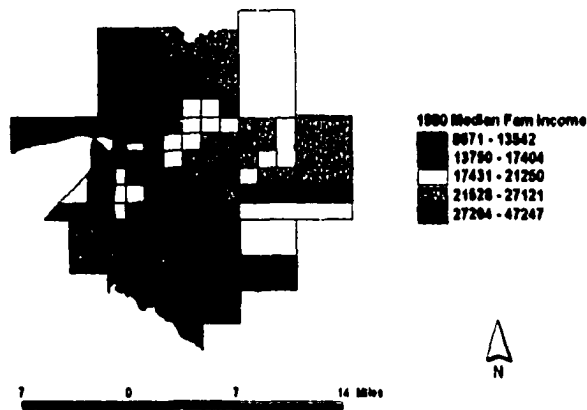


Figure 7.30
1990 Median Family Income

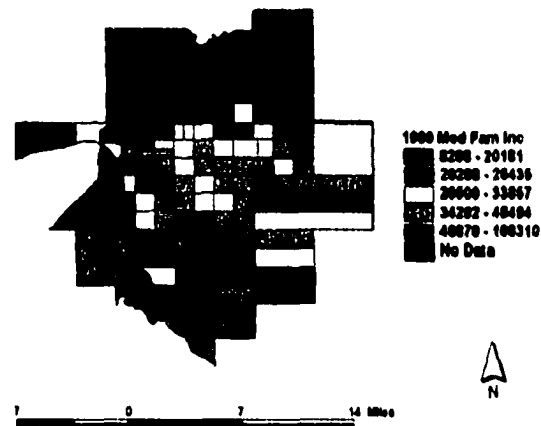


Figure 7.31
1980 Mean House Value

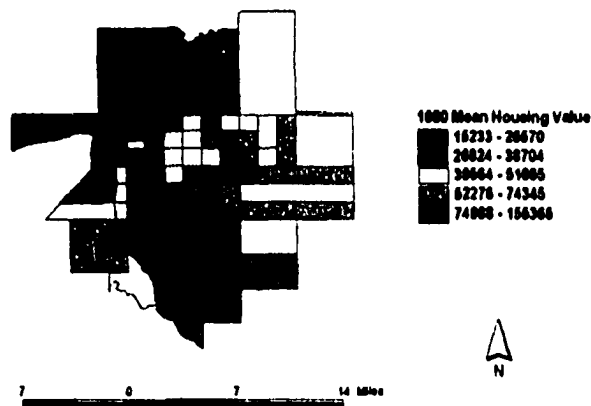
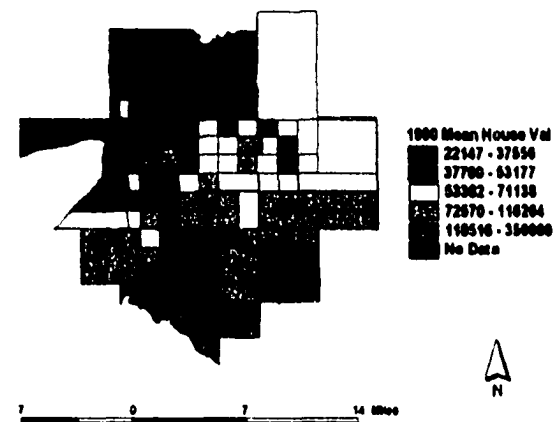


Figure 7.32
1990 Mean House Value



Tulsa Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

south. There are two slight exceptions of a few low percentages census tracts in the southeast and west central. In 1990 the census tracts became more clearly concentrated with high census tracts in the south and low census tracts in the north. Transitional census tracts follow a corridor through the middle of Tulsa.

(Fig. 7.35, 7.36) Tulsa 1980 and 1990 percentage college graduates. The 1980 census tracts follow very closely to the high school census tracts with low census tracts in the north and high percentage census tracts in the south. 1990 percentage college graduates also followed the 1990 high school graduates quintiles. In fact there were very few census tracts that changed quintiles. These patterns closely follow income and housing patterns.

(Fig. 7.37, 7.38) Percentage change in Hispanic population in quintiles and natural breaks. The quintile method divides the census tracts into five equal categories. The natural breaks method divides into five categories but the dividing line is taken where there are statistical groupings of census tracts. The categories will have different numbers of census tracts depending on the groupings. In Fig. 7.37, 7.38 we may see different patterns using these two measures of census tracts.

The Hispanic population in quintiles appears to be nearly random. Changes were occurring in all parts of the city. The natural breaks method showed more transitional areas in the central and southern part of the city but high growth was reduced to southwest and northern areas of Tulsa.

(Fig. 7.39, 7.40) Percentage change in Asian population in quintiles and natural breaks. The quintile change for Asians had higher changes in the south and much less

Figure 7.33
1980 Percentage HS

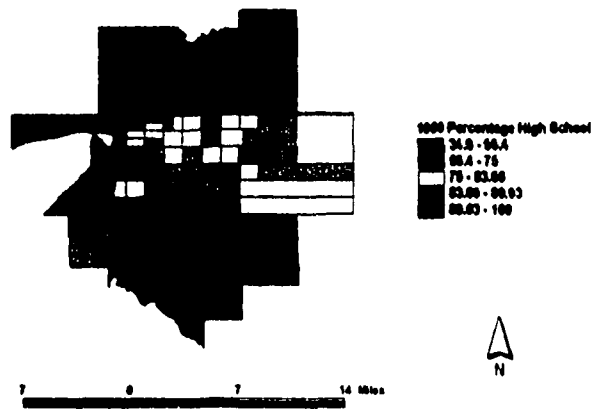


Figure 7.34
1990 Percentage HS

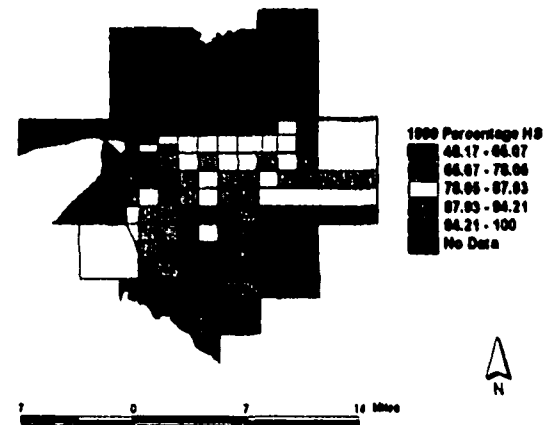


Figure 7.35
1980 Percentage College

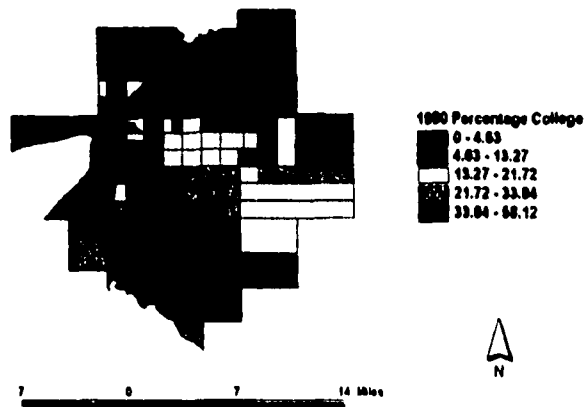
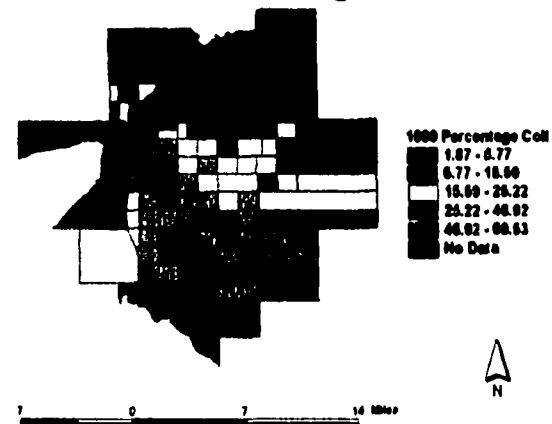


Figure 7.36
1990 Percentage College



Tulsa Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

Figure 7.37
Percentage Change in
Hispanic Population (Quintile)

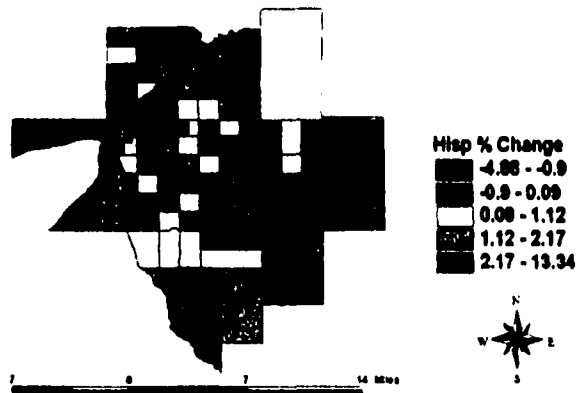


Figure 7.38
Percentage Change in
Hispanic Population (Nat. Breaks)

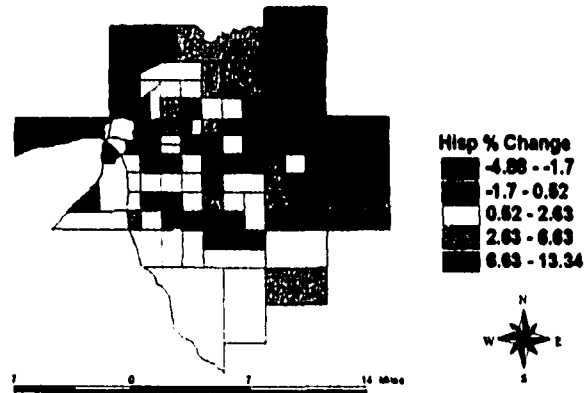


Figure 7.39
Percentage Change in
Asian Population (Quintile)

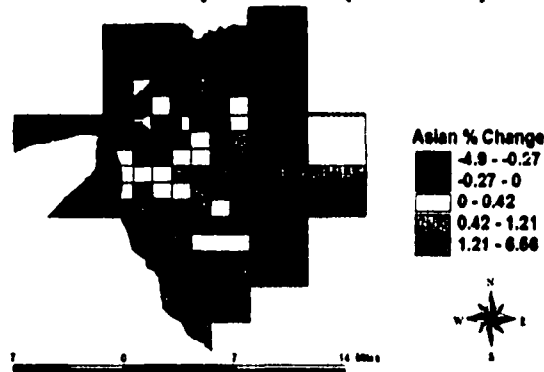
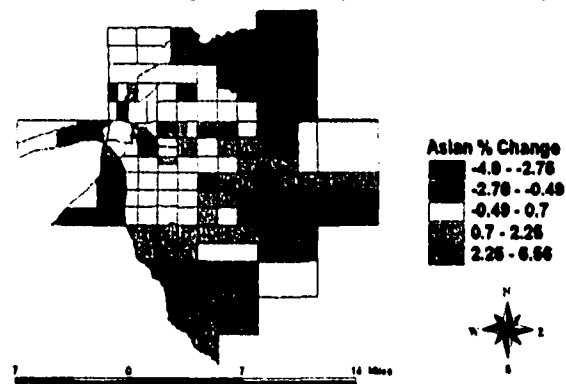


Figure 7.40
Percentage Change in
Asian Population (Nat. Breaks)



Tulsa Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

change in the north, southeast and west central. A pattern similar to Asian population percentages. The natural breaks method showed a high number of transitional areas in the central and northwest part of the city. High change areas were again in the south and east central part of the city. This too is similar to Asian population areas but there are many more transitional areas with natural breaks. Low change areas were in the northeast and scattered in central areas.

(Fig. 7.41, 7.42) The Oklahoma City maps for 1980 and 1990 percent Hispanic population shows a changing pattern between 1980 and 1990. The highest 1980 Hispanic census tracts were in the southeast section of town with some scattered in the northwest and northeast. The 1990 Hispanic population concentrated in the southeast with few Hispanics in other areas.

(Fig. 7.43, 7.44) The Oklahoma City 1980 and 1990 percent Asian population. In 1980 the highest percent of Asian census tracts were scattered but mostly in the central area northwest and southeast. In 1990, the highest Asian census tracts were in the northwest and were much more concentrated. There was a small contiguous group of high Asian tracts in the extreme south central area.

(Fig. 7.45, 7.46) Oklahoma City 1980 and 1990 median family income. In 1980 the low family income tracts were in the south central and southeast sides. This area was surrounded by transitional tracts and high level income on all sides. The northwest had the highest income. In 1990 the same general pattern followed the low income south central and southeast area slightly expanding and transitional areas extending to the southeast and northwest. The high income areas became more concentrated in the north

Figure 7.41
1980 Hispanic Percentage

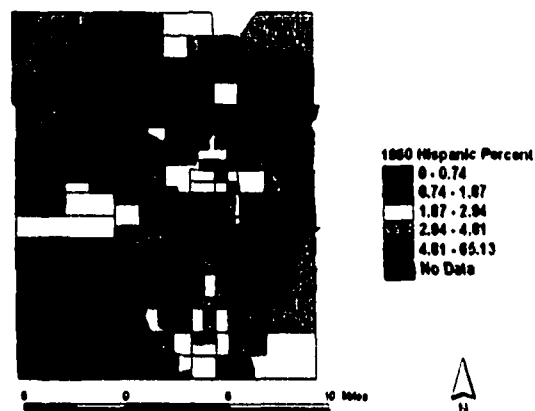


Figure 7.42
1990 Hispanic Percentage

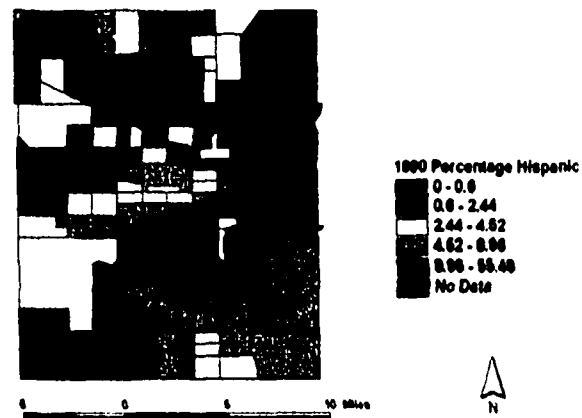


Figure 7.43
1980 Asian Percentage

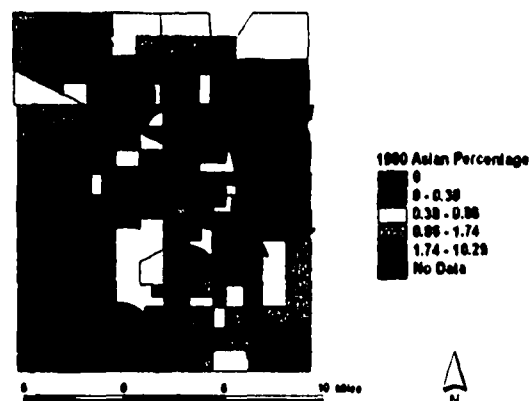
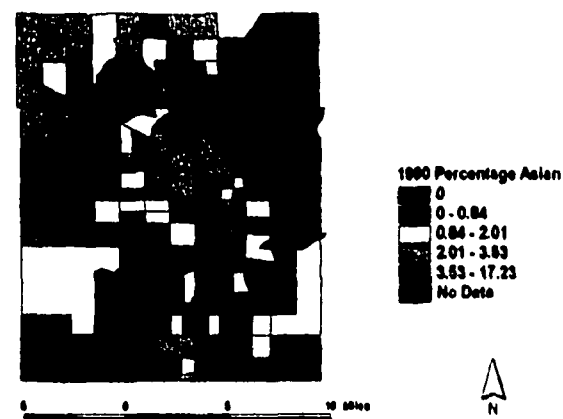


Figure 7.44
1990 Asian Percentage



OKC Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

Figure 7.45
1980 Median Fam Income

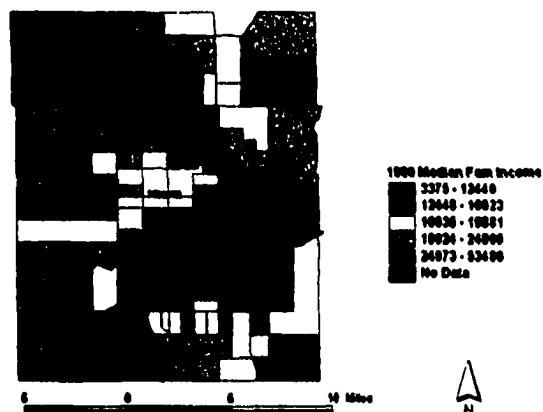


Figure 7.46
1990 Median Fam Income

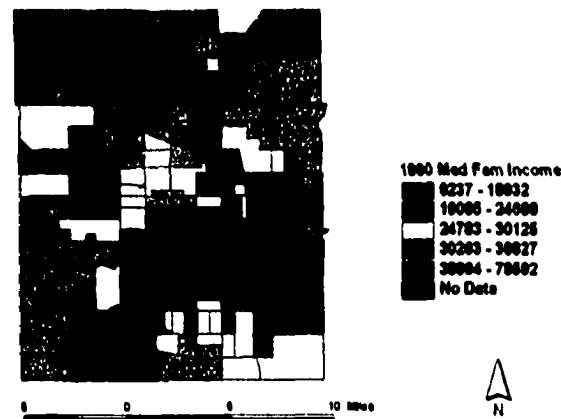


Figure 7.47
1980 Mean House Value

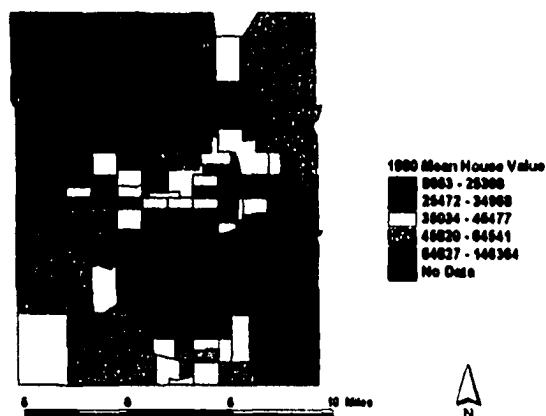
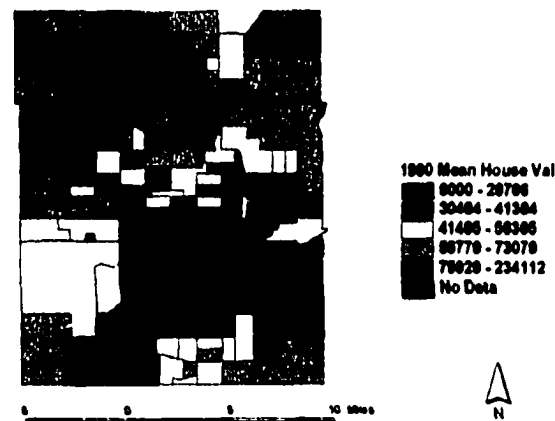


Figure 7.48
1990 Mean House Value



OKC Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

and northwest and in a small area in the extreme southwest and south central area. The high income tracts were peripheral but little changed from 1980.

(Fig. 7.47, 7.48) Oklahoma City 1980 and 1990 mean house value. The 1980 mean house value pattern followed the income pattern very closely. The lower ranged census tracts were more concentrated in the south and southeast. The high income tracts nearly surrounded the lower and transitional tracts forming a kind of crescent around those tracts on the north, west and south sides. The northwest had the highest housing value. The 1990 mean housing value pattern remained about the same with transitional tracts extending to the west and south central area. The northwest remained the high mean housing value area. The patterns for mean housing values closely followed the median family income patterns.

(Fig. 7.49, 7.50) Oklahoma city 1980 and 1990 percentage high school graduates. The maps depicting educational patterns in Oklahoma City provide the clearest spatial patterns of all the maps presented here. The 1980 high school highest percentage graduation tracts were clearly on the north side with the highest tracts on the northwest side. There was one area in the south central part of town that was an exception. The lowest graduation rates were on the south side. Transitional tracts buffered these two extremes. The 1990 high school graduation patterns were nearly the same with even greater concentrations of high graduation rates on the far northwest side.

(Fig. 7.51, 7.52) Oklahoma City 1980 and 1990 percentage college graduation rates. The 1980 college graduation rates in the census tracts divide along an east-west axis. The north side has the high graduation tracts and the south central area has the very

Figure 7.49
1980 Percentage HS

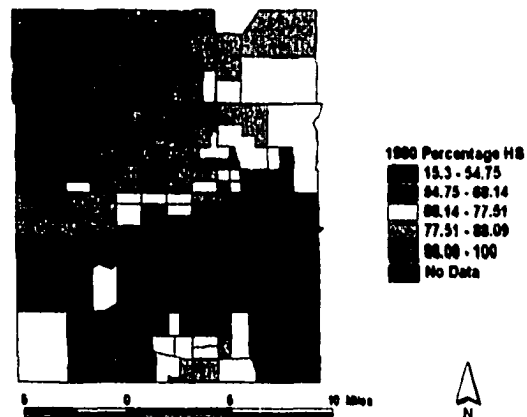


Figure 7.50
1990 Percentage HS

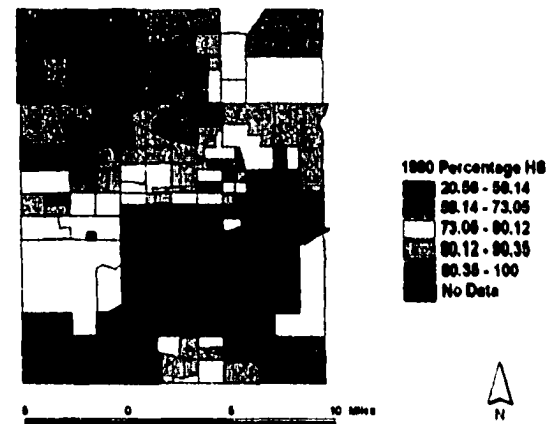


Figure 7.51
1980 Percentage College

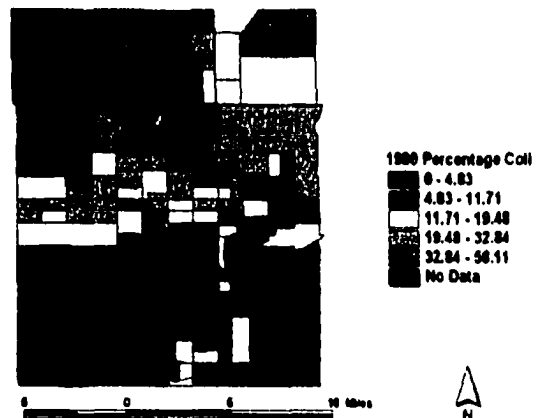
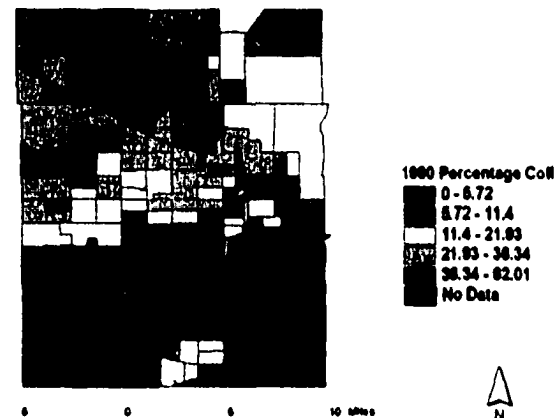


Figure 7.52
1990 Percentage College



OKC Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

lowest tracts. Some transitional tracts exist in the south central area, northeast and along the east-west axis. The 1990 map is not a duplicate of the 1980 map but nearly so.

(Fig. 7.53, 7.54) Oklahoma percentage change in Hispanic population (quintile and natural breaks). The change in Hispanic population by quintiles shows a clear movement to the south and south central areas of the city with scattered tracts in the north, north central, and southwest. The natural breaks method concentrates the Hispanic population change in the south and south central area. Transitional areas surround these contiguous high change areas in the south central area. The rest are low change areas throughout the city. Some have a net loss for Hispanics.

(Fig. 7.55, 7.56) Oklahoma percent change in Asian population (quintile and natural breaks). The Asian change in terms of census tract quintiles shows a scattering of census tracts. Some of the high values are in the north central area and are highly concentrated. Others are in the northwest and a few contiguous tracts are in the south central area. The natural breaks method reduces the number of high change tracts but keeps them in the same locations of north central, north and northwest and the persistent south central area. The Asian pattern is a little more scattered than the Hispanic pattern perhaps indicating greater options with higher income but both patterns are in different areas and follow education, income and real estate patterns. The Asians follow higher education, income and real estate census tracts and Hispanics lower.

The spatial analysis of Tulsa and Oklahoma City shows two cities with similar spatial patterns for variables and ethnic population. Asians and Hispanics start in different locations and go to different locations. The variables of education, income and real estate

Figure 7.53
**Percentage Change in
 Hispanic Population (Quintile)**

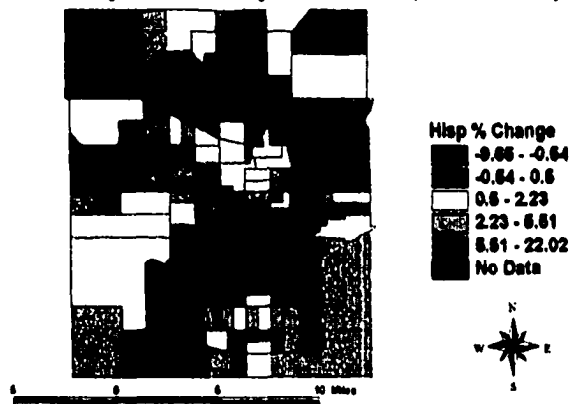


Figure 7.54
**Percentage Change in
 Hispanic Population (Nat. Breaks)**

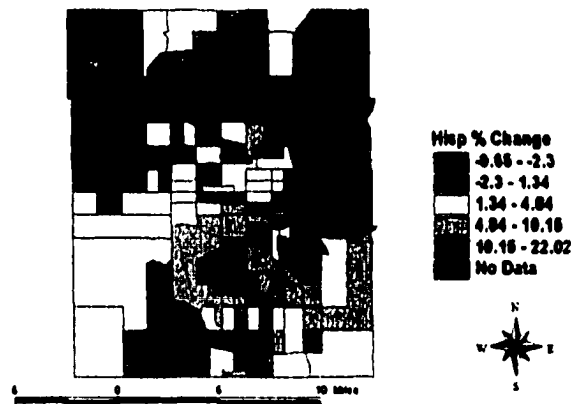


Figure 7.55
**Percentage Change in
 Asian Population (Quintile)**

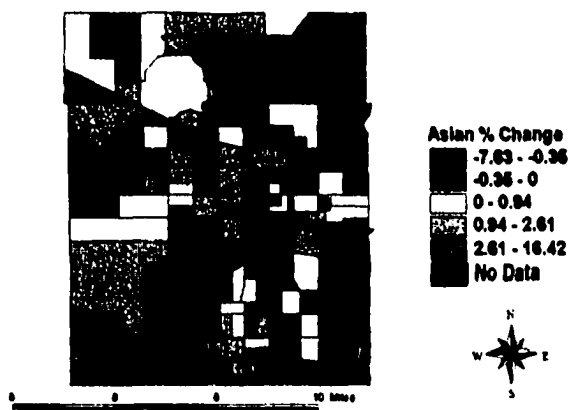
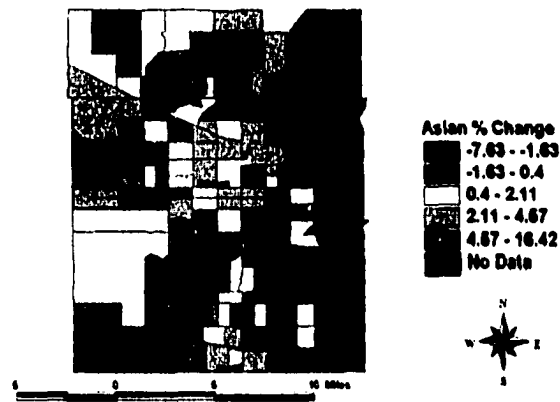


Figure 7.56
**Percentage Change in
 Asian Population (Nat. Breaks)**



OKC Study Area

Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing*, 1990 and 1980. Summary Tape File 3A.

values form spatial patterns that are similar in the census tracts of both cities. High value census tracts under one variable formed high value census tracts in locations similar to other variables. Low value census tracts for one variable were located in low value census tracts for another variable. These variables were highly correlated. Asians and Hispanics moved to different areas. The high value education, income and real estate census tracts had more Asians entering. The low value education, income and real estate census tracts had Hispanics entering them. This pattern was true even when there were slight variations in the overall education, income and real estate value patterns. Asians or Hispanics would adjust to slight variations accordingly. This could be seen in south central Oklahoma City where there was a minor difference in the three correlated variables. Asians appeared in higher valued tracts. In Tulsa in the southeast there was a slight difference in the correlated variables in some tracts and Hispanic values appeared in those low variable tracts. The overall pattern also adjusted for Oklahoma City and Tulsa. High values for variables were in the north for Oklahoma City and the south for Tulsa. Asians adjusted their residential pattern accordingly. The low values for variables were in the south for Oklahoma City and in the north for Tulsa. The Hispanic residential pattern adjusted accordingly.

The process of education, income and real estate values and the different response by the Asian and Hispanic communities led to distinct spatial patterns revealing inequity, even increased inequity over time.

QUESTION 6:

Do Asian and Hispanic differences towards education correlate to income and spatial inequity over time?

After reviewing tables, surveys and maps I have no doubt there is a difference between Asians and Hispanics towards education. This difference in education also relates to differences in income inequity and spatial inequity concerning real estate values. The tables showed correlations between education, income and real estate values at a national, and metropolitan level of geographical analysis. There were educational differences at the school district, and school level as well. Surveys showed an attitudinal and behavioral difference between Asians and Hispanics that, at least in some categories, began to converge over time. The maps clearly showed income and spatial inequity in two cities that were highly correlated to educational spatial patterns. There can be no doubt that educational differences that are linked to income and spatial inequities and these inequities have increased over time.

QUESTION 7:

If inequity exists is it partially or wholly explained by parental education or time in the United States? Are these differences best explained as cultural differences?

This question was addressed by the survey and a review of the literature concerning the cultural history of the two societies. In the survey I asked questions concerning children's study habits and the expectation of going to college. Parental education had little influence on the two questions. Time in the United States seems to encourage greater study habits and hope for college enrollment for Hispanics. However, the study hours for

Asians were reduced over time. After twenty years in the United States there is a kind of convergence in the educational work ethic. The reviewing of the historical cultural literature showed a clear difference in the importance of education for the two cultures. Asian culture wanted to replace warrior leaders with scholarly leaders. In Hispanic history warrior leaders were the standard. Most people were denied the education they once had for fear of developing an alternative power source. The contrast couldn't have been stronger between two cultures. Time, however, has an apparent transformational effect on both cultures. Culture contributes to inequity, the passage of time initially exacerbates the inequities derived from education but eventually there is a form of convergence.

QUESTION 8:

What is the importance of transference and adaptation in culture and education and consequently income and spatial inequity?

Transference is the way cultures pass cultural values from one generation to the next. In this case it was very important for passing educational values to two separate and distinct cultures. It is this process that gave Asians and Hispanics educational values that led to educational, income and real estate value (or spatial) inequity.

Adaptation helps cultures adjust to new cultures and in time adapt or adjust to new values. Adaptation in the case between Asians and Hispanics in America has permitted a kind of convergence for educational values and for those who have been in the United States a long time reduced inequity in education, income and real estate values. For those here for twenty years or less apparently adaptation will take longer or at least the benefits

of adaptation will take longer. Both transference and adaptation are important in providing the values that lead to inequity or learning new values that overcome inequity. Both processes depend on proximity to others and a learning method that is natural and universal to all humans.

Conclusion

In Oklahoma City and Tulsa there is a pattern of development that follows the national pattern of education, income and real estate correlation. Between Asians and Hispanics this pattern first leads to inequity and then gradual convergence between the two groups and the rest of society. In Oklahoma City and Tulsa this pattern is in its earlier stages because of the more recent immigration into the metropolitan areas by these two ethnic groups. The surveys indicate at least the beginnings of a convergence of educational attitudes. This may lead to increased equity in income and real estate purchases in the future. For now, however, Oklahoma City and Tulsa have confirmed their similarities to the national pattern of ethnic differences and in education, income and real estate purchases. Despite their differences, both groups show a clear correlation to these variables.

The study of educational differences in Oklahoma City confirms considerable educational behavior differences between these two groups and an attitudinal difference that begins to change over time. This should lead to a greater understanding of inequity and its changes in a pluralistic society.

Primary Sources

Management Information Services, Oklahoma City Public Schools. 1996.

U. S. Department of Commerce, Bureau of the Census. Census of Population and Housing: 1970, 1980, 1990. Summary Tape File 3A.

Chapter 8

Conclusions

Here I review my findings in previous chapters. A section follows that covers the relationship of this research to the field of social geography and ethnic pluralism. Finally, I offer my conclusions for the study.

Chapter Review

In Chapter 1 my discovery of the contrasting educational behavior between Asians and Hispanics in Oklahoma City and their residential movements prompted this study. Asians, as a group, excelled in educational activities and were turning in transfer papers to move to newer areas and the suburbs. Hispanics, by contrast, did not excel in education. I wondered if there was a connection between academic success and migration. This appeared to be a problem that had spatial, cultural, economic and educational dimensions.

In Chapter 2 I reviewed many ideas about culture and learning. Culture is a system of learned behavior from other people. The other people we learn from are those around us in the closest proximity. The culture a people has generally comes from their adaptation to the environment. Young people, in turn, adapt to the culture of the people around them. There is a set of universal biological and behavioral principles that all people employ in their learning of culture. The learning may be universal but the culture they learn is not.

In Chapter 3 my main point was that culture is related to education and both are related to economic development. Education and economic development are highly

correlated. The reason for this is the production function. This concept enables economic development because new factors increase the ability to make new goods and services or make them more efficiently. Education greatly impacts these new factors by improving entrepreneurial activity, science, and technology. A society devoted to education has a much better chance to develop economically.

In chapters 4 and 5 I addressed the importance of cultural differences in education. If cultures behave differently towards educational institutions and education should this be reflected in a different response to economic development? Two cultures, Asian and Hispanic, have exhibited different behaviors towards educational institutions and education itself. When representatives of these two cultures enter yet another culture that operates under the same political, social, and economic circumstances, different economic and spatial reactions by the two cultures occur. These reactions may indicate the importance cultural values and education have on economic equity.

In Chapter 6 I compared Asian and Hispanic behavior for four variables, population, education, income, and real estate values. I looked at these variables nationally. I used tables to present the data.

In Chapter 7 I found that Oklahoma City and Tulsa population, education, income, and real estate data conform to national patterns. The process of increased education, income and spatial dispersion holds true for both groups, following the European model of dispersion and assimilation over time in the United States. Rates of increased education, income, and real estate purchases (dispersion) were different but the variables were do correlate. Asian variable values were higher and dispersion more rapid than Hispanic. The

Oklahoma City and Tulsa patterns represent in an earlier stage of the European model than the national data would indicate because of the more recent entry into the two metropolitan populations. Surveys show a difference in Asian and Hispanic attitudes to educational variables such as study habits, reasons for educational success, and aspirations for higher education. Also, attitudes converge over time due to Hispanic adaptation to attitudes held by Asians. Oklahoma City and Tulsa follow an assimilation process similar to the old European model but at different variable rates beginning with rates of education. Convergence in attitudes seem to result in convergence of assimilation patterns.

Social Geography, Ethnicity, and Equity: Additional Points

In the view of Adams (1957) education does not stand at the forefront of development. An educational system can be no further developed than the society as a whole. Education developments lag behind other phases of social evolution. Changes in education follow, not precede, changes in the larger society. According to Adams, education doesn't change society, rather society changes education. The values of society are important, therefore, in establishing the educational behavior that leads to economic development. These values and the development that derives from them have a spatial component.

The history of the study of ethnic pluralism is varied in the field of geography—it begins with physical geography. The physical environment could easily be seen, identified, and differentiated over space. The human dimension on the earth's surface was also seen as physical. Race, not social relations, were thought to be important. One could easily identify

race, relate it to the physical attribution of the environment, and consider human behavior as a simple, or later, complex response to the environment. The physical relation of man's appearance, his behavior and the physical environment were easily identified and cataloged. The French school of human geography, influenced by Vidal de la Blanche, recognized human creativity as being more than a reaction to the physical environment. The consideration of regional societies, however, took little account of the internal social diversity in these societies. A member of the French school, Max Sorre, moved from rural agrarian societies to the city and considered human activity to be more interpersonal than physical. Sociology and geography began to be applied together to understand the importance of social diversity in explaining human behavior (Ley et al. 1984).

Urban geography developed a branch derived from urban sociology called human ecology. This field sought to emphasize not so much geography as space (Park 1967). Human ecology has as a primary objective the study of the geographic distribution of social groups in the city, and spatial patterns of change through time (Ley et al. 1984). The underlying dynamic of human ecology is one of economic separation through competitive interpersonal relations in the urban land market; empirical studies have often been concerned with racial and ethnic rather than class-based social area (Ley et al. 1984). There is another side to social spatial patterns, however. To some extent, residential patterns are volitional and freely chosen, yet to some extent they are in part culturally rather than economically prescribed (Ley et al. 1984). This implies behavioral patterns that go beyond economics and perhaps merely ethnic associations. Social geography has adopted more commitment to the examination of social interaction, of attitudes as well as patterns, and the use of such

methodologies as social surveys, unobtrusive measures, and participant observation (Jackson and Smith 1981).

Social attitudes and social patterns have been used to examine segregation and identity among West Indians in Britain (Peach), residence, encapsulation and marginality among British Asians (Robinson), and segregation, interaction and assimilation among Irish immigrants to England (Walter, all cited in Ley et al. 1984). The fundamentally positivist orientation of spatial analysis has given way to behavioral analysis through surveys.

The understanding of social attitudes and social patterns is important in understanding ethnic pluralism. Without these techniques of analysis we will probably not understand how attitudes shape spatial patterns of people and how spatial patterns shape the social attitudes of people. This interactive process has a point, however. How will pluralism shape a society? All of the research has brought us to two fundamental viewpoints expressed by M. G. Smith (1965) and Gordon (1978). Their viewpoints are very different. Smith's view follows Furnivall, it stresses the persistence of cultural distinctions in society (Ley et al. 1984). Gordon sets his ideas about pluralism in a more permissive class based society, which stresses assimilation. "The goal of cultural pluralism, broadly speaking, envisages a society where ethnic groups would be encouraged to maintain their own communal social structure and identity, and preserve certain of the values and behavioral patterns which are not in conflict with broader values, patterns and legal norms common to the entire society" (Gordon 1978: 160).

Gordon's scheme contradicts Smith's. The research here supports Gordon's scheme but emphasizes adaptation to education and economic reward as the method by which

inequity is first increased and then decreased. The reason for the different rates of adaptation is the consequence of educational values that one culture rapidly adapts to or shares with a host culture as compared to a second new culture less rapidly adapting to a host culture. Over time adaptation will lead to the second culture acquiring new educational values increased income and reduction in the difference in income. Adaptation takes place by the same process in which individuals learn their parents' culture and is a mechanism common to all people. In time, when freely allowed and not encumbered by laws restricting interaction or encouraging racism, most societies will approach equity when educational values and educational resources become more equal.

It is human resources, not material resources, that will leave the greatest impact on economic equity. This is in contrast to the views of some geographers who believe that material and social resources have the greatest impact on inequity and will not change over time without resources changing. Peet (1975) believes that central to the idea of a geography of inequality is the realization that a person may exploit only the social resources of a limited section of space in order to ready himself for the labor market. The theme of my research is that different cultures will exploit social (educational) resources differently over time. Their ability to exploit these resources will change with adaptation. In time they will have more resources as they move from place to place.

Peet examines this view in greater detail. "The individual's struggle to earn more income takes place in a certain physical, social and economic environment. This environment may be thought of as a set of resources, services, contacts, opportunities, with which the individual interacts. The eventual result of this interaction is the production of

goods and services for the society and income for the individual" (Peet 1975: 568). The author goes on to place the importance of education in perspective. "The importance of education in a prospective environment are house and neighborhood, which influence the individual's productivity through factors such as physical and mental health, schools, colleges, technical institutes and other labor-training facilities that are the most important social-institutional influences. Although a wide variety of other institutions play a role in readying the individual for work" (Peet 1975: 568). These "background factors" may be thought of as determinants of a persons "income earning potential." The theme of this research is that these background factors, though important, will have different reactions from people because of their cultural values. Schools will especially have different reactions according to cultural values. These values are not constant and will change, thus adjusting the degree of inequity in society despite physical and social resources.

The importance of space should not be underestimated. An individual derives services, information and connections from the space around him. The extent of exploitable space varies with mobility which varies with income. The density of social services varies in space. The quality of resources also varies with space and income. The social environment invests through the individual with an economic opportunity surface that is changed by the adaptation of human values. Human values and their malleability have the greatest impact on the economic surface over time. These values should be studied more closely to understand economic inequity its sources, influences and consequences.

Conclusions

Differences between Asians and Hispanics is one of my major findings. In Asian society men of letters govern while in Hispanic society warriors or "men of action" govern. In Asian societies authority and institutions are respected and reinforce the values of home. In Hispanic society remote institutions, government, schools and churches are respected, but if they conflict with personal or home values they are ignored. Sometimes they are thought to be in opposition to personal interests and are not to be trusted. Consequently Asian societies tend to be highly integrated but Hispanic society is usually fragmented. Travel is encouraged in Asian society and foreign knowledge, when deemed superior, is respected. In Hispanic society travel is seen as destructive to the family. In Asia all encourage work towards education for all to benefit. In Hispanic society if one acquires wealth and education one has the burden of supporting others. Education in Asia is highly praised and honored. In Hispanic societies it can be mocked as a sign of self-importance and arrogance. Asians work for ancestors and children in this world. Hispanics believe all rewards will be justly given in the next life. The poor and women are educated or at least can be educated in Asian life. Hispanic societies rarely educate the poor and only recently have educated women. These experiences provide very different opportunities and motivations for these two societies.

Surprisingly, many similarities characterize Hispanic and Asian societies. One is family structure. In Asian and Hispanic societies the roles of family members are well defined. Independence is discouraged and conformity to family needs is expected. The families of Hispanic and Asian students support education but express that support in

different ways. Throughout life both cultures believe in an enormous amount of personal sacrifice and both believe that pleasure should be set aside for more important duties.

In both cultures the educational system is highly selective. It is hard, indeed nearly impossible, to get to the top rung of the educational establishment. In Asian and Hispanic cultures educational philosophy is based on two important points. One is that knowledge is known. There is little reason to search for knowledge because that which came from the masters is true and the only thing worth knowing. The second point is that debate and discussion are vigorous but do not necessarily rely on observable facts. These two points separate Hispanic and Asian cultures from Western society after the Reformation in sixteenth century Europe.

The spatial and mental processes that establish educational values and sustain them in different cultural groups contribute to economic inequity in ethnically plural societies. This is a human process that is internal to culture and may become more important than external processes (law, racism, social resources, material resources) in some societies. Over time the same spatial and mental processes that contribute to cultural transmission will also contribute to adaptation. If the adaptation process is allowed to continue, without the intervention of external processes, it will reduce inequity even in an ethnically plural society.

During this research it became clear that culture, education, income and real estate ownership are related. Culture impacts education, both are related to income and occupational status, and as income increases Asians and more gradually Hispanics in Oklahoma City and Tulsa have dispersed to areas of better housing. Assimilation also has

accelerated with these outbound people. In geographical terms, education, income, and assimilation increase with distance from older ethnic neighborhoods. These seem to be my major findings.

My observations over the past 15 years, in five different schools, with students ranging from 11 to 21 (grades 6 through 12), and students from over 20 different nations tend to confirm the idea that culture has an important impact on educational values. The adaptation process for each student is heavily laden with the values of his/her culture. Cultural values are not changed by multiculturalism, teacher conferences, or workshops. Cultural differences affecting educational values seem to be timeless, but are changed over time due to adaptation not public policy.

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Appendix A
**Survey of New Oklahoma City Families
 with English as a Second Language**

Part 1: Family Information

1.0	Date:			
		Position in the Family		Age (years of age)
1.1	Respondent:			
1.2	Spouse:			
1.31	Children:			
1.32				
1.33				
1.34				
1.35				
1.36				
1.37				
1.38				
1.41	Address:			
1.5	Telephone:			
1.6	Gender: Male _____ Female _____			
1.7	Language used at home:			

Part 2: Country of Origin

2.1 What country do you come from? _____

2.2 Years of education:

____ less than 8 years ____ 9-11 years ____ 12 years ____ some college ____ college graduate

2.3 Years of education for your spouse:

____ less than 8 years ____ 9-11 years ____ 12 years ____ some college ____ college graduate

2.4 Occupation in country of origin: _____

2.5 Spouse's occupation in country of origin: _____

2.6 Why did you come to the U. S.? (Please number from 1 to 6 with 1 being the most important.)

____ freedom

____ more income

____ vote

____ children's future

____ live with family

____ better education

Part 3a: The United States

3.1 Where did you live first in the United States? City: _____, State: _____;

City: _____, State: _____; City: _____, State: _____.

3.2 Did you get more education in the U.S.?

_____ No. _____ some college
_____ Finished high school. _____ graduated from college

3.3 Did your spouse get more education in the U.S.?

_____ No. _____ some college
_____ Finished high school. _____ graduated from college

3.4 Do your school-aged children attend special English classes? _____ Yes. _____ No.

3.5 Do you speak English at home?

_____ Never.
_____ Sometimes.
_____ Most of the time.
_____ All of the time.

3.6 Your Occupation _____

3.7 Your Spouse's occupation _____

3.8 The number of hours the spouse works outside of the home:

_____ none _____ 20-30 hours
_____ less than 10 hours _____ 40 hours or more
_____ 10-20 hours

3.9 Do your children work outside of the home?

children 19 years of age or older:

_____ none _____ 20-30 hours
_____ less than 10 hours _____ 40 hours or more
_____ 10-20 hours

children 18 years of age or younger:

_____ none _____ 20-30 hours
_____ less than 10 hours _____ 40 hours or more
_____ 10-20 hours

Part 3b: The United States

- 3.10 How long have you been in the U.S.?
- | | |
|-------------------------------------|---|
| <input type="checkbox"/> 0-1 years | <input type="checkbox"/> 10-15 years |
| <input type="checkbox"/> 1-5 years | <input type="checkbox"/> 15-20 years |
| <input type="checkbox"/> 5-10 years | <input type="checkbox"/> 20 or more years |
- 3.11 Are you going to bring more family members here? ☐ Yes. ☐ NO.
- 3.12 How many families who speak your language live on your street?
- 3.13 On average, how many hours do your children study daily?
- | | |
|---|--|
| <input type="checkbox"/> none | <input type="checkbox"/> 3-4 hours |
| <input type="checkbox"/> less than 1 hour | <input type="checkbox"/> 4-5 hours |
| <input type="checkbox"/> 1-2 hour | <input type="checkbox"/> 5 or more hours |
| <input type="checkbox"/> 2-3 hours | |
- 3.14 How long have you worked at the same place?
- | | |
|---|---|
| <input type="checkbox"/> less than 1 year | <input type="checkbox"/> 10-15 years |
| <input type="checkbox"/> 1-5 years | <input type="checkbox"/> 15-20 years |
| <input type="checkbox"/> 5-10 years | <input type="checkbox"/> 20 or more years |
- 3.15 How many jobs have you had in the U.S.?
- 3.16 Where did you live when you first came to Oklahoma City?
Address:
- 3.17 Please check one: ☐ You own your home. ☐ You rent your home.
- 3.18 Do you have friends who speak English only? ☐ Yes. ☐ No.

Part 4: Future

- 4.1 Are you going to get more education? ____ Yes. ____ No.
- 4.2 Is your spouse going to get more education? ____ Yes. ____ No.
- 4.3 Do you think your children are going to finish high school? ____ Yes. ____ No.
- 4.4 Do you think your children are going to a vo-tech school after graduating from high school?
____ Yes. ____ No.
- 4.5 Do you think your children are going to college after graduating from high school? ____ Yes.
____ No.
- 4.6 Are you going to help your children, if they go to college/vo-tech school after graduating from
high school? ____ Yes. ____ No.
- 4.7 Do you want to move from your neighborhood? ____ Yes. ____ No.
- 4.8 Do you want to start a business of your own? ____ Yes. ____ No.

Part 5: About the U.S.

5.1 Are you happy that you came to the U.S.? ____ Yes. ____ No.

5.2 Will you return to your first country to live? ____ Yes. ____ No.

5.3 What do you like most about the U.S.? (Please number 1 to 7 with 1 being the most important.)

____ lack of crime	____ equal opportunity
____ good education	____ freedom of religion
____ health care	____ jobs
____ housing	

5.4 What needs to be changed the most about the U.S.? (Please number 1 to 7 with 1 needing the most change.)

____ crime	____ equality between groups of people
____ education	____ more religious training
____ health care	____ jobs
____ housing	

5.5 Are you fairly treated in the U.S. compared to other people?

____ strongly agree
____ agree
____ no opinion
____ disagree
____ strongly disagree

5.6 What contributes most to school success? (Please number 1 to 5 with 1 being the most important.)

____ ability
____ hard work
____ fairness
____ good teachers
____ good schools

Appendix B

[2.1 → 2.2 Ethnicity vs. Yrs Edu]

Yrs Edu	Hispanic	Asian
< 8 yrs	27	14
8 - 11 yrs	9	14
12 yrs	5	11
some coll	6	2
coll grad	2	7

[2.1 → 4.3 Ethnicity vs. Child to fin HS]

Finish HS	Hispanic	Asian
yes	50	49
no	0	0

[2.1 → 3.13 Ethnicity vs. Child Study Hab]

Child study hab	Hispanic	Asian
none	4	1
< 1 hrs	13	7
1 - 2 hrs	19	12
2 - 3 hrs	3	7
3 - 4 hrs	4	7
4 - 5 hrs	0	3
5 + hrs	6	12
totals	49	49

[2.1 → 3.10 Ethnicity vs. Yrs in US]

	Hispanic	Asian
0 to 1	0	2
1 to 5	5	17
5 to 10	5	3
10 to 15	10	13
15 to 20	12	12
20+	16	2

[2.1 → 4.5 Ethnicity vs. Child expect to go to Coll]

Post HS coll	Hispanic	Asian
yes	35	47
no	11	1

[2.1 → 5.6 Ethnicity vs. Success in Schools]

Hispanic Survey						
	Ability	Hrd Wrk	Fairness	Good Teach	Good Schl	totals
Hispanic #1	9	13	3	23	6	54
# 2	8	11	6	9	15	49
# 3	11	10	13	8	7	49
# 4	15	8	13	5	6	47
# 5	7	8	15	5	14	49
Asian Survey						
	Ability	Hrd Wrk	Fairness	Good Teach	Good Schl	totals
Asian #1	20	17	3	7	5	52
# 2	11	14	6	10	8	49
# 3	12	8	6	17	5	48
# 4	4	7	13	12	12	48
# 5	2	3	21	3	19	48

Appendix B

[2.2 --> 3.13 Yrs of Edu vs. Chld Stdy Hab]

Hispanic Survey						Asian Survey					
	< 8 years	8 to 11	12 years	some coll	coll grad		< 8 years	8 to 11	12 years	some coll	coll grad
none	1	2	1	0	0	none	1	0	0	0	0
< 1 hour	10	0	1	2	0	< 1 hour	3	1	1	0	1
1 - 2 hour	10	5	0	3	1	1 - 2 hour	3	4	4	0	1
2 - 3 hour	2	0	0	0	1	2 - 3 hour	3	1	1	0	2
3 - 4 hour	2	0	2	0	0	3 - 4 hour	1	2	1	2	1
4 - 5 hour	0	0	0	0	0	4 - 5 hour	2	0	1	0	0
5 or more	2	2	1	1	0	5 or more	1	6	3	0	2

[2.2 --> 5.6 Yrs of Edu vs. Success in School]

Hispanic Survey						Asian Survey					
	< 8 years	8 to 11	12 years	some coll	coll grad		< 8 years	8 to 11	12 years	some coll	coll grad
ability	7	0	1	1	0	ability	3	7	3	0	6
hrd wrk	8	1	0	2	1	hrd wrk	7	4	3	2	1
fairness	2	0	0	0	1	fairness	1	1	0	0	1
g teach	10	7	4	2	0	g teach	2	1	3	0	1
g schools	4	1	0	1	0	g schools	1	1	2	0	1

[2.2 --> 4.3 Yrs of Edu vs. Chld expected to finish HS]

Hispanic Survey						Asian Survey					
	< 8 years	8 to 11	12 years	some coll	coll grad		< 8 years	8 to 11	12 years	some coll	coll grad
yes	27	9	5	6	2	yes	14	14	11	2	7
no	0	0	0	0	0	no	0	0	0	0	0

[2.2 --> 4.5 Yrs of Edu vs. Chld expect to attend Coll]

Hispanic Survey						Asian Survey					
	< 8 years	8 to 11	12 years	some coll	coll grad		< 8 years	8 to 11	12 years	some coll	coll grad
yes	15	8	5	5	1	yes	12	14	11	2	7
no	9	0	0	1	1	no	1	0	0	0	0

Appendix B

[3.10 --> 3.13 Yrs In US vs. Child Study Hab]

Hispanic Survey							Asian Survey						
	0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+		0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+
0	0	0	1	1	0	2	0	0	0	0	0	1	0
< 1	0	2	1	4	4	2	< 1	0	2	0	2	2	1
1 to 2	0	2	3	2	5	6	1 to 2	0	3	0	3	5	1
2 to 3	0	0	0	1	2	0	2 to 3	0	1	1	3	2	0
3 to 4	0	0	0	1	0	3	3 to 4	0	3	1	3	0	0
4 to 5	0	0	0	0	0	0	4 to 5	1	1	0	1	0	0
5+	0	1	0	1	0	3	5+	1	7	1	1	2	0

[3.10 --> 3.6 Yrs In US vs. Success in School]

Hispanic Survey							Asian Survey						
	0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+		0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+
Ability	0	1	2	0	3	2	Ability	1	6	3	5	4	1
Hardwork	0	0	0	4	2	6	Hardwork	1	5	0	6	4	1
Fairness	0	1	0	0	1	1	Fairness	0	2	0	1	0	0
G Teach	0	3	1	4	5	10	G Teach	0	2	0	3	2	0
G Schools	0	0	2	2	1	1	G Schools	0	2	0	1	2	0

[3.10 --> 4.5 Yrs In US vs. Child attending Coll]

Hispanic Survey							Asian Survey						
	0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+		0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+
Yes	0	2	3	7	7	14	Yes	2	17	3	11	12	2
No	0	2	1	3	3	2	No	0	0	0	1	0	0

[3.10 --> 4.3 Yrs In US vs. Child Finishing HS]

Hispanic Survey							Asian Survey						
	0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+		0 to 1	1 to 5	5 to 10	10 to 15	15 - 20	20+
Yes	0	5	5	10	12	16	Yes	2	17	3	13	12	2
No	0	0	0	0	0	0	No	0	0	0	0	0	0

Appendix B

[5.6 --> 3.13 Success in School vs. Child Hrs of Study]

Hispanic Survey							Asian Survey						
	ability	hrd wrk	fairness	gd teach	gd schl	totals		ability	hrd wrk	fairness	gd teach	gd schl	totals
none	0	1	0	2	1	4	none	0	1	0	0	0	1
< 1 hour	2	4	1	5	1	13	< 1 hour	2	4	1	0	0	6
1 - 2 hour	4	4	1	12	2	19	1 - 2 hour	4	2	0	4	2	12
2 - 3 hour	1	1	1	0	0	3	2 - 3 hour	3	3	1	3	0	10
3 - 4 hour	1	0	0	2	1	4	3 - 4 hour	2	3	0	0	2	7
4 - 5 hour	0	0	0	0	0	0	4 - 5 hour	0	3	0	0	0	3
5 or more	1	2	0	2	1	6	5 or more	9	1	1	0	1	12
totals	9	12	3	23	6	53	totals	20	17	3	7	5	52

[4.5 --> 3.13 Potential attendance in Coll vs. Child Hrs of Study]

Hispanic Survey			Asian Survey		
	Hispanic yes	no		Asian yes	no
none	3	1	none	1	0
< 1 hour	9	4	< 1 hour	6	1
1 - 2 hour	12	4	1 - 2 hour	12	0
2 - 3 hour	1	1	2 - 3 hour	6	0
3 - 4 hour	4	0	3 - 4 hour	7	0
4 - 5 hour	0	0	4 - 5 hour	3	0
5 or more	5	1	5 or more	12	0

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