1991

Psychosocial development of children in the People's Republic of China

Wei Wang
University of Wollongong

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PSYCHOSOCIAL DEVELOPMENT OF CHILDREN IN THE PEOPLE'S REPUBLIC OF CHINA

A thesis submitted in fulfilment of the requirements for the award of the degree

Doctor of Philosophy

from

THE UNIVERSITY OF WOLLONGONG

by

Wei Wang, BEd

Department of Psychology

1991
Acknowledgement

I reserve my most heartfelt thanks for my supervisor, Professor Linda Viney, who was so encouraging when I was anxious about progress, scholarly insightful when I was uncertain about the ideas, artistically skillful when I was clumsy in expression, and always enthusiastically interested in and critically supportive of my work during all these years of my postgraduate study. She is a wonderful mentor.

I am grateful to the Department of Psychology, the University of Wollongong, which provided invaluable support for me to complete this research. My gratitude also extend to the Department of Psychology, East China Normal University, and the University itself, which first offered the opportunity for me to start this research.

My sincere appreciation goes to all research participants and their class teachers from these schools: No.1 Central Primary School of Jing'an District, No.2 Central Primary School of Wusong District, Baoshan High School, Songyi Junior High School, Wusong High School, Shanghai May-Fourth High School, and Shanghai No.11 High School. In particular, I must thank Zhang Yuying, Qi Luoying, Zhu Xianlong, Mao Zhijie, Xu Shiqing, Yang Jingbiao, Chen Hao, and Li Guoxiong for their thoughtful organization and arrangement for my successful data collection. Without them, this research could never have been achieved. Professor Alex Clarke should also be thanked for his valuable comments and suggestions about this thesis at completion.

Finally, my deep and warm thanks go to my family and friends who have shared all my joys and pains and have offered unconditional support, timely help, enduring love, and great understanding and sacrificial patience in this process of developing my own psychosocial maturity.
Abstract

Psychosocial maturity is the domain of my research, specifically that of school-age children in the People's Republic of China. All researchers' metatheories define the particular theory and models they choose for their research. I, as a citizen of the People's Republic of China, have chosen a dialectical perspective. Mao's (1952) theory of contradiction has been adopted as a general conceptual framework within which Erikson's (1950) life cycle model of psychosocial development has been applied as a more specific theoretical guideline. Viney's (1983a) content analysis methodology has been used as a research tool.

Erikson claims that psychosocial development is a staged epigenetic process through eight specific stages and these stages and their corresponding crises are universal, although their contents may differ in different cultural contexts. I have reviewed both the conceptual and empirical studies of Erikson's assumptions and found no relevant Chinese studies. To test the universality and feasibility of Erikson's model in China, 360 students, from six primary and six high schools in Shanghai participated in individual, open-end interviews. Also, about one thousand students, including those interviewed, took part in a peer rating procedure based on Greenberger's (1974) concept of psychosocial maturity. The content analysis scales (Viney & Westbrook, 1979; Viney & Tych, 1985) were applied to the resulting responses. Data were analysed using within sample comparisons, but the scores of the Chinese sample were also compared with those of a similar sample of Australian school-age children and adolescents.

The main hypothesis, testing whether Erikson's developmental model would prove appropriate for the Chinese sample, was supported. Resolution of industry versus inferiority, the fourth stage task appropriate for school-age children, was found to be the main focus of all the research participants. Balancing identity versus identity diffusion, the sixth stage task appropriate for adolescence, was found to be emerging among high
school students. A high level of trust existed for all school grades, however, Grade 1 consistently scored higher than other grades for all aspects of psychosocial maturity. Both Chinese and Australian samples were found to have some difficulty with the second stage task, a crisis of autonomy versus constraint. No significant differences were found between the two samples of children in terms of their overall level of psychosocial maturity, although Chinese children seemed to have a clearer sense of identity but less sense of industry and affinity. The Chinese sample showed no significant gender difference, nor was any significant effect found for socioeconomic status. The general attitudes of the children towards school and their school achievement were not associated with their psychosocial maturity. High levels of maturity were associated with many reports of positive interpersonal relationships and senses of independence and self control. There was a greater range of maturity among children in primary school than those in high school. Children who were the only child in the family proved to be more autonomous and diligent, but had a less secure sense of identity than children with two or more siblings, although their overall psychosocial maturity levels were similar.

I have discussed these findings from the dialectical perspective. I have evaluated my approach, and made comments on the strengths and limitations of this research together with some suggestions for future research in this area. The dialectical orientation, especially its contradiction perspective, has proved a heuristic and fruitful paradigm for research in development psychology. Erikson's psychosocial development model also has shown itself to be worth further reformulations and empirical testing, especially within the People's Republic of China. The methodology of the content analysis scales seems useful in assessing psychosocial maturity and has proved to be feasible using the Chinese language.
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Chapter One: An Introduction to This Study of Psychosocial Development in Chinese Children

This research is about the development of psychosocial maturity. It is set in the People's Republic of China, and is focused on Chinese children of school age. Many developmental psychologists have written about psychosocial development, yet not all of them have meant the same phenomenon when they use the same term. I would therefore like to clarify certain concepts used in this study before I present it.

1.1 The Nature of Development

Development is a phenomenon that everyone experiences, and so everyone understands it in their own ways. It is a concept which seems easy to understand to most people, but is not actually easy for everyone to agree on its definition (Reese & Overton, 1970). That can be readily found by opening most developmental psychology textbooks, which at the beginning always contain some attempt to distinguish between development and some other similar concepts such as growth and maturity. In order for the current research to be understood, it is necessary to clarify the meanings of the concepts underlying this work.

1.1.1 Development and Growth

Development is not the same as growth. Growth refers to the phenomenon of change determined by bio-genetic forces. When it is applied to human development, it mainly refers to human bio-physical changes. It usually follows an up-down course, that is, from very immature through maturation to deterioration, or it may stop at some "mature" stage. Development, on the other hand, occurs from conception to death. It has a life-span orientation and is not determined solely by the bio-physiological force. This is where the difference between the traditional biological orientation and the life-span orientation exists (Baltes, Reese, & Lipsitt, 1980). Further, growth is quantitative in
nature (Jones, Garrison, & Morgan, 1985; Tolman, 1981), while development is not limited to quantitative change. By this I am not saying that these two concepts are not related. In fact, they share an important common characteristic: they are both processes rather than end products. Schneirla (1957) views these two as occurring at different levels; growth is characterized by tissue accretion, while development is characterized by the progressive change of the individual as a functional, adaptive system towards higher level of functioning.

Viewing individual development as an integrated system, growth offers a necessary bio-physical background for development. It also puts certain limits on development in terms of speed, capacity, and the potential degree of development. It is a necessary condition for development, but not a sufficient one.

1.1.2 Development and Change

Development is essentially a matter of change. The study of development could be considered to be the study of change. Change is simply an alteration of state, while development is goal directed, and determined by its internal contradictions. Spiker (1966) suggests that any change in behaviour that accompanies increasing chronological age is developmental. After all, human development from conception to death is a history of people changing. When the direction of change varies, normal and abnormal processes or progress and regression occur. When the speed of change varies, the extremes of exceptions appear. When the cause of change varies, long term effects and temporal differences are present. This process continues endlessly; and all the complex phenomena covered or uncovered by psychology lie there, waiting for us to recognize them, to experience them, to explain them, and to use them to provide better opportunities for development according to our intention.
1.1.3 Development and Psychosocial Development

Development is a multifaceted process. Within the psychology domain it then covers different facets, depending on the specific research areas of interest. Therefore, psychosocial development is only one facet of the psychological development of a person. The individual rather than his or her culture is in focus.

1.1.4 Psychosocial Development and Psychosocial Maturity

Just as psychological maturity is a product of psychological development, psychosocial maturity is the product of psychosocial development. Psychosocial maturity is also a facet of the overall psychological maturity. One is the process, the other the result. There has been a shift recently from the study of results only to the emphasis on the study of underlying basic processes (e.g., Dannefer & Perlmutter, 1990; Franz & White, 1985; Horowitz & O'Brien, 1989; Whitbourne & Weinstock, 1979). Both are important. There are fewer discrepancies about the importance of the issue than on the contents of the issue. Both the nature of the process of the psychosocial development and the meaning of psychosocial maturity will be discussed in detail later in this thesis. However, a brief discussion of this issue will be appropriate here. Psychosocial development is a process ever-moving towards psychosocial maturity governed by the contradictions inherent in the process; psychosocial maturity is a dialectically stable status in the psychosocial development process, with certain qualitative characteristics distinguishable from stage to stage. There is no one quality called THE psychosocial maturity. In other word, this status itself is in an endless developmental process.

In Section 1.1 I outlined the meaning of some concepts underlying this study. Since this is a study of Chinese children which will feed back into Chinese developmental psychology, I would like to provide a review of the present status of developmental psychology in China before further discussion of my study.
1.2 Developmental Psychology in China

Psychology in the People's Republic of China has weathered ups and downs in its attempting to establish China's own psychological paradigms (Ching, 1980, 1984; Petzold, 1984; Zhu, 1986). Developmental psychology is much a cultivated area. According to Petzold (1986), out of 11 psychological research areas, publications in developmental and educational psychology were the most common in China during the years from 1978 to 1984 (28% of a total of 178). Yet, most of these were studies of cognitive development (e.g., about Piaget's theory, intelligence, conception of numbers, and perception of natural objects), language development (e.g., sentence acquisition), and development of morality (Kuo, 1971). I could find very few studies using the life-span development perspective. There is little work focused on psychosocial development as a holistic concept.

The reasons of this lack could be twofold. The first is that, as a distinguishable research orientation, life-span development perspective itself has a very short history even in the West (see Baltes, et al., 1980; Charles, 1970; Cravens, 1987). The second is because of the lack of proper Chinese theories and models to be applied to the field. Chinese psychologists wish to build a science of psychology which has Chinese features. Unfortunately, though, this goal has not yet been achieved. This could be attributable to either or both of the uncritical introduction of existing psychological theories into the Chinese culture without systematic investigation, or the social and political influences which have influenced psychology in China for more than a decade.

Besides these two factors, any assumption of inborn human destiny may also play an inhibiting role for such developmental studies (Jones, et al., 1985). Traditionally, Chinese people have made such an assumption. They have believed that a person's fate has been determined at an early stages of growth. A number of Chinese sayings support this view. One says: "San sui ding ba sui; ba sui ding zhong shen" (What a child is at three years of age determines what he or she would be at eight years of age; how a child behaves at eight years of age determines what he or she will be in the whole life). Another
runs like this: "Lóng shèng lóng, fēng shèng fēng, lǎoshū de érzi dà dì dòng" (Dragon gives birth to dragons; phoenix to phœnixes; but mouse's sons are doomed to digging holes). Still another claims: "Jiāngshān yí gǎi, bènxìng nán yǐ" (literally: It is easy to change mountain and rivers, but it is hard to change one's nature [personality]; or: A fox may grow grey, but never good). Confucius, whose doctrine has been followed by the ruling figures in the Chinese history said: "It is only the very wisest and the very stupidest who cannot change" (Waley, 1964, p. 209). Although Confucius meant intelligence rather than nature here, this has been utilized by his follower as a base for the theory of three grades of nature, with the highest grade of born good, lowest born evil, and the rest born neutral, which cannot be changed (Chan, 1963). In fact, this kind of assumption has its echoes even in American developmental psychology dating back to 1920's and 1930's, when this statement was made: "those born into a particular group, whether that group was an economic class or a social caste, never escaped from it." (Cravens, 1987, p. 328). Chinese fatalism has been succinctly described by Lin (1935, p. 99):

Fatalism is not only a Chinese mental habit, it is part of the conscious Confucian tradition. So closely is this belief in fate connected with the doctrine of Social Status, that we have such current phrases as "keep your own status and resign yourself to Heaven's will," and "let heaven and fate have their way."... This doctrine of fatalism is a great source of personal strength and contentment, and accounts for the placidity of Chinese souls.

However, this kind of personal strength and contentment has hindered Chinese people from looking at notions of development, although Chinese people may not "believed fully and blindly in fate" (Eberhard, 1971, p. 188). Social-historical factors have much influence on the development of psychology (Riegel, 1972a, 1973; Sameroff, 1983). China is now in a reformation stage. One way for psychology to take root in China is by its having distinctive features specific to the Chinese culture (Ching, 1984). This is a reoccurring theme: "Taking dialectical materialism as the guiding principle, a theory about the nature of the mind needs to be elaborated. A theory of cognitive development has to be formulated from our own research on child development. The
same can be said for a theory of perception, in the light of materialistic epistemology" (Ching, 1984, p. 61). No such claim has been made, however, about a theory of psychosocial development.

My aim is to explore psychosocial development in the Chinese context. To fulfil this goal, I needed to make decisions in three areas: a) the world view or metamodel underlying the research; b) the theoretical model adopted under the metamodel; and c) the methodology appropriate to the research.

1.3 The Paradigms of Developmental Psychology

There are two core questions for every developmental psychologist to answer: (1) is the developmental course best understood as a continuous process of change or a discontinuous transformation of stage, and (2) is the source of development primarily biogenetical factors or socio-environmental ones (Cole, Cole, & Boies, 1989). To answer these two questions I need to consider the issue of world view first since these two questions can only be answered from within a particular world view.

1.3.1 Two World Views

World views determine both the theoretical orientation and methodology adopted in research (Lerner, 1976, 1985). The development of developmental psychology has not been easy. This is attributable to the limitation of most conceptual frameworks adopted in the past for dealing with change and transformation (Sameroff, 1982). I shall consider first, then, the currently available conceptual frameworks in developmental psychology. Reese and Overton (Reese & Overton, 1970; Overton & Reese, 1973) have identified two world views or metamodels of the development at a most general level, namely, the organismic model and the mechanistic model.

The organismic model views development as consisting of an organized complexity, and the researcher's task is to explore the structure-function relations within
that complexity. In this approach development involves structural change and is discontinuous, since it is not reducible to or predictable from previous structures. Development is goal directed. This metamodel puts more emphasis on the universal sequences than on individual differences. Lerner (1976) summarizes the basic characteristics of the organismic model as an epigenetic, antireductionist, qualitative, discontinuous, and multiplicative, interactionist viewpoint.

In contrast to the organismic model, the mechanistic model views development as consisting of discrete elements and the researcher's task is to explore antecedent-consequent relations. In this approach development involves behaviour change and is continuous since it is reducible to, or predictable from, previous antecedents. This metamodel puts more emphasis on individual differences than on universal sequences. Lerner (1976) summarizes this model as a natural-science, reductionist, continuous, mechanistic, quantitative, and additive viewpoint.

Reese and Overton further indicate that at the level of metaphysical system the differences between these two metamodels could never be reconcilable since they have different criteria of truth, different concepts for the nature of substance and change, and different views on the meaning of 'explanation' and 'fact'.

This division of the models of development has been used often as a base for the developmental studies and reviews and to classify theories. Hultsch and Plemons (1979), for example, in the discussion of life events from a life-span perspective indicate that the well-known theories under the banner of organismic metamodel include Erikson's (1950, 1963) psychosocial development stages theory and Havighurst's (1952, 1972) developmental tasks theory; while Meyer (1951), Antonovsky (1974), Brown (1974), Dohrenwend and Dohrenwend (1977), and others use the more mechanistic metamodel.

Although Hultsch and Plemons (1979), along with Reese and Overton (Reese & Overton, 1970; Overton & Reese, 1973), have indicated that different metamodels have different criteria for determining the truth of propositions, and an eclectic view would lead
to confusion, when studying the complex phenomena such as psychosocial development, the different approaches should be integrated rather than "fighting for the honour of their paradigms" (Hinde, 1987, p. 16). Even Reese and Overton (1970) themselves have suggested an eclectic approach, though it must be "good" eclecticism. In "good" eclecticism different paradigms can be used, whenever proper, to explain different phenomena, thus avoiding the "undesirable" eclecticism in which different world views are united so that truth criteria are confused. There is also controversy about the number of paradigms or metamodels within psychology. Looft (1973) examined this issue and indicated that there exist at least two other categories in addition to those two metamodels. One is Langer's (1969) psychoanalytic perspective; the other is Riegel's (1973) dialectical model. According to Looft, Skinnerian theory and Piagetian theory could be the representatives of mechanistic and organismic models, respectively. The classic Freudian theory and Loevinger's (1966) theory of ego development should be considered to use Langer's model, that is, the psychoanalytic model, while Rubinstein's (Riegel, 1973) synthesis of Pavlovianism and Marxist-Leninist dialectical materialism is an example of Riegel's third model. Yet, Eriksonian epigenetic development theory has been classified as psychoanalytic by Langer and a near-fit to Riegel's dialectic model by Looft; while Cole et al. (1989) view Erikson as both an interactional theorist and a cultural-context theorist depending on which aspects of his theory are being emphasized.

1.3.2 The Alternative Metamodels

Although the mechanistic and organismic division is so strong and pervasive, new models are not only possible (Molenaar & Oppenheimer, 1985) but also needed for the developmental psychology to respond to the changing data in the field, as well as the changing nature of developmental theories and models. Lerner (1976) has also suggested that the mechanistic and organismic world views are not mutually exclusive. He indicated two compromising approaches, namely, the levels-of-organization compromise and the general-and-specific laws compromise. The former states that although laws of higher level imply the laws of lower level, they can not be reduced to the lower level to account
for higher level functioning. The latter states that there are general laws that apply to all levels of functioning and level, but each level has its own specific laws as well. It is clear that to apply these compromises one has to integrate characteristics from both world views at a higher level. "Science and knowledge, as well as society in general, can advance only if the divergent viewpoints are integrated at higher and more inclusive levels" (Riegel, 1978, p. 9).

This higher level, it seems to Riegel, is best derived from a dialectical paradigm. In fact, the emergence of the dialectical approach to developmental psychology has been acknowledged in these two world views mentioned above by Baltes, Reese, Nesselroade and Lipsitt, though they did not view this approach as at a "higher" level (Baltes, Reese, & Nesselroade, 1977; Baltes, et al., 1980). Riegel examined two conceptual-ideological models from the Anglo-American and Continental European paradigms. These are similar to Overton and Reese's original classification. Riegel indicated that dialectical psychology focuses on and tries to overcome the separation of organism and environment. It incorporates the characteristics of both perspectives, that is, passive organism and decisive environment, and active organism and passive environment. Thus new operations and knowledge represent the internalization of external structures as well as the externalization of internal structures (Riegel, 1978). By integrating in this way, we "would be able to put our polemics aside and communicate with theoretically-different others on the same channel" (Berman, 1978, p. 254).

At present no single correct metamodel has been agreed on by developmental psychologists, nor is there a generally accepted set of answers to the basic questions about human development (Cole, et al., 1989), to understand development, as I have defined it, can best be done, I believe, using the dialectical approach. The dialectic provides a perspective focused on the very nature of change. Also the dialectical paradigm is the most appropriate one to guide this research which has a life-span perspective (Baltes, et al., 1980). This point will be more evident in the following sections of this
thesis. In this research I shall apply a dialectical perspective to study psychosocial development in Chinese children.

1.4 The Meaning of Dialectics

The importance of dialectics to the social sciences has been more and more apparent, although in psychology this has generally been ignored or even denied (Kvale, 1976). However, "no properly educated social scientist today should presume to speak for the behaviour of human beings without a good understanding of the dialectical metaconstruct. Yet few modern psychological theorists seem aware of its existence in the history of thought, much less employ its heuristic benefits in their formal views" (Rychlak, 1976a, p. 1). Nevertheless, some European and North American writers have become aware of the importance of the dialectics, and have a firm faith in the advance of the science of psychology by applying dialectics (Lawler, 1975). While the dialectical perspective is becoming more popular and has been applied in different areas (e.g., Hultsch, 1980; Lethbridge, 1986; Meacham, 1975; Riegel, 1972a, 1972b, 1973, 1975a, 1975b, 1976a, 1976b, 1979; Riegel & Riegel, 1972; Rychlak, 1968; Sameroff & Harris, 1979; Shames, 1982; Verhofstadt-Denève, 1985), "there is no single view of dialectic to 'define' as representative of the conception for all the time" (Rychlak, 1976b, p. 2). Thus, it is necessary to clarify the specific approach and the meaning of the dialectic adopted in this research.

1.4.1 Dialectics: World View and Methodology

Rychlak (1976b) indicates that dialectics has been considered to be both world view and methodology. The former relates to the standpoint from which we see the world and things around us, and from which we answer that crucial question: What is the essence of things? The latter considers the question of how knowledge is derived. This concurs with the comments on dialectics made by Hook (1953) and Baltes and Cornelius (1977). In Hook's term, this distinction contrasts "the pattern of existential change" with
"a special method of analyzing such change" (p. 701). In Baltes and Cornelius' term, this distinction contrasts "metatheoretical paradigm" with "a correct means or manner of coming to know truth" (p. 125).

However, Baltes and Cornelius (1977) suggested that the power of the dialectic is in its generation of new or different perspectives on the phenomena studied rather than its methodological implication. If any, this implication is that a multimethodological strategy or pluralism of method should be adopted, and the new theories should be explored, and that existing theories should be revisited in a different way. They indicate that the dialectic can be used within any other paradigms and different methods from different paradigms can be applied to a problem, which represents a "good" eclecticism (Reese & Overton, 1970) or "creative" eclecticism (Pepper, 1942).

1.4.2 Dialectics: Multi-Meaning and One-Meaning

Kvale (1976) has identified some of the main assumptions of dialectics relevant to development, based on the works of Lukacs (1971), Mao (1968), Sartre (1963), Riegel (1973), and Wozniak (1975), as follows.

Dialectics involves studying human behaviour as internally related to its context, emphasizing the social and historical aspects of the given situation.

Dialectics is the study of qualitative changes through the development of internal contradictions. The aim here is to grasp and conceptualize the stream of behaviour, giving its change and stability due emphasis. In the process of becoming something may both be and not be. The status nascendi has priority over the status quo.

Dialectics accepts conflicting and interdependent conceptions of a phenomenon.

Dialectics studies a phenomenon in its internal relations, involving aspects mutually implying and excluding each other. Internal contradictions within a phenomenon are the basis of development, which is influenced by external interrelations and interactions with other phenomena.

Dialectics is the study of the qualitative development of phenomena, of one quality changing into another. Quantitative increases may lead to qualitative changes. The focus is on qualitative transformations and radical breaks.

Dialectics emphasizes the interdependence of observing subject and the observed phenomenon, of observation and active interpretation. Men act upon the world, change it, and are again changed by the consequences of their actions.
Dialectics seeks the essence of a phenomenon. Immediate experience reveals a superficial surface level of reality, whereas the essence is only disclosed in the course of an extensive and concrete study of phenomenon.

Dialectics is the concrete analysis of concrete conditions. In order to understand a phenomenon it must be investigated in its multiple aspects, i.e., its internal contradictions and relationship to the social and historical context.

Dialectics does not accept the possibility of value-neutral descriptions and theories, but aims at accomplishing changes through praxis. The criterion of knowledge is the praxis it leads to.

Dialectics is itself a synthesis of empiricist observation and speculative rationalism through a descriptive and an interpretative approach to the phenomena, whereby the emphasis is on knowledge leading to action in a contradictory and developing world. (Kvale, 1976, p. 90, emphasis original)

It is clear from all the above that the meanings of dialectics are many and multidimensional, depending on the context in which they are used (Reese, 1982).

However, Tolman (1983) argues that although the word does have many meanings in the way it is used, this multiple meaning is only a phenomenon of usage; the essence of the word, ultimately, has only one meaning. The single meaning which Tolman abstracted is that the word contains the conception of the developmental nature of the world, which is a unified oppositions in continuous movement from one state to another, with the developmental process governed by internal necessity. "In any case, the key ingredients to a dialectical position include a focus on change, dynamic interaction, mutual causation, lack of complete determinacy, and a joint concern for both individual (ontogenetic) and historical (cultural-evolutionary) change processes" (Baltes, Reese, & Neselroade, 1977, p. 26)

1.4.3 Contradiction -- the Essence of Dialectics

In spite of all those disagreements, in one sense, talking about dialectics is talking about contradiction, since "if there is a core meaning in the dialectic, it would seem to be the idea of bipolarity, opposition, or contradiction" (Rychlak, 1976b, p. 14, bold added). Dialectics in this research is used, broadly, as a world view, or a way of thinking, and more narrowly, as a contradiction perspective or approach to account for the phenomena of psychosocial development. It is not used as a theory, but it serves as a
criterion against which I can evaluate Western psychosocial development theory, specifically, Erikson's life cycle development theory.

Further, the dialectical philosophers hold firm views on two more issues which are relevant to developmental psychology. What changes? And how do things change? The first question is about whether the changing things are non-material, spirit or material object and the second whether changes have certain general features or are random phenomena (Cunningham, 1977). My assumptions underlying this research will be that it is the material object that changes and that the changes do have certain general pattern. Specifically, within the developmental psychology domain, there is nothing that is absolutely stable and development occurs through continuously solving existing contradictions and redefining new conflicts (Verhofstadt-Denève, 1985). The implications of these assumptions will become clear as I provide this account of my research.

1.5 The Approach Adopted

Three factors may account for the emergence of dialectical perspective in Western psychology. These are dissatisfaction with behaviourist approaches and conceptions, the greater social responsibilities placed on psychology, and the dialogue between socialist and capitalist countries (Rychlak, 1976b; Lawler, 1975). Looft (1973) asserts that everyone has a model of man, explicit or implicit, which developed during his or her early life in interactions with people, and this is quite stable. Further he claimed that the formal model under which a psychologist chooses to operate is usually consistent with a psychologist's personal model. Human beings live in societies. Psychologists' personal models must reflect the influence of their society. Recently, the traditional position that science must be value-free has been challenged (Sève, 1968/1975). "The dominant theoretical paradigms are influenced by the dominant ideologies in the society at large" (Sameroff & Harris, 1979, p. 368), and the important point of the dialectical perspective is that "scientific theories are seen as being related to their social, political, and historical contexts instead of as indeterminate expressions of eclectic personalities" (p. 341). Being
from the People's Republic of China, I have adopted Mao's dialectical perspective for this work, in particular, his theory of contradiction. Mao's theory is inherited from Marx's materialistic dialectics. Marx's dialectics has been accepted as relevant to the science of change (Cunningham, 1977). Mao's dialectics has been regarded as a model of the concrete application and further development of Marxism-Leninism in the People's Republic of China. Therefore, it also seems appropriate to adopt Mao's dialectics to study developmental phenomena in the context of the Chinese culture. Baltes et al. (1980) suggest that life-span developmental psychology should take an integrative framework and a combinatorial approach by asking the same question for different age groups and adopting alternative ways of organizing and construing reality. I would like to extend their recommendation by asking the same questions for different cultures so that the information of development psychology can be accumulated. Indeed, "...any serious and systematic attempt to study human behaviour and experience must, in the very nature of things, be both developmental in depth and cross-cultural in breadth" (Heron & Kroeger, 1981, p. 1).

I intend to see if, from such a perspective, a "dialogue" between an Eastern dialectical philosophy and Western psychology, or specifically, a marriage between Mao's contradiction theory and Erikson's development theory, can provide fruitful results. It should thus make a contribution to the study of human development, in particular, to the accumulation of information about human development in the Chinese cultural setting. However, like psychosocial development, the study of psychosocial development is potentially endless, yet any particular research must have limitations in regard to the scope of its objectives. I would like to clarify that this research is limited to, in terms of the world view, Mao's theory of contradiction which is used as a metamodel in helping to test the applicability and universality of Erikson's epigenetic psychosocial development theory. It is also confined to, in terms of concrete context, the People's Republic of China rather than the Chinese people in general, which would include all other Chinese societies and communities outside mainland China.
To conclude this introduction to my work, I would like to cite recommendation of Jones et al. (1985, p. 7):

The more complicated our world becomes, the more essential it is for institutions concerned with human development (a) to be founded on scientific information about human development and (b) to be organized to account for the social, physical and philosophical setting in which the child develops.

What is Mao's contradiction theory? How does Mao account for the contradictions? What are the relationships between contradictions and development? These questions will be answered in the next chapter.
Chapter Two: Mao's Theory of Contradiction

Since Mao's dialectical thinking has been adopted as a world view for this research, I shall in this chapter introduce Mao's philosophical ideas, in particular, his theory of contradiction.

2.1 Mao and China

2.1.1 Mao's Thought in China

The People's Republic of China has been a socialist country ever since her liberation in 1949. The ruling party is the Chinese Communist Party, and the Party's basic philosophical and sociopolitical ideas have come from Marxism and Leninism since her foundation in 1921. For contemporary Chinese the Marxian formulation is a "most important dialectical world principle of our time" (Rychlak, 1976b, p. 3). Inherited from Marxism, the Chinese Communist Party's "world principle" could not be anything but a dialectical one.

Mao Zedong (Mao Tse-Tung) is one of the founders of the Chinese Communist Party; and he has played a very important role in the history of modern China. Being the leader of the Party and so the Country, Mao's thought has been the guiding spirit for both China's national and international activities. The influence of his dialectical theory has been very pervasive, so that every one who has been to school would know something about dialectics. As Qiu says: "In new China, philosophy (dialectical materialism) has become the guiding thought in all lines of work, science and medicine included. It is a required course in all universities" (Qiu, 1982, p. 35). Dialectics actually has been advocated as the one and only one world view which is correct, and the only guidance to be used to perceive and to reform the world. The paper written to commemorate the 60th anniversary of the founding of the Chinese Psychological Society (CPS) indicates that psychologists, like other Chinese scientists, must carry out "systematic study of Marxism
and Mao Zedong's thought, using it as a guide for all of our psychological work" since "from the development psychological science and the needs of our socialist construction, we have recognized that it is very important and necessary to take Marxism as our guide, and it should be correctly reflected in our work. This is most important experience that we have learned from the practice of the past sixty years" (The Executive Committee of the CPS, 1983, p. 180). One of the four principles to be adhered to is that adherence to Marxism, Leninism, and the thought of Mao Zedong. Yet, this does not mean that Mao's dialectics is exactly the same as that of Marx, because the prevailing dialectical view in China has its history far back before the time of Mao.

### 2.1.2 Traditional Chinese Dialectics

Dialectics is not at all alien to Chinese tradition (Petzold, 1987). The ancient Chinese philosophers saw contradictions or oppositions existing everywhere, and they created certain functions to unify those contradict aspects into an integrated unity. The dynamics between these opposites make up the dialectic of change. "Each force as it reaches its extreme produces its opposite and the two continue to succeed each other in a never ending cycle" (de Bary, 1960, p. 192). Liu (1971, p. 80) rephrased Lao Tze's words (Tao Te Ching, ch. 40) in modern philosophical term as: "Contradiction is the movement of the essence of things." Although this translation might not be agreed upon by most other translators, Lao Tze's dialectical spirit is doubtlessly revealed. Even some Western perspectives such as Hegel's and Marx's philosophies, as well as Jungian psychology, had probably been influenced by this Chinese tradition (Kuo, 1971). Perhaps the most well-known dialectical principle to Westerners is the *Yin-Yang* principle. The yin element is pictured as passive, receiving, and meek (on the face of phenomena), like the female or mother, representing the potential for infinite creation in the world. Yang is more active and bold, reflecting its power overtly in more masculine sense. Yin and yang are used to account for all positive and negative natural phenomena, indeed, "no aspect of Chinese civilization...has escaped its imprint" (Chan, 1963, p. 244). A dialectical balance between yin and yang is referred to as harmony, which is
most desirable (Rychlak, 1976; Kuo, 1976). The yin-yang principle has been used in traditional Chinese medical practice to diagnose dialectically, although Qiu (1982) has pointed out that to equate yin-yang theory with dialectical materialism is an anti-historical trend of modernizing ancients. The yin-yang doctrine has changed very little from the time of its inception in the Zhou (Chou) dynasty (1122?-256 BC). This doctrine provided for a ready acceptance of the Communistic dialectical conception of Mao Zedong (Kuo, 1976), although Mao's version of dialectic has gone beyond the pseudo-dialectical yin-yang doctrine by emphasizing struggle rather than harmony (Fu, 1974). Mao's dialectical view, then, comes not only from Marx and Lenin but also, perhaps more subtly, from the rich heritage of the Chinese culture. That is one reason why Mao's thought has been so pervasive and rooted in Chinese culture (T. Chu, 1982; Bishop, 1985). As Kuo (1976) indicates: "Mao's thought is highly complex, reflecting decided westernized tendencies yet retaining always that stamp of Eastern Man. His political outlook seems related historically to the Chinese concept of an equalitarian society. His 'methodology' outlook is more directly in line with westernized views. His dialectical orientation is mainly Chinese, but Mao's psychology of knowledge and outlook on human behaviour is heavily westernized" (p. 81; underlining added).

2.2 Mao's Theory of Contradiction

Mao's thought has been very much influenced by Marx's materialist dialectics, so it is appropriate to describe briefly some of the most important laws of materialist dialectics.

2.2.1 Some Basic Laws of Materialist Dialectics

One fundamental point in Marxian dialectics is the thesis of motion, movement or change. This thesis states that everything in the world is in perpetual motion, thus everything is changing. This endless changing movement in general has some basic patterns or follows certain laws of motion. There are three basic laws of motion: the law
of unity of opposites, of negation of the negation, and of transformation from quantitative change to qualitative change.

The first law provides a standpoint to view existence. Any phenomenon or process is seen as consisting of different parts that function together for a common goal, while at the same time move in opposite direction. One example appears vividly in the course of our lives. Life is such a process which consists of mechanisms of life and death. All these mechanisms work together to maintain life. Yet separately they fulfil quite different functions, such as the mechanism of taking energy from outside of our body or that of expelling energy from within our body. Within one unity, the life, they coexist and interact each other. Without one side of the opposite, the other side becomes meaningless. Similarly, without life, it would be nonsense to speak about death. Certainly, this is a very simple illustration. Life is much more complicated and consists of a dialectical-hierarchy of multilevel systems (Qiu, 1982). In the field of psychology, this law has also been applied by some psychologists already, knowingly or not. For instance, Kelly's (1955) constructs have similar feature, that is, their essential nature is bi-polar. To know that someone is said to be 'kind' means nothing until the opposite pole of that construct is known. Eysencks' (1975) basic personality dimensions also have the same form. Without extraversion there would be no introversion, and vice versa. Piaget's (1952) concept of accommodation versus assimilation serves as another example. There are many other psychologists sharing this conceptual orientation (e.g., Viney, 1990b).

The other two laws are related to the form and nature of motion or change. The negation of the negation states that any phenomenon or process during its developmental course will be replaced by some other new phenomenon or process, which keeps features of the old phenomenon or process but appears in a new form. Further this new phenomenon or process itself will be replaced by another newer still phenomenon or process, and so on and so forth. This is how phenomena move and change. This kind of change does not happen suddenly. It accumulates gradually. This is quantitative change. However, once a certain point has been reached, a new stage of the process appears, this
is a qualitative change. Mandel (1979) equates dialectics to the logic of motion and indicates that the law of motion should be viewed from two aspects, that is, motion as a function of contradiction and motion as a function of totality. Studying contradictions of the motion is to seek the nature of the change while examining the totality of the motion is to study contradictions within certain contexts or in relation to other phenomena. Wozniak (1975) has indicated the implications of these three basic laws for the development. The law of the unity and struggle of opposites provides the impetus for development, that is, the principle source of development is always internal to the phenomenon or process which is developing; the law of negation of the negation implies that development never ceases but is an ever-changing process. The law of transformation from quantitative into qualitative change guarantees that the dialectical development is a complex change featuring the emergence and destruction of qualitatively different phenomena governed by different systems of laws and not reducible one to the other.

Mao (1952) regards the dialectical as a world view. He says: "This [materialist] dialectical world outlook chiefly teaches man how to be good at observing and analyzing the movement in opposites of various phenomena and, on the basis of such analyses, to point out the methods of solving the contradictions" (p. 10).

Mao's theory of contradiction applies these basic laws in the analysis of reality. He has summarized the materialist-dialectical world view as follows:

Contrary to the metaphysical world outlook, the materialist-dialectical world outlook advocates the study of the development of phenomena from the inside, from the relationship of one phenomenon to other phenomena, namely, that the development of phenomena should be regarded as their internal and necessary self-movement, that a thing in its movement and the things round it should be regarded as interconnected and interacting upon each other. (1952, p. 5).

While Mao's dialectical view influences all of his writings, yet the work on which this research based is his contradiction theory. In the following sections, all the citations
of Mao refer to Mao's *On Contradiction* (1952) (thus, only the page numbers will be given), unless are otherwise indicated.

### 2.2.2 The Meaning of Contradiction for Mao

Contradiction is Mao's key concept. It is both the foundation and the centre of his entire theory of dialectics. The philosophical meaning of contradiction used by Mao is relationality. To Mao, "the primary and essential meaning of contradiction is a 'dynamic relationship of interaction', whether in nature, society, or thought" or "'a process of a dynamic relationship of interaction' which includes both unity and diversity, both the whole and the part, both identity and struggle" (Soo, 1981, p. 53).

Having clarified the concept, it is the time now to examine Mao's account of contradiction.

### 2.2.3 The Law of the Unity of Opposites

Mao equates the law of contradiction to the law of the unity of opposites, which means the division of the one into mutually exclusive opposites and their reciprocal relation. He considers this law to be the most basic law in material dialectics. In its essence, everything in this world is a unity of its opposites. Everything is made up of elements that work together, while at the same time elements work against one another. This world view of the unity of the opposites is a departure point for the dialectical explanation of all the simple or complex phenomena around us. Mao also used Lenin's word to define the law of the unity of opposites as "the recognition (discovery) of the contradiction, mutually exclusive, opposite tendencies in all phenomena and processes of nature (including mind and society)" (p. 11).

I have presented in section 2.2.1 some psychological concepts, such as Kelly's personal constructs, as examples of the law of unity of opposites. Those concepts are all from within a single theory. However, this law is not limited to one theory only. Berman (1978), for example, treats behaviourism as a unity of opposites, and Larsen (1986)
dialectically views behaviourism and humanism as complements to each other. Therefore, this law, as Mao sees, is absolute, and universal as well. Here universal means that the law of the unity of opposites applies to every kind of situations and every kind of phenomena. Because Mao's philosophical meaning of contradiction is relationality, there can be no isolated phenomena in this world.

2.2.4 The Universality versus Particularity of Contradiction

Since everything is directly or indirectly related to each other thus forming an interrelated network and interacting picture, and everything is a unity of the opposites, contradictions then exist everywhere and forever. "Without contradiction there would be no world" (p. 12). To Mao, contradictions are both universal and particular.

2.2.4.1 Universality

The universality of contradiction has two implications. The first is that contradiction exists in the process of development of all phenomena. The second is that it exists in the process of development of each phenomenon from beginning to end. Since this world is essentially a unity of opposites, universality indicates that contradictions of all sorts exist everywhere at any time. Therefore, development is better understood in terms of its most general characteristics. Mao depicts the pervasiveness of contradictions and the opposite nature of them as such:

The contradictory aspects in every process exclude each other, struggle with each other, and are opposed to each other. Such aspects of a contradictory nature are contained without exception in the processes of all things in the world and in human thought. A simple process has only one pair of opposites; a complex process has more than one pair of opposites. Various pairs of opposites in turn become opposed to one another. In this way all things in the objective world and human thought are formed and impelled to move. (pp. 53-54).
2.2.4.2 Particularity

Although contradiction is universal in its absoluteness (i.e., exists without condition), it is also particular in the form and content by which one phenomenon can be said to be different from the other. This is the opposite of the universality: the particularity of the contradiction. Different developmental processes contain their own particular contradictions. These particular contradictions determine the unique qualities of each process. This means that the nature of a process which is different from another process is determined by its uniqueness of the contradictions. Mao says: "The classification of scientific studies is based precisely upon the particular contradictions inherent in their objects. Thus a certain kind of contradiction peculiar to a certain field of phenomena constitutes the object of study of a certain branch of science" (p. 19). Therefore, psychological research is not the same as physiological research, and psychosocial development differs from cognitive development, though all of them would share certain features because of the universality of the contradiction.

2.2.4.3 Dialectical Relations Between Universality and Particularity

Particularity of contradiction and the universality of contradiction are inherent in everything. Universality exists in particularity and particularity contains universality. These two are not to be isolated. This relationship of the existence of the general in the particular is crucial to dialectical thought (Sève, 1974/1978). So, if individual development recapitulates human history, or more appropriately, individual development cannot be separated from history (e.g., Werner, 1929; Piaget, 1950; Erikson, 1974a, 1982), history could be reflected in individual development (Buss, 1979a). Mao further elaborates that:

The relation between the universality and the particularity of contradiction is the relation between the common character and the individual character of contradictions. [By] the concept of common character we mean that contradiction exists in all processes and runs through all processes from beginning to end: contradictions are movements, are things, are processes, are thoughts. This is a universal principle which admits of no exceptions. Hence the common character or absoluteness. But this common character is contained in all
individual characters; without individual character there can be no common character. If all individual characters were removed, what common character would remain? All individual characters exist conditionally and temporarily, hence they are relative. (p. 39, bold added).

Moreover, the relationship between the two is also a dynamic one. They could be changed into one another "because of the vastness of the scope of things and the limitlessness of their development" (p. 36).

2.2.5 Qualitative Difference and Quantitative Change

Things are different in two fundamental aspects: their quantities and qualities. Things share the same nature even with different quantities, but they do not share the same nature with different qualities. What determines these differences? According to Mao, the particularity of the contradiction determines the quality of the thing, thus there are qualitative differences among things. The movement of the underlying contradictions changes quantitatively all the times. When quantitative change reaches a certain degree, a qualitative change occurs. Thus development is both continuous and discontinuous; continuous because of the transformational perpetual quantitative change and discontinuous because of interval qualitative change.

2.2.6 The Internal Contradiction and the External Condition

Things are changing, as we know, endlessly changing. What causes this motion? In answering to this question, Mao classified contradictions, when a process of development of things was concerned, into two groups. One is internal, the other external. He asserts that:

The basic cause of the development of things does not lie outside but inside them, in their internal contradictions. The movement and development of things arise because of the presence of such contradictions inside all of them. This contradiction within a thing is the basic cause of its development, while the interconnection of a thing with, and its interaction upon, other things are the secondary causes of its development. . . . purely external causes can only lead to the mechanical motion of things, that is, to changes
in size and quantity, but cannot explain why things are qualitatively different in a thousand and one ways and why things change into one another. . . . even a mechanical motion of things propelled by some external force is also brought about through their internal contradictions. (pp. 5-6, bold added).

Thus, the external or outside influences affect only How things changes, but not Why. The external causes are the conditions of change, while the internal causes are the basis of change. External causes function through the internal cause. Internal causes determine the nature of the change, while the external causes influence the form and speed of change. The changing process from an egg to a chicken is the example used to illustrate the relationship. To fulfil this change process, the egg (internal cause) is essential and necessary; one cannot use a stone instead. However, the egg alone is not sufficient; one must offer an adequate temperature to facilitate the process. Thus, given by the internal factor, the egg, external factor is now essential. Therefore, this is also a unity of opposites; without either side, the unity could not be achieved. Without the external condition the internal contradictions would not manifest themselves, while without the internal contradictions the external condition has no object on which to act.

So far, I have introduced some of Mao's concepts on contradiction. We have found that contradictions exist universally in all the process of development; but different process contains its particular contradiction which distinguishes things. Further the driving force of the change results from the internal contradictions constantly moving and interacting with external conditions. These descriptions seem to refer to different processes. Then, what happens within a process? Or have all the contradictions the same importance in determining the process when they come together? No, was Mao's answer. Mao carefully examined this situation and offers another classification of contradictions: the principal contradiction and principal aspect of that contradiction.

2.2.7 The Principal Contradiction and its Principal Aspect

A principal contradiction is the one that determines the status of a developmental process and influences the other contradictions. Using Mao's words: "Whatever happens,
there is no doubt at all that at every stage in the process of development, there is only one principal contradiction which plays the leading role" (p. 43). When individual contradiction is concerned, Mao further introduced the concept of principal aspect of a contradiction, which plays the leading role or has taken the dominant position in the contradiction. This principal aspect determines the quality of a thing.

Thus, "if it is a complicated process in which more than two contradictions exist we must devote our whole energy to discovering its principal contradiction. Once this principal contradiction is grasped, any problem can be readily solved" (p. 43). Berman (1978) applied this principle in the search of unity of cognitive and behavioural personality theories. In agreement with Rychlak (1968), Berman found that the principal contradiction in this case was the images of man. In trying to solve this contradiction, cognitive-behaviourism has been suggested.

Once again, however, just like the relationship between universality and particularity, "the principal and the non-principal aspects of a contradiction transform themselves into each other and the quality of a thing changes accordingly"; and this role change "is determined by the extent of the increase and decrease respectively in the intensity of the struggle of the two aspects of the contradiction in the development of a thing" (p. 45).

2.2.8 The Identity of Contradiction

All the above information produced a living, ever changing picture of the world, yet in reality, a lot of "stable" phenomena and processes are observed. What does then that mean for ever changing contradictions? Mao explains this by the concept of identity of contradictions.

Identity, unity, coincidence, interpermeation, interpenetration, interdependence (or interdependence for existence), interconnection or co-operation---all these different terms mean the same thing and refer to the following two conditions: first, the two aspects of every contradiction in the process of development of a thing find the presupposition of their
existence each in its opposite aspect and both coexist in an entity; second, the two contradictory aspects, according to given conditions, tend to transform themselves each into its opposite. This is what is meant by identity. (pp. 52-53).

The first characteristic of identity, that is, the co-existence of the opposites, provides an account of the "stable" phenomena of the reality, while the second, that is, the transformation of the opposites or a dynamic change by which an initial state is negated by its opposite, indicates the changing nature of the reality. Of the two characteristics of identity, Mao considered the transformation of the two contradictory aspects within a thing into each other more important. This is because of the struggling nature of contradictions and is also consistent with his assumption of universal nature of contradiction. In other words, change is absolute, while stable or balance is relative. Everything is bound to change due to the second characteristic of the identity, although temporary stability is also necessary due to the first characteristic of the identity. Moreover, during the developmental process, the transformation will bring about a new state of identity which contains certain initial features from each opposite and some emerging features from the process of transformation. This brings the developmental process into a newer, if not necessarily higher, stage. It is through this process that things are developing and changing.

What has been emphasized by Mao in the interpretation of development and change is the notion of certain conditions. Identity, whether coexistence or transformation is dominant, depends upon certain necessary conditions. That an egg transforms into a chicken but not a stone, according to Mao, is under certain necessary conditions. Without those necessary conditions, there can be no identity. Only under certain necessary conditions can contradictions occur in the development of things and be studied meaningfully. In other words, relationships among things are domain-bounded. Chicken and stone belong to different domains. It would be meaningless to talk about them in the same context as the transformation from their initial state to an egg. Although ultimately one can say that everything is related, in terms of practical analysis at a specific level it
would be futile to mix up relationships of different domains. However, it would be possible, probably necessary as well, to study the relationships among different domains in order to understand things "ultimately", but this would be at different levels of analysis. The higher one goes up the hierarchy of organizations of things, the narrower or fewer the domains would be, and the more abstract the relationships or contradictions would be. In any case those necessary conditions determine the identity status of a contradiction, and should be analyzed carefully.

2.2.9 Antagonistic and Nonantagonistic Contradiction

Closely related to the notion that identity implies two meanings which make the contradiction present in two states, the form of the struggle is also different according to the differences in the nature of the contradictions. Here, contradictions could be classified into two categories, that is, antagonistic contradictions and non-antagonistic ones. However, "based on the concrete development of things, some contradictions, originally non-antagonistic, develop and become antagonistic, while some contradictions, originally antagonistic, develop and become non-antagonistic" (p. 67). The importance of this distinction is that the methods for solving contradiction are based on the analysis of the contradiction; those used to solve antagonistic contradictions are not appropriate to non-antagonistic contradiction, and vice verse.

2.2.10 The Course of Development

The essence of development is change. Because of the absoluteness of the contradiction the process of change never stops. Therefore development in its very basic form is never stopping; "the old process is completed and the new one emerges. The new process in its turn contains a new contradiction, and the history of the development of its own contradiction begins" (p. 16).

Development in terms of a concrete process has its own route with the indications of beginning and end; however, development in its abstract sense has no such indications,
because "all processes transform themselves into their opposites. The stability of all processes is relative, but the mutability manifested in the transformation of one process into another, is absolute" (p. 63). The transformation of a process is also a process of new features emerging and old ones disappearing. Mao views this, the supersession of the old by the new, as a law of the world, which drives things into changing or developing. This is, in fact, the law of the negation, as I indicated in section 2.2.1.

What is important here is that a change of state assumes two forms: 1) the form of relative rest and 2) the form of conspicuous change. The first form undergoes a quantitative change, hence "appears in a state of seeming rest;" while in the second form, "it has already reached a certain culminating point of the quantitative change of the first form, caused the disassociation of the entity, produced a qualitative change, and consequently appears in a state of conspicuous change" (p. 63).

Therefore, the general course of the development of anything would follow the route of quantitative change toward qualitative change, so that development has a continuous form with distinct stages. The force to drive this change is within the process itself, via the struggling between the new and old aspects of contradictions, particularly of the principal contradiction. Once the principal aspect of the principal contradiction is favoured by the new aspects, the new stage emerges manifesting a discontinuous change; but a newer stage will replace the new one in the process of further development, and so on, making development an ever-changing phenomenon.

I have introduced Mao's basic concept of contradiction and its characteristics. Briefly, Mao looks at this world as a very complicated contradictory network: all contradictions with their contradictory opposites connect with one another. However, the individual developmental process has its own particular set of contradictions, with one principal contradiction at each developmental stage. The principal contradiction determines the nature of that stage. Contradictions and their contradictory aspects coexist in a seemingly stable unity with ever changing struggles between different aspects and
different contradictions. Their status can be changed, however, under certain conditions. Contradictions can be classified into different types of categories, depending upon the focus of attention. There are internal and external contradictions, in terms of the cause of change. There are principal and non-principal contradictions, in terms of the decisive force at a stage of the process of development. There are general and particular contradictions, in terms of generalizability of a developmental phenomenon. There are antagonistic and non-antagonistic contradictions, in terms of the nature of the phenomena and the way to deal with them.

If this world is full of contradictions with such a complexity, how do we deal with these contradictions to improve our understanding of different phenomena? Next section is to answer this question.

2.2.11 The Analysis of Contradiction

According to Mao, this "better understanding" is achieved by three steps: discover the contradictions in question, analyze them, and, finally, resolve them. Again, this process is never finished, which make it possible for our human beings to recognize this world, to understand this world, to interact with this world, and to some extent, to be the master of this world.

To discover contradictions in a process or phenomenon, one needs to have a dialectical orientation and recognizes the law of contradiction, or the law of the unity of opposites. Only with this perspective can one be ready to accept the contradictory nature of phenomena. Scientific discoveries always presuppose a certain world view through which one can investigate phenomena within a certain framework (de Koning, 1986). Here is one such world view.

To analyze contradictions, Mao suggests that "we should first analyze the universality of contradiction, then, analyze with special attention the problem of the particularity of contradiction, and finally return to the problem of the universality of
contradiction" (p. 11). This itself reveals a dialectical relationship between the common and the individual characteristics. Ultimately, one wants to understand both the universality or generality and the particularity of a phenomenon, its laws and its characteristics. However, this task can be fulfilled through the investigation of individual cases and then, through generalization of the individual characteristics to generality again. There will be many cycles between the particularity and universality before any claim that the questions have been answered. In a sense, there will be no end at all, because of the ever changing nature of contradictions. Truth is asymptotic. What one is doing is approaching the universality via the dynamic relationships of the identity and transformation of contradictions between common characteristics and individual characteristics. To know the individual well improves understanding of the general population, while the understanding of the latter on the basis of the former further improves understanding of the former. This process continues so long as contradictions exist.

This is a general procedure or process of analyzing the contradiction. Starting from the general and deep into the specific, and finally back to the general, there is a cycle of mastering knowledge. Only by such a cycle can the phenomenon under study be understood better and thoroughly both in its details (inner conditions) and its position in a larger network (outer relations). As Mao wrote: "these are two processes of knowing: one is from the particular to the general, and the other is from the general to the particular. Man's knowledge always proceeds in this cyclical, recurrent manner, and the turn of each cycle (if it strictly conforms to scientific method) can raise man's knowledge to a higher level and continuously deepen it" (pp. 20-21).

Therefore, in a particular field of science, the researcher first should seek the common characters of any phenomena within the domain of interest and then try to reveal the particularity of each aspect of the contradiction in the developmental process of that phenomenon. After this, the research should compare these particularities with the common characters recognized in the first place. It is certain that new contradictions will
appear. Thus, a new cycle begins, until either the researcher and his or her colleagues are satisfied with the findings or the actual situations and the conditions temporarily limit further cycles. All the scientific reports are in such a vein and only offer an improved but not complete grasp of the phenomena of interest.

One important principle in the analysis of contradiction is the concrete analysis of concrete conditions. This is the living soul of Marxism. Similarly, "the use of different methods to solve different contradictions is a principle which Marxist-Leninists must strictly observe" (p. 22). Since the quality of the process is determined by the basic contradiction, which manifests itself in various forms at various stages because the conditions of each stage in the process of development changes all the time, attention should be given to the principal contradictions once the basic contradiction is understood.

Therefore, when a contradiction has been recognized, in addition to realizing its position and nature, that is, whether it is a primary (basic or principal) contradiction or secondary non-decisive contradiction, the principal aspect of this contradiction must be studied, too. If we fail to identify these characteristics, "we shall then get bogged down in abstract studies and shall not be able to concretely understand the condition of a contradiction, and consequently not be able to find the correct method to solve the contradiction" (p. 51).

2.3 A Summary

In this chapter I have introduced some basic concepts of Mao's contradiction theory. Mao has influenced China dramatically both politically and ideologically. His thought is rooted into both the great impact of Marxism and the rich heritage of Chinese traditional philosophy. Mao's contradiction theory is in particular relevant to this research. Having accepted the basic laws of dialectic, Mao applied them to the analysis of contradictions and systematized a theory of contradictions. To Mao, contradiction is the unity of opposites and exists universally. The developmental course of a phenomenon is
marked by the struggles between different aspects of contradictions and different contradictions. New contradictions replace old ones. Therefore, contradiction, in particular, the internal contradiction is the force of development. To analyze contradictions of a process or phenomenon, one should recognize some different categories of contradictions and the different nature of contradictions. Internal contradictions are viewed as the primary causes of change and external contradictions are the secondary ones. The universality of contradictions feature the common character of phenomena, while the particularity of contradictions underlie the individual character of them.

Contradictions assume different forms according to particular conditions. In their stable coexistent status, only quantitative changes can be observed. In their transformational status, qualitative changes are seen to occur. The transformation is not only dependent upon the internal nature of the contradiction but also the external conditions. The external conditions could sometimes be crucial to the transformations between the antagonistic and nonantagonistic contradictions. There exist some basic contradictions within a process which determine the nature of this process. These basic contradictions may vary across different processes, thus different developmental domains exist. Within a specific domain of development, the basic contradictions are manifested in different forms according to specific conditions and the relationships among different contradictions. These manifestations are most appropriately represented by the principal contradictions in different stage of development. The principal aspects of the principal contradictions determine the nature or quality of the stages involved. Once the old principal aspects of the principal contradictions have been replaced by new ones, the qualitatively different stage leaps occur.

How can Mao's dialectical world view, and contradiction theory in particular, be used in psychological study? What are the implications of Mao's contradiction theory for developmental psychology in general and this research in particular? I will answer these questions in chapter 3.
3.1 The Meaning of Psychosocial Development

From Mao's perspective, the changing nature in any developmental process as stated in chapter 1 is clear and absolute. Therefore the theme of development is essentially a matter of change. Everything in this world is in continual movement, and so are the phenomena of development, including psychosocial development.

What is psychosocial development? Although this term has been used frequently, there appears to be no explicit definition of it in the literature. This is, partly, I think, attributable to the implications clearly expressed by the term, and partly because most researchers in the developmental psychology field have focused on more specific phenomena. To master a phenomenon thoroughly, dialectically speaking, both specific and general characteristics should be studied.

Ausubel and Sullivan (1970) proposed three categories to class the different contributing factors in the determination of intra- and inter-cultural uniformities and differences in development, namely, the psychobiological, psychosocial, and idiosyncratic factors. They indicated that: "the term, psychosocial, customarily refers to the psychological accompaniments or consequences of social phenomena" (p. 72). However, they used the term psychosocial to "encompass intercultural differences and their reciprocal intracultural uniformities in development" (p. 65). Psychosocial factors represent more plastic and environmentally determined ontogenetic traits that reflect specific cultural influences. In other words, they are more interested in using the term to explain intercultural differences. In my work, the term psychosocial development is focused, however, primarily on the individual person. I am interested in how individuals develop psychologically toward social maturity. "Psychological" because I am studying
psychological phenomena, and "social" because the individual develops in a social context.

Thus, my definition of "psychosocial development" is the developmental process in which individuals develop from psychologically immature and socially incapable beings toward psychologically mature and socially competent and adequate beings through the dialectical interaction between individuals and the social contexts within which they develop. A few further clarifications are needed. First, this definition is a general one. It could be argued that it encompasses most of the developmental tasks if not all of them. In a sense this is true. Therefore, some of my more hidden assumptions should be identified.

Human psychological development is multidimensional (Baltes, 1987; Dannefer & Perlmutter, 1990). Psychosocial development is one of several dimensions. These dimensions, whatever they are defined, should be considered in a dialectical interdependent wholeness. Yet today's sciences have not been so advanced that we are able to comprehend human development as we wish to. What we are doing is trying to make this transition of our knowledge from the specific to the general occur earlier. Thus, when I talk of psychosocial development I am assuming at the same time that the other dimensions are at their appropriate levels of development; in other words, they are "normal" either individually when individuals of the same population are under consideration or culturally when individuals of different cultures are under focus. The former means that the individual is "normal" on those other dimensions when compared with his or her peers, while the latter means that individuals from different cultures are comparable on those other dimensions. Certainly, these two hidden assumptions are open to debate and criticism. Yet, given the limitations of our understanding of the process, this has to be done in order to add something to the present state of our knowledge, although the limitations of these hidden assumptions should be aware when one makes the interpretation and explanation.
Second, psychosocial development is regarded in this research as a process of change toward certain goals. Generally, these goals should be the most optimal for the individual (thus, psychologically mature) while at the same time the most desirable for the society (thus, ensuring social competence). These goals, as defined here, are called maturity, or more precisely, psychosocial maturity to be distinguished from biological maturity and growth. Therefore, psychosocial maturity is the result of psychosocial development. Psychosocial development is a process, while psychosocial maturity is a product. In a sense, this psychosocial maturity resembles Chinese concept of harmony, a dynamic unity in diversity.

Third, this process of psychosocial development and its "final" goals are determined by the interaction between the individual and the social context within which the individual lives. This relationship has a dialectical nature; in other word, all of Mao's assumptions I described in chapter 2 are applicable to this relationship.

Since the law of contradiction is the most general law, such a complex process as psychosocial development is bound to be full of contradictions. The first task for the developmental psychologists, then, is to find these contradictions and to describe them. This initial step should be followed by analysis of them, and then the seeking of the means to solve these contradictions. Yet this process will not end here, since once the old contradictions are solved, new ones appear. The development of developmental psychology (and of developmental psychologists) determined by the changing nature of the subject matter, occurs, by this ceaseless cycle of discovering (describing), analyzing, and solving contradictions,

3.2 The Contradictory Nature of Psychosocial Development

Applying the relational meaning of the contradiction (see chapter 2), most developmental psychologists can recognize the fullness of the contradictions in the process of psychosocial development. Sameroff (1982), from the system viewpoint,
indicates that the reason for this is that all entities are in a two-faced relationship, i.e., parts and whole. At a more general level, developmentalists are faced with a twofold problem (Gollin, 1981, p. xi). The first part of this problem is that they have to comprehend the enormous diversity both in form and function that exists generally; and the second part is that there is at the same time individual integrity against the background of diversity. How are the themes of diversity and integrity that characterize living systems to be reconciled? Here is a unity of opposites. At this general level, one can even see developmental psychology itself as an aspect of a contradiction against the "opposite" side, general psychology. Berlyne (1966) describes this contradiction clearly: "On the one hand, all psychological processes have developmental aspects. All of them can and, if they are to be fully understood, should be studied developmentally. On the other hand, the developmental psychologist finds himself willy-nilly making encroachments on the preserves of general psychologists, abnormal psychologists, social psychologists, and comparative psychologists" (p. 71).

Psychosocial development occurs within the social context and thus has very complex relationships with many other factors. Further, the interactions which occur among all these factors both facilitate and hinder it. Such an interactional approach has become popular these days (e.g., Magnusson & Allen, 1983). However the concept of interaction is still highly controversial (Lerner, 1985). "As long as the interactional position is restricted to a general statement of bipolar determination, the hub of the controversy merely shifts from 'all-or-none' propositions to conflicting estimates of overall relative importance" (Ausubel & Sullivan, 1970, p. 49).

It is necessary to clarify further the meaning of interaction. This concept of interaction comes from the exploration of the issue of nature-nurture, the most basic issue in the developmental psychology (Lerner, 1976). Most Western psychologists who hold the interactional position would agree that the development is determined by both nature and nurture, and more importantly, the interplay between these two facets. This approach is referred to as the probabilistic epigenetic point of view (Lerner, 1976), the
contextualistic-dialectical paradigm (Baltes, et al., 1980), and the organismic-contextual model (Overton, 1984). Whatever its name is, "the essential conceptual feature of this contextual zeitgeist was the view that the characteristics of intraindividual development could not be explained without reference to changes in the context of development" (Lerner, 1985, p. 156). Lerner further distinguishes different implications of the term interaction used by the organismic, mechanistic and contextual paradigms in describing the causes of development. He indicates that the key distinction between these paradigms has in their conceptualization of how the nature- and nurture-related processes interact. Overton and Reese (1973) have also identified the essential distinction as whether they view the interaction as reciprocal or unidirectional.

The concept of interaction in the contextual perspective, or the true interactionist perspective as I would refer to it, implies several points. First, the organism and the context are always embedded each in the other. There is no way to separate them and yet to understand the developmental process correctly. Second, the context is composed of multiple, qualitatively different levels with a multiplicative manner of interaction, that is the variables are intertwined completely within and between the levels and change interdependently across time. Third, organisms play an active role in development. It is the organism that determines how the link between the organism and its setting recurs. Fourth, the critical importance in the determination of the nature and outcomes of development is the timing of the interaction between the organism and its context. The timing, however, cannot be predicted precisely for every organism; therefore, development has the feature of probabilistic epigenesis. Nevertheless, this probabilistic process is not without any systematic and successive changes because of the organism's internal coherence. Fifth, all forms of the cause except final cause are considered applicable in the explanation of development, which gives a potential plasticity to the organism in contrast to the predetermined epigenetic conceptions (Lerner, 1976, 1985).

Endler (1982) has summarized four features of modern interactionism, which bears considerable resemblance to the contextual approach. First, behaviour is a function
of a continuous dynamic process of interaction. Second, the individual is an intentional active agent in this dynamic interaction. People not only react to situation but also select the situations in which they interact, thus, behaviour is purposive and goal-directed.

Third, for the person in this interaction process, cognitive factors are the essential determinants of behaviour, but emotional and motivational factors are also important because of the mutual influence between them. Fourth, for the environment of this interaction process, the emphasis is on the psychological meaning of the situation for individuals yet attention is also paid to the objective characteristics of the situation and the interaction between other factors, like motivational and emotional ones, as well as experiential factors. Endler further indicates that two basic tasks for interactional psychology would thus be, first, description, clarification, and systematic analyses of stimuli, situations, and environments; and second, the investigation of how people and situations interact in evoking behaviour, and the reciprocal interactions of persons and behaviour, persons and situations, situations and behaviour.

Taking Mao's dialectical perspective, I can agree with most statements of this Western contextual-interactional paradigm. There are many similarities between dialectical and contextual-interactional approaches. Baltes et al. (1980) have classified them together, and Lerner (1976) has applied the contextual-interactional perspective to explain development, while at the same time indicating that development is actually a dialectical process. This process features a dialectical integration of thesis, discontinuous differentiation, and its antithesis, continuous hierarchicalization. Yet even psychologists accepting the same paradigm can make different interpretations of specific process. For instance, Baltes et al. (1980) argues that the most useful model would be a contextual-dialectical world view, with which Lerner (1976, 1985) concurs. However, their views on the roles of earlier experiences and behaviours in life-span development are rather different. Baltes et al. emphasize the influence of earlier development on later development, while Lerner rejects such a pro-predeterministic view.
Is there any difference between the perspective I adopted from Mao's model of contradiction and the popular Western contextual perspective? I suggest that there are at least three points of difference here. First, the contextual perspective does not consider the contradictory nature of the relationships and/or interactions. Second, the contextual perspective does not explicitly consider different contradictions or relations with different importance according to different, concrete contexts as Mao's perspective would do. Third, the contextual perspective excludes any notion of final cause, while Mao's contradiction perspective would, in accordance with the organismic perspective, imply a final cause of development, at least in a very abstract sense. That is, given the lack of balance of contradictions, development is always moving toward a new status. These points will be elaborated in the following sections of this chapter. By and large, the concept of interaction is very important to dialectics. From Marxist viewpoint, the dialectic exists in the interaction between humanity and nature, the subject and object, the individual and society (Buss, 1976).

Viewing psychosocial development as a grand system (and this is relative since for the human development in general this is only one of the dimensions or a subsystem of the new, higher grand system), and applying the main points discussed so far, a dialectical analysis of psychosocial development must first recognize the contradictory nature of the developmental process. It should begin with consideration of the universality or common characters of the process, and then study the particularity or individuality of the process, and finally go back to the universality to grasp the essence of this developmental process. At the beginning of this analysis, the key task to be adopted is the concrete analysis of concrete conditions. The basic rule to be followed is that the psychosocial development is a process containing different stages manifested by the transformation from quantitative changes to qualitative changes. This transformation is determined by the inner causes or conditions of the process which are incorporated into the basic contradiction of the process and in turn, this basic contradiction is shown by the various principal aspects of the principal contradictions at various stages. The seeking of
the basic contradiction of the process and the principal contradictions at different stages of development, then, becomes tasks of first priority.

3.3 The Basic Contradiction of Psychosocial Development

Psycho- and social- aspects of psychosocial development make up the basic contradiction of this process. The "psycho-development" and the "social-development" become the decisive factors in the whole process towards the psychosocial maturity.

As indicated previously, the goal of psychosocial development is psychosocial maturity. Generally, the content of the maturity is regulated by society or social system which makes demands of individuals, while individuals during their developmental course also have their personal needs to be fulfilled which require support from society. Since one has the collective characteristics and the other has the idiosyncratic characteristics, these two sides are always in a state of contradiction. They mutually regulate the content, the degree, and the nature of the contradictions existing between them. Human beings are both individual personalities and social beings. Either society permits any kind of individual deviation or the individual totally conforms to society, the contradiction between the socio-aspect (social demand) and psycho-aspect (personal needs) is inevitable. Although old contradictions are resolved, new ones appear and await new solutions, thus becoming the impetus for individual development as well as for social changes.

This inevitable conflict has been recognized by some psychologist already. Hayes, for instance, has written that "given the relative instability of a developing self, the possibility for disequilibrium between self and society appears almost inevitable during adolescence" (Hayes, 1982, p. 162). Although this is said with reference to adolescence alone, the same I argue is true for the whole life-span. It appears that there has been a resurgence of the interest in the concept of the self and its important role in development
Some discussion would shed some light on the issue of basic contradiction of psychosocial development.

From a constructivist viewpoint Lewis (1979) has pointed out that in developmental process, the organism is an active unit and the developmental task for young organisms is to make sense of events they encounter, both internal (biological) and external (social) to them. Therefore, how the self interprets the meaning of its actions is crucial for psychologist to understand the self and the actions the self makes. The individual organism in the interactions with its objective world not only acquires knowledge but also, more important, develops its self-knowledge. This features a dialectical identity. That is, this self-knowledge is both a result of the interactional process and a determinant of that process. According to Lewis, development of the self consists of two concepts. The development of existential self and of categories of the self or social cognition. The existential self, the self-other differentiation, is relatively earlier developed and completed (around the time when the concept of object permanence has been mastered), while the categorical self, that is the social cognition about the self, others, and the relationship of the self to others, takes a longer process and more complex form and is the necessary conditions for later development of the other forms of cognition. The categorical self contains both categories which are relatively stable across the life-span, such as gender and age, and categories which vary according to different conditions, such as social roles. In my discussion of the psycho- versus social- factors as two aspects of the basic contradiction in psychosocial development, the individual is viewed as the unit of psycho- aspect, and therefore contains both of the self structures Lewis described.

DeVos, Marsella, and Hsu (1985), in the context of exploring the relationship between culture and self, have similar opinions and recognize that there are different levels of analyzing human behaviour and the self. The experience of selfhood is an unreducible unit and has its own level. At this level of analysis, development is seen as the result of dynamic interactions between the self and social influences, as they say: "Behaviour is often a result of continuous conflict between experiences of self and one's
social role expectations. Moreover, the self changes through time. It changes in the life cycle and/or with social change occurring external to the individual. Such changes can cause new tensions in the experiential self, resulting in changing forms of behaviour" (p. 6). These authors share my view that the basic contradiction of the psychosocial development is the dialectical relationship between individuals involved in this process and the social factors within which they would encounter; and this dialectical relationship provides the impetus for psychosocial development. Mao also recognized this dialectical relationship and put people in the central place in this system (T. Chu, 1982).

3.4 Universality and Particularity of Psychosocial Development

The concept of universality, like other concepts in developmental psychology, is not one without controversy. It could mean that what is universal is common to all human beings in all cultures across all time; or that some sort of invariant sequences of constructions occur (Feldman, 1986). For those who hold the contextual viewpoint there is little use for such a concept, since development is a probabilistic process, with each individual having different timing of interaction with different organismic and contextual characteristics (Lerner, 1985). However Lerner's (1976, p. 42) introduction to "the general-and-specific laws compromise" (as opposed to both the mechanistic and organismic perspectives) would admit the "general laws" which are applicable to all the levels of psychological functioning. I agree with Feldman (1986) that "there are common, deep principles, that govern all developmental change, although this is mostly an intuition at present and I think it premature to try to develop a taxonomy of such common principle" (p. 285). Kagan (1981), in fact, has presented some evidence of the universality in human infant development. I believe that a hierarchical concept should be applied. That is, universality has its relativity as well. Depending on the levels of analysis one could consider certain "laws" or "principles" as universal; but if one analyzes the developmental process from a higher level, that universality might simply become particularity at this new level. In any case, a complete picture of development requires a
consideration of both sides. Overton (1984) suggests that in order to understand the
scientific activity one must consider both the universal criteria (that demarcate science
from nonscience) and individual factors (that lead to different choices among competing
theories). I think that a similar principle should be applied in the context of psychosocial
development as well.

Psychosocial development occurs with the beginning of life and ends with the
finishing of the life. This statement does not mean that the psychosocial development in
general ends at such a point. For the process itself, development has no end, although for
a specific individual it has a starting and an ending point. An individual is only a small
part of the link in the grand process. Just like the language, culture, and ideology,
psychosocial development never stops. It manifests itself at different levels
simultaneously, that is, in the life-cycle, the generational cycle, the historical cycle and the
cosmic cycle. Each cycle has some common characteristics but is not identical because the
specific contradictions the individuals in different cycles encounter are different, and so
the cohort or generational differences arise. This endless development statement is made
when the time dimension is considered. When the spatial dimension is considered,
psychosocial development is seen as embedded in different societies, geographical
regions and immediate environments. In each it would have same features in a very basic
sense, although the phenomena representing this process would be different because of
the particularities of the different spatial conditions. Thus, cross-cultural differences and
other regional differences arise.

The above viewpoint leads to a consideration of the universality aspect of
psychosocial development. That is, the psychosocial development for different cultures or
different countries would have the feature of universality or sameness in its very basic
form, and this process would have a continuum embedded in the human historical
evolution, though this continuum is by no means a quantitative scale. The immediate
implications are, therefore, that the study of psychosocial development in different
cultures would show some basic similarities, and the study of this process through the history of the cultural evolution would have certain continuity.

On the other hand, psychosocial development has its own features which differ from other developmental phenomena as well as differ themselves from culture to culture, region to region, person to person, and time to time. People are genetically different, cultures are traditionally different, environments are naturally different, and times are definitely different. Therefore, a specific course or process of psychosocial development for a given sample would not take exactly the same route as taken by other samples. What specific route would be taken, given a particular sample, is determined mainly by the nature of the sample and the conditions of its interaction with all other factors involved in the consideration. This is the particularity of the contradiction. The immediate implications are, then, that the study of psychosocial development of one culture would not have exactly same results as compared with another culture. And, even within a culture, differences among different subpopulation are still possible, while further down to the individual level, individual differences become apparent. The importance of this concept of universality and particularity has also been recognized by Horowitz and O'Brien (1989). They have suggested that a consensus is beginning to emerge. That is the issue could be expressed by the integration of biologically determined general outlines of the behavioural agenda and the environmentally controlled opportunities to learn.

The related concepts of universality and particularity are common character and individual character. Common characters are contained in individual characters. They are embedded each in the other. Therefore, the psychosocial development in a given sample would contain some features of psychosocial development in general; and the "general laws" of psychosocial development are located in specific individuals', groups', or cultures' processes of psychosocial development, depending on the level of analysis. Feldman (1986) points out that: "within the realm of cognitive development, many of the same principles that account for transformation and reorganization in universal domains also account for transformation and reorganization within non-universal domains" (p.
He thus suggests that a good start to explain how development works in universal domains is to explain how development works in non-universal developmental domains. This accords with Mao's concept of common versus individual character. In his analysis of identity of Freud and William James, Erikson (1968a) realized that they are special cases "yet we must rely on them for formulating initially what we can then proceed to observe as universally human" (p. 21). The same conclusion applies to psychosocial studies. To be able to find out the generality or universality of psychosocial development, the study of individuals is both necessary and profitable.

### 3.5 The Stages and Principal Contradiction in Psychosocial Development

In addition to the issue of nature-nurture, the issue of continuity-discontinuity is also one with differences between different developmental paradigms. From Mao's perspective, development occurs through a process of transformation from quantitative change to qualitative change thus from one stage to another. Therefore, development is stage-like. As stated previously, psychosocial development is a process full of contradictions, and the basic contradiction is between its psycho- and social-aspects. Now if this process is stage-like, what sort of contradictions are to do with this feature? Here, Mao's concept of principal contradiction plays an important role. The basic contradiction determines the basic nature of the whole process, but specific characteristics at different times within this process are different. Some of these differences are only quantitative, such as differences between a 6 and 8 years old in their ability to communicate with others; however, some differences are qualitatively different, such as the difference between a 6 years old child and a 26 years old adult in their ability to interact with others. Each stage within the process represents a distinct phase with its own particularities. Mao's principal contradiction provides an account for this feature. During each specific period, there exist a main or most prominent contradiction which subordinates all other contradictions and determines the pattern or characteristic of the development at that particular period. This is the principal contradiction. Langer (1969) holds a similar view,
although he used the term of "system" instead of principal contradiction. Baltes (1979) has also pointed out that it would be useful to speculate about relative influences on development at varying points in life span or on a given behaviour change process. When a new principal contradiction is emerging, the stage-like phenomenon occurs. Therefore, psychosocial development is a stage-like process with different principal contradictions dominant within a particular stage.

Shaffer (1989) indicates that the debate about continuity-discontinuity takes three forms: whether developmental change is gradual or abrupt; whether it is qualitative or quantitative; and whether it is or it is not connected to earlier developments. From Mao's perspective, the answers would be that the psychosocial development is both gradual and abrupt, qualitative and quantitative, and connected to earlier experiences but not necessarily determined by them. The tasks of studying psychosocial development are then to identify these principal contradictions in order to understand the stage-like development properly.

3.6 Internal Cause and Methodological Issue

The methodology used in developmental psychology should be able to consider both the internal experiences of the individuals and the external factors of their social context. Yet in the normal situation internal cause is the principal factor of development. Scarr (1982, p. 853) writes that: "the only game in town is a view that maturation (read the genetic program, largely) sets the course of development, which is modified by experience especially if that experience is deviant from what is normal for the species." Therefore, although the external factors could be the determinant in certain circumstance, it is better to start with internal factors, following Mao's principle of handling the principal aspect of the principal contradiction first.

The study of the psychosocial developmental process also takes place at different levels. The main issue in developmental psychology continues to be the debate between
nature and nurture. This is partly because of the different world views of the phenomenon, and partly because of the confusing of the levels of analysis. This research deals with this process at an individual level. Schneirla (1957) has identified a "third force" in development; that is, self-stimulation in the organism, in addition to the interactions of nature and nurture, plays an important role in development. Lerner (1976) agrees with Schneirla and points out that "the organism is central in its own development" and "development is in part a self-generated phenomenon" (p. 104, emphasis original). In other words the individuals are interactive not only with their surroundings but also within themselves. They can be self-conscious agents in the creation of their own cognitive structures and assumptive world (Feldman, 1986; Parkes, 1971), thus a source of development. Therefore, I propose that psychosocial development should focus on this source (individual) and to explore the dialectic relationships between this psycho-(intrinsic) aspect and social-(extrinsic) aspect.

What specific implication of this emphasis on internal cause of psychosocial development? My answer is that what the person is feeling, thinking, deciding, expecting, in brief, what the person's experiences, constitute the main domain of the study of development. The methodology adopted should then take this into consideration. To study a person's inner experience and his or her relations with the external world without unethical intrusion is not an easy task. "In a dialectical world, ... dialogue is a way for dealing with conflict and contradiction, as well as a real-world model of interconnections and a means of studying relations" (Zivian, 1977, p. 252). Thus, one way to tackle the self experience can be through content analysis, which could offer very rich information about the processes of psychosocial maturity. The methodology of content analysis has different forms. The one I refer to is a set of content analysis scales to assess psychosocial maturity. They will be introduced in chapter 5 of this thesis.
3.7 Summary: A Dialectical Metamodel of Psychosocial Development From Mao's Contradiction Perspective

   Given the framework I have provided, I can now propose a metamodel of psychosocial development. Models are used as prototypes of phenomena or processes. Models exist at various levels, from the very general level or "world view", to the very concrete level of a specific model for an experiment. The metamodel belongs to the former level. It can be used to generate theories, or evaluate existing theories. It can also be used to construct concrete models to represent the phenomenon of interest and thus to help account for the data gathered in this study of psychosocial development.

   The dimensions of the metamodel of psychosocial development are as follows.

3.7.1 Force

   The fundamental force or impetus of development, including psychosocial development, is the existence of contradictions throughout the process of development. These contradictions manifest themselves in various forms and play various functions in various contexts at various stages of the process. The opposites within all the contradictions struggle with each other all the time. In a phrase, contradiction is the source of activities (Riegel, 1978). More specifically, "dialectics provides the ontology of such a position, where in order for an individual to become what he/she really is, he/she must become other than what he/she now is. Being is defined in terms of Becoming, and Becoming involves negating one's present state" (Buss, 1976, p. 253). Therefore, the concept that contradictions are the forces in psychosocial development is fundamental to understand this process (Verhofstadt-Denève, 1985).

   A perspective similar to this contradiction account of development can be found in the Western concept of crisis. Crisis was early viewed through a negative perspective since crisis theory has emphasized more the harmful and disrupted nature of life events than the positive and constructive potentials of the crisis situations (Moos & Schaefer, 1986). Recently, however, it has been emphasized that crisis, with contradiction as its nature, is a transition or turning point that is necessary for psychological development.
(e.g., Erikson, 1968, 1982; Moos & Schaefer, 1986; Verhofstadt-Denève, 1985; Viney, 1976). It is noted though that Parkes (1971) has criticized the notion of crisis and preferred the concept of psychosocial transition. Changes in one's life space occur when there exists "gaps" between one's subjective assumptive world and the objective world; one may change his or her assumptions or change his or her life space to "fit" oneself to his or her environment. Either change would affect the other and often these two set up a cycle. It can be seen that the implications of Parkes' psychosocial transition process do not differ from those of the concept of contradiction.

In terms of pure change, the universal existence of contradiction is sufficient. In terms of development, however, I agree with Buss' view: "Humanity's inherent negativity is the source for its development, where those contradictions which result in crises and which are resolved, lead to higher levels of Being. The latter statement does not imply that all conflicts, crises, and resolutions lead to higher levels of Being, but, rather, the former are a necessary, though not sufficient, condition for the latter" (Buss, 1976, p. 253).

3.7.2 Determinants

Contradictions exist both inside and outside a process. All these contradictions weave a complicated network within which development occurs. The decisive cause of the process is its internal factor. The individual is active in his or her developmental history, in the interaction with the external factors, and in the planning and fulfilling of future goals and achievements. Thus, the individual is responsible for his or her psychosocial development under normal conditions. Normal conditions imply that the basic contradiction is in its nonantagonistic state (see section 2.2.9, chapter 2).

The external condition, however, is not insignificant in the determination of psychosocial development. The social-aspect of the basic contradiction, under certain conditions, could become the determining factor (Geulen, 1986). Or it could be said that two aspects of the basic contradiction are playing the dominant role in turn. Under what
conditions is it better for these two aspects of the basic contradiction to keep coexistent status and under what conditions to undergo a transformation process? This is a question central to all developmental psychologists.

3.7.3 Course

Following the general law of the dialectical movement of things, psychosocial development takes a spiral rising course. That is "while the prospects are bright, the road has twists and turns" (Mao, 1967, p. 197).

The main implication of this assumption is that development should not be expected to be smooth and without difficulties. Due to the complexity of this phenomenon, various contradictions play various roles at various stages in various contexts, and so influence the course of development in various ways to various degrees. The phenomenon of individual differences, in general, is the reflection of this winding course. Further, this nonsmooth spiral rising course also implies that development is both continuous and discontinuous. It is continuous because of the basic contradiction, which makes interconnection of different phases of development course possible; and it is discontinuous because of principal contradictions, which make distinction between different phases of developmental course feasible. This point will be discussed further in section 3.7.5.

This feature of spiral rising course also predicts a circular pattern of development, and each circle is not repeating itself at the same level. For developmental psychology itself, the developmental course appears to be a cycle. Developmental psychology has been from "a multidisciplinary, multifaceted endeavour representing diverse methodologies and theoretical persuasions" through "a more streamlined discipline, embodying greater uniformity in working assumptions and working habits", and now "returning to a more multifaceted approach to the study of human development" (Morrison, Lord, & Keating, 1984, p. 3), and thus has "completed a kind of cycle in the
history of child study" (p. 15). But it is immediately clear that this returning is qualitatively different from the beginning of the discipline a century ago.

To identify the general patterns of psychosocial development for the general population and the specific courses for specific populations is the task carried out by individual difference psychologists. The former is a question of universality, and the latter of particularity.

3.7.4 Form and Content

That the contents of a development process manifest themselves in various forms is determined by the nature of contradictions. Thus, for human development there is cognitive development, emotional development, psychosocial development, and so on. For psychosocial development, there are, for example, socialization and family relationships. To identify specific contents for the study of psychosocial development is one important task.

On the other hand, different contradictions can assume similar forms to manifest themselves during the courses of the psychosocial development. Individuals may have the similar behavioural patterns but different causes, or be in different stages of development. Individual differences, and similarities as well, can be reflected through different forms of development, either in cross stage comparisons or in within stage comparisons; furthermore, they can also be reflected through the same form of development. The relationship between the form and content is a dialectical one. Generally what kind of forms a development process would assume is determined by its contents, or the nature of the basic and principal contradictions. In other words, it is the form that usually changes towards more congruent with the content. This has been demonstrated in the memory experiment (Kvale, 1975). However, the reverse is not always true. That is, one cannot assume that the same form would always involve the same content. Under certain conditions, the usual way of expressing the contradiction is limited; thus, a different form must be adopted. Consider the different ways to express the
intimacy among different cultures. The Western way of open hug, caress and kiss is certainly a different form from the Chinese way of verbal greetings and hand-shaking; but they have the same intimate content.

The study of identity provides another example. Erikson considers identity formation to be a major task for adolescents. They are at the crossroad between childhood and mature adulthood; they must integrate meaningfully what they have been with what they anticipate and are expected to be. The question, according to Erikson, "Who am I" then is the centre of the issue. Most developmentalists have realized there is a contradictory situation here, and in my term a principal contradiction is in the process of identity formation. The content, as most studies have revealed, is the incongruence between the self concept and role requirements and anticipations. But this contradiction has presented itself, in several forms, as Marcia's (1966) operationalization into different domains. Here we must realize that the different forms or domains cluster around a common theme, identity formation. Without this recognition, the studies of different domains would lose their accountability. But on the other hand, we also need to be aware of the existence of different forms of "confusions" in adolescents' development course. Under these conditions, developmental psychologists can ask the questions of "why" and "how" to these different forms; and the study with "process" orientation will be possible. This kind of study has been under way and great prospects for it can be foreseen (Kroger, 1988; Kroger & Haslett, 1988).

The important implication here is that developmental psychologists should be aware of this dialectical relationship in which different processes may assume the same form and different forms may involve the same process. Then in the explanations of the phenomena they can examine different possibilities dialectically. Thus, the generalizations (universality and particularity) would be on the sound basis which is particularly important for cross-cultural comparisons.
3.7.5 Phases or Stages

As I indicated in section 3.7.3, development does not follow a single line. Furthermore, during this spiral course, there exist several phases or stages of development. This stage-like development is determined by the nature of the transformation of contradictions either within a contradiction or between the contradictions. Furthermore, psychosocial development is both continuous and discontinuous in terms of quantitative and qualitative change. When the basic contradiction manifests itself, through the form of principal contradictions, in the status of quantitative change, development is continuous. When the principal contradictions are under the process of qualitative change, which has resulted from continuous quantitative change, development is discontinuous. Continuity means that the contradictions keep their initial characteristics both in their forms and contents. Discontinuity means that the characteristics of contradictions have changed either in their form or content to the degree that new features have appeared. Each change of continuity to discontinuity consists of a stage. The basic contradiction of psychosocial development in each stage is now reflected by the principal contradictions in each stage. To identify these principal contradictions and to study the change or replacement of previous principal contradictions by new principal contradictions are also the tasks of developmental psychologists.

3.7.6 Direction

Development is not a random process without any specific direction. In principle, direction could be either forward or backward, or sideways. In a forward direction, psychosocial development is following a healthy track. In a backward direction, psychosocial development is following a regressive or unhealthy track. When the direction is sideways, psychosocial development is in a state of stagnation. The determinant of the direction is the basic contradiction in general, and principal contradiction at each stage in particular. Since the change of contradiction is not unidirectional, stagnation, progress and regression can happen. To discover the optimal
conditions in which each principal contradiction can facilitate positive development is of considerable importance.

3.7.7 Goal

Development has not only certain direction to follow, but also certain goals to fulfil. The general tendency of development is from low grade to higher grade. In one sense, it has teleologic characteristics. The intention or goal for human beings is to master the environment in the process of interaction with it. Narrowing down to the personal level of psychosocial development, this goal-directing process is driven by the force to break the identity or stable status of the basic contradiction to fulfil one's psychodevelopment. More specifically, psychosocial maturity becomes the goal of psychosocial development. However, the content and the form of psychosocial maturity are changing. Thus, psychosocial maturity has its relativity. The term maturity has its various psychological meanings: "it would be almost impossible for any one person to be psychologically mature in the fullest sense of the word" (Whitbourne & Weinstock, 1979, p. 4), so that it should be considered an ideal state. From a universality aspect, this goal has certain common characteristics, while from a particularity aspect, this goal has individual characteristics specific to concrete conditions. To identify these common and specific characters, then, is the task to be carried out.

3.7.8 Speed

Development does not occur at a uniform speed within or between individuals. Again, due to the complexity of the contradictions, during the spiral course of development, the speed varies under various conditions in various context. Thus, individual differences in the process of psychosocial development can be recognized again here. The determinant of the speed is the extent of the conflict of contradictions. Since the process of development in general is a process of new things replacing old ones, resulting from the continuous transformation from quantitative change to qualitative change, the extent of the conflict is different at various stages. Therefore, within each stage of
psychosocial development toward the end of the state, the extent of the conflict is getting
greater and thus the speed (within that stage) may be faster than in the initial period.
Considering the direction of development together with the principal aspects of the
principal contradictions, the speed of psychosocial development largely depends upon the
conditions under which the positive and negative (in the sense of positive developmental
direction) poles of those principal contradictions have an optimal ratio. Thus, the
transformation from quantitative change to qualitative change or from old stage to new
stage can happen efficiently (Feldman, 1986). The task for developmental psychologists
then becomes identifying those facilitating conditions at different stages in different
context in order to maximize the speed of psychosocial development.

3.7.9 Context

Development happens in a complex network which is comprised of many
contradictions. The consideration of psychosocial development must be within such a
network. The basic contradiction and the principal contradiction of psychosocial
development function through the media of interaction among various contradictions
under various conditions. Thus, the basic or principal contradictions come from a
complex context. Everything in this world has certain relationships with one or the other
thing and the study of development must consider this context or relation aspect, which
has been generally acknowledged by theorists of development (e.g., Hinde, 1987).
Context has a multilevel or hierarchical structure (Sameroff, 1982; Riegel, 1975a,
1976b). Therefore, one must be clear about the level on which the discussion is carried
out. To identify those basic and principal contradictions and to analyze them in the real
and concrete context are necessary to a dialectical understanding of psychosocial
development. This is a challenge for all the developmental psychologists; however,
without reference to changes in context one cannot explain the development of
individuals (Lerner, 1985).
3.8 A Summary

It is clear that psychosocial development, like any other phenomenon of development, has multiple facets. The major aim of this research is to explore the development of psychosocial maturity within its specific context from the perspective I have just clarified. However, not all the facets will be of the same importance for any one problem at any given time on any one stage, since, from the dialectical viewpoint, there exists always one principal contradiction playing the main role at any given point. In other words, when general psychosocial development is under the consideration, all the above facets, which actually are not mutually exclusive, should be studied. When concrete psychosocial development is under the consideration, the focus should be on the analysis of the principal contradiction.

The metamodel I have described is not a set of ideas completely new to Western thought, since here and there one can find similar perspective in different theorists' approaches to problems, such as Werner's (1957) views on continuity and discontinuity which imply the dialectical ideas noted (Lerner, 1976) and Baltes' (1987) concept of gain and loss in the context of dynamics between growth and decline during the life course. However, all the implications discussed and the metamodel thus derived do come from an independent work, from Mao's dialectical contradiction theory. Such similar conclusions suggest that the dialectical perspective does have great value so that different theorists consciously or unconsciously, explicitly or implicitly employ this world view. My next chapter then will be devoted to the application of this metamodel to a Western theory of development, namely, Eriksonian psychosocial development theory.
Chapter Four: The Dialectical Metamodel and Erikson's Psychosocial Development Theory

4.1 Metamodel and Theory

"Meta" is most often used as "an analysis of" or "knowledge about" (Thomas, 1985). I see it as a higher level to whatever it prefixes. A metamodel is a world view or paradigm serving as a standpoint to start viewing phenomena. The metamodel I have proposed in last chapter is derived from my using dialectic as a world view. Indeed, dialectic is said to be more useful as such than as a method (Baltes, Reese, & Neselroade, 1977). However, dialectic does not tell what specific elements or contradictions occur in psychosocial development. This is a question to be answered by specific theories and models.

"The theory is only a schema; change it to fit your facts" says Spiker (1966, p. 52). To him, there would be no problem of choosing theory A or theory B so long as that theory includes accounts of individual differences. This is an atheoretical view. I maintain that the choice of a particular theory by a researcher is mainly determined by the world view he or she holds. Moreover, the developmental theory one has chosen is of importance in determining how the empirical results will be explained (Ryff, 1984). It is true, too, that "theory and research only have meaning as they are developed and interpreted within the context of a given perspective" (Lerner & Hultsch, 1983, p. 41).

From Mao's dialectical contradictory perspective, then, a theory of human development to be applied should, not only be appropriate to the phenomena of psychosocial development and be able to account for both stability and change in the individual (Newman & Newman, 1975), but also has the nature of contradiction as its basic source of development (Zivian, 1977).

Although major psychological theories such as learning theory, cognitive theory, psychoanalytic theory, and social learning theory can explain various phenomena in
various situations, they are somewhat inadequate approaches to developmental phenomena, since they either do not account for change or lack a full account of the life-span development (Newman & Newman, 1975; Maier, 1978). Given the psychosocial dimension under study and the contradictory perspective adopted, I need first of all a theory featuring the changing nature of development with its emphasis on contradictory impetus for the process of development. Erikson's psychosocial development theory naturally comes into view as the best one available in Western psychology at the present time, since his psychosocial theory is concerned with crises, or contradictions, and their resolution (Buss, 1979; Clayton, 1975; Verhofstadt-Denève, 1985) with an emphasis on continuing development (e.g., Erikson, 1968a). Therefore, I intend to use Erikson's theory as a specific theory to guide my research. A brief review of Erikson's theory is therefore offered in the next section.

4.2 Eriksonian Psychosocial Development Theory

Erikson's contributions to psychology have been in different areas, such as his expansion of psychoanalytic theories and methodology, and his contributions to the study of psychohistory. Yet, his theory of life-span developmental stages is most relevant to the psychosocial development which is my focus here. As Gruen (1964, p. 2) put it: "Erikson's theory represents a systematic formulation of the effects of maturation, experience, and social institutions on the growing individual, hence on personality organization."

Erikson (1950, 1959, 1966, 1968a, 1968b, 1980, 1982) has drawn a blueprint for the course of human psychosocial development. A general review of his entire theory is not the task here, since several sources provide this, such as Coles (1973), Roazen (1976), and Stevens (1983). Rather, I shall look at his life-span developmental cycle using the metamodel I produced in chapter 3.
4.2.1 Crises as the Force

In origin, Erikson accepts Freud's notion of libido energy which is an innate, undifferentiated force directing human development epigenetically. However, Erikson views this force as a polarized one, that is the desire to live, to develop coexists with the desire to regress, to destroy. He holds this assumption that the inherent motion of coexisting and continuously activating counterpulls underpins his life-span developmental theory dealing with life's ever-present crises; and he emphasizes this conflicting source as the origin of all the behaviour and the basic mechanism of development. It is because of these features that his notion of development has been regarded by some psychologists as the one with a dialectical quality (Maier, 1978; Peterson, 1989). In fact, Erikson himself also use such a term to elaborate the nature of this conflict:

Human instinctuality employs a drive equipment of loves and hates that must be ready for a great variety of social settings in which to learn the intricacies of technology and the style of customs; wherefore it is characterized by a conflict-ridden dialectic of excessive drive energy and stringent inhibition, of anarchic license and fateful repression and self-restriction. It is, again, the world religions which have striven to provide an all-inclusive world view for the containment of such human extremes as self-seeking vanity and self-abnegating humility, ruthless power-seeking and loving surrender, a search for beliefs worth dying and killing for, and a wish to empathize and understand. . . . there seem to be two poles to human endeavour, namely, the felt necessity to "survive and kill" where both the territorial survival and the cultural identity of a human subspecies seem to depend on the defensive or offensive exclusion of (all) others; and the precept "die and become" where, on the contrary, ascetic self-denial to the point of self-sacrifice appears to be the only means to becoming more inclusively human. (Erikson, 1978, p. 21, Bold added)

With this basic assumption of human nature, Erikson views development as a process full of conflicts at various stages, specifically, psychosocial development is through eight sets of psychosocial crises. He states: "I shall present human growth from the point of view of the conflicts, inner and outer, which the vital personality weathers, re-emerging from each crisis with an increased sense of inner unity, with an increase of good judgment, and an increase in the capacity 'to do well' according to his own
standards and to the standards of those who are significant to him" (Erikson, 1968a, pp. 91-92). Crisis is normal; it is "a turning point, a crucial period of increased vulnerability and heightened potential" (Erikson, 1978, p. 5). He also wrote that crisis is "a necessary turning point, a crucial moment, when development must move one way or another, marshaling resources of growth, recovery, and further differentiation" (1968a, p. 16). Thus, development is essentially a process of "dialectic struggling" between two opposites; the struggling is in its peaks at those critical turning points at which whether the developmental process is to be progress and integration or regression, or retardation is decided (Erikson, 1963). Most importantly, one cannot develop without the presence of both poles, "indeed, a sense of continuous selfhood always demands a balance between the wish to hold on to what one has proven to be and the hope to be renewed -- a dimension of identity which at all times makes urgent a division between conservative, if not reactionary, and liberal, if not radical, versions of a given world view" (Erikson, 1974a, p. 100). This inherent bipolar forces have been empirically supported (Varghese, 1980, 1981). Therefore, in my terms, it is the contradictions, unities of opposites, which make up the development process and its progress. This importance of crisis not only is crucial for the theory, but offers a conceptual tool to study Erikson's work at the empirical level (Côté & Levine, 1988c).

4.2.2 Epigenetic Ontology and Determinants of Development

Although Erikson was considered as a weak interactionist because of his "maturational grand plan" (Lerner & Hultsch, 1983), he is fully aware of the interactions between the individual and his or her social settings. Psychosocial development, according to Erikson, proceeds following the epigenetic principle. He explains that "this principle states that anything that grows has a ground plan, and that out of this ground plan the parts arise, each part having its time of special ascendancy, until all parts have arisen to form a functioning whole" (Erikson, 1968a, p. 92). To him, this epigenetic principle is the inner law of development, which in child's prenatal period "had formed one organ after another, and now (as these organs search out reality) create one behaviour
item after another" (Erikson, 1940, p. 550). However, he also pays attention to the external conditions, in Mao's term, of the development, such as "a reasonable amount of proper guidance" and "significant interaction with those persons who tend and respond to him (the child) and those institutions which are ready for him" (Erikson, 1968a, p. 93). Erikson's concept was borrowed from biology and his inner law is based on the biological or somatic frame of work. In his first paper on human development, he relied heavily on biological concepts to derive the notion of "epigenetic personality" (Erikson, 1940). It is clear that he considers internal factors as the determinants of development and this is what he means by: "personality, therefore, can be said to develop according to steps predetermined in the human organism's readiness to be driven toward, to be aware of, and to interact with a widening radius of significant individuals and institutions" (Erikson, 1968a, p. 93). Internal factors are the causes and external factors are the conditions of development, and these two sets of factors combine to influence the course of development; further, under certain circumstance, the two sides may exchange positions and then the external factors now would be in charge of the course. Erikson's epigenetic principle implies this notion, although the latter point is perhaps implicit. This consideration of the internal or innate source as the cause of development is one of the criteria of the dialectical approach as well as one subtle difference between Mao's contradiction framework and some contextualist dialectics (e.g., Dowd, 1990) or probabilistic epigenesis (e.g., Lerner, 1976, 1980). The Piagetian approach is also not a thorough dialectical one for this reason (Lawler, 1975).

Erikson believes that to understand human development one must study and discover the relationships and interdependence among three of its major aspects. They are: the somatic aspects, which include physical strength and weakness; the personal aspects, which cover life history and the present developmental stage; and the social aspects, which embrace cultural, historical and social forces (Jones, Garrison, & Morgan, 1985). Certainly, Erikson tries to apply his theory to human development in general, and because he emphasizes the experiential and social aspects of development rather than libidinal
factor his theory has been referred to as psychosocial one. This is surely different from what I meant by psychosocial development. My term is narrower, since I only consider psychosocial development as one aspect of dimension of the multidimensional developmental system. However, Erikson's ideas are still applicable because of their similarities to Mao's dialectical perspective. I indicated previously that the basic contradiction of psychosocial development is individual versus social factors; further, there exist different levels of analysis. At the individual level the internal factor of psychosocial development is the individuals themselves. This is also similar to what Erikson has emphasized in developmental process. He stresses, in the interaction between parents and children, that "the child's conscience (later on an important part of his unconscious) does not preserve what the parents actually said or meant to say, but what the child, with the selective perception of his particular stage and state of mind, understood them to say" (Erikson, 1940, p. 559). In other words, external influences play a role only through the internal activities in a dialectical interaction. That is why he considers the "growing body", the individual, as the centre of his epigenetic description (Erikson, 1940). He considers ego identity as the core of personality development. This core has also been recognized by other psychologists who emphasize the self concept (Lewis, 1979).

4.2.3 The Developmental Chart and the Course of Development

The course of development is not a smooth straight line since the contradictions inherited are different in terms of their predominance, strength of interactions, inner and/or outer factors influencing them, etc.. Yet the general trend of development takes a spiral rising form as indicated in section 3.7.3 of chapter 3. For a specific developmental dimension, psychosocial development in this case, its basic and principal contradictions function to form a general pattern along its course of development, although with many variations. Therefore, in general, while one can foresee the course, one cannot predict specific routes of psychosocial development without studying the specific contradictions involved. On the other hand, one could expect certain regressions occurring sometimes
somewhere. To search for those conditions that facilitate a positive resolutions of contradictions is essential.

I have indicated in section 2.2.10 of chapter 2 that in the course of development, since new things come from old, the influence of the old is still there in a new form, i.e., residuals; and at the same time the old things contain new elements. The implication for Erikson is that each stage would have some residuals left from all previous stages and would contain buds of future stages. This gives rise to the flexibility or plasticity of human development. In fact, Erikson realizes this fully and his life cycle formulation reflects this feature as well. His famous chart indicates the general pattern of psychosocial development which follows step by step progress; also in the chart are allowances for different routes to achieve the same quality or "strength", a term Erikson prefers recently to replace the term of virtue (Hall, 1983). Furthermore, qualities developed in each stage are not always fixed; each stage has the potential to revise and re-evaluate all the previous solutions of the crises and thus to create a future course. This revising and re-evaluating process includes both positive and negative adjustment depending upon status of previous crises' resolutions, present contradictions and future expectations. Therefore, there is no one single course of psychosocial development for all cases, yet there are some patterns which could be recognized, so long as one is aware of the dialectical nature of the contradictions.

Vaillant and Milofsky (1980) in their study of male psychological health have used Erikson's life cycle model. It has been depicted as a spiral model as well, though not through derivation from a dialectical metamodel. They point out that the spiral model contains specific advantages: (1) it implies that during the life course the individual "evolves" rather than merely "grows" (I prefer "develops" though) and that changes of traits and interests are qualitative; (2) it links past progress with present achievement and future accomplishment, in contrast to models depicted maturational change as "the transformation of caterpillar to butterfly"; (3) it suggests a sequential development tendency with the assumption that "failure to attain one landing makes it unlikely that one
will attain the next" (Vaillant & Milofsky, 1980, p. 1350). They further indicate that the spiral model avoids the issue of transition, which, to them, is a concept not well addressed. I do not agree with this point. From the law of change in the dialectic framework, at the point at which the new status is established, one can well claim that the transition is completed.

4.2.4 Erikson's Eight Stages and Form

"There are two states of motion in all things, that of relative rest and that of conspicuous change. Both are caused by the struggle between the two contradictory elements contained in a thing" (Mao, 1968, p. 67) In the first state of motion, only quantitative changes are happening; while in the second state of motion, struggle causes qualitative changes and observable changes are happening. "Things are constantly transforming themselves from the first into the second state of motion; the struggle of opposites goes on in both states but the contradiction is resolved through the second state" (Mao, 1968, p. 67) This feature of contradiction then determines a stage like developmental form. Further, that the newer stage replace the old one does not mean that the contradictions have been resolved; rather, it is just a new set of contradictions emerged through the resolving of old ones (turning point), where there still exists a newer dominant contradiction (principal contradiction) which determines newer features.

Erikson no doubt shares this view. To him, human development must pass through eight stages in a fixed order. Each stage is accompanied by a central conflict which generates crisis. Along with the resolutions of those conflicts, one's developmental status is on a higher level. "All the earlier conflicts can thus be seen to reach into, and to be renewed on, the level of the last, as they are on each level in between -- but always renewed in terms of the conflict which dominated that level" (Erikson, 1978, p. 27). Therefore, in general, psychosocial development follows a step-wise form with eight distinctive stages.
In section 3.7.4 of chapter 3 I have discussed the relations between form and content. Under normal circumstances, the form of a process assumed is determined by its contents, or the nature of the contradictions underlying the process. Given the nature of psychosocial development, individuals are continuously expanding their radius to interaction with social surroundings, and they manifest their development stages in the way Erikson described. In the discussion of form, or the issue of stage, one should not isolate it with the issue of universality and particularity. In other words, whether the form adopted by a process has universality or particularity only. Erikson's description of the stage form is certainly a universal issue as well. Here one important point is what does universal mean? Does Erikson's stage form mean that all individuals across all cultures will show these stages during their psychosocial development, or that all individuals across all cultures will experience or undergo these stages but may not necessarily show them as stages per se? Feldman (1981) observes two meanings of universal. The traditional sense emphasizes the universal and spontaneous emergence of whatever has been defined as universal; alternative one is "characterized in terms of a sequential set of stages and a common set of transition mechanisms that operate during stage changes" (p. 23). In other words, one focuses on the outcome or appearance while the other on the process. I would view Erikson's stage form as universal in the latter sense. What Feldman calls the common set of transition mechanisms seems to me a set of basic and principal contradictions within the psychosocial development process.

On the other hand, the content of these stages may vary according to different cultures because of the nature of particularities of contradictions. This will be discussed further in section 4.2.8, the social relativity and context of development. But here, the dialectical relationship between the form and content is important. Towards the abstract level of analysis, Erikson's stage is assumed universally applicable; but down to the specific analysis of a case, when it is compared with other similar cases form different settings, same underlying crisis like identity crisis could assume different forms to express itself via the medium of the active individual under the crisis.
4.2.5 Life Cycle and Phase

Development occurs in a spiral rising form with distinguishable phases and cycles. Each cycle, however, is at a "higher" level. This is a feature of the dialectic (van den Daele, 1975). Life cycle is no exception to this; so that it contains dialectical transformations at various stages of development (Datan, 1976, 1977a). Erikson's life cycle formulation could be considered as the one which has this feature. To Erikson, human development should be considered within three cycles: First, the individual life cycle, which could be described as from being to nonbeing; second, the generation cycle, which could be described as from being to becoming; and third, the social or cosmic cycle, which could be described as from being to being. These three cycles are nested within each other (Erikson, 1978). To Erikson, life cycle "is meant to convey the double tendency of individual life to 'round itself out' as a coherent experience and to form a link in the chain of generations from which it receives and to which it contributes both strength and fateful discord" (1978, p. 5). We developmental psychologists should invest our talent in such cycles to further our understanding of ourselves! Erikson urges that: "in developing or contribution to an inclusive human psychology, psychoanalysis cannot shirk the task of accounting not only for the way the individual ego holds the life cycle together, but also for the laws which connect generational cycles with individual ones -- and the social process with both" (1978, p. 23). Although Erikson speaks from a psychoanalytic point of view, this applies to the developmental psychologists generally. In doing the research in psychosocial development process, one may consider a specific "chain" of those cycles, yet one must be fully aware of the infinite cycles of being, developing, and passing away features of any process. The end of an old "chain" or cycle, or process, is the beginning of a new "chain", cycle, or process. Only by keeping this characteristic in mind can one describe, explain, predict, and change the reality in line with its natural laws.
4.2.6 A Fair Ratio and the Direction of Development

Since a development process is determined by basic contradiction in general and principal contradictions in particular at different phases, how a contradiction is solved is important for further progress. According to Mao's theory, one should make every effort to facilitate the contradiction under consideration to transform in positive direction, that is, in favour of the positive side of the contradiction. For Erikson, a proper developmental process should keep "a fair ratio" in terms of two polar aspects. As early as 1940, Erikson wrote: "physical as well as emotional and intellectual self-preservation demands that one accept, keep, digest, and eliminate; give and receive; take and be taken in fair ratio" (p. 554), otherwise, either pathological monstra in excessu or monstra in defectu will be developed. In general, he is favour of a ratio with the dominance of positive and desired factors (Erikson, 1978). At this point, one difference can be noticed between Erikson's theory and Mao's theory. Erikson, like Piaget, emphasizes a "balance" kind of solution toward contradictions, or crises, while Mao's theory, or dialectical perspective in general, focuses on "unbalance" or changing nature of contradictions. That is why Riegel criticizes Piaget's approach as a nondialectical one (Riegel, 1979). In terms of Mao's concept of identity (see section 2.2.8 of chapter 2) Erikson's notion only matches the first meaning of identity but not the second, more important meaning of the identity of contradiction, that is, the transformation of opposites or dynamic changes from its initial state. Although Erikson cannot be considered to be a dialectical psychologist (he himself does not think so either), his idea of the stage process contains the transformative feature of contradiction. He believes that resolution of a crisis at one stage prepares for the next crisis, while resolution of a crisis at the same time relies on the previous resolutions of crises passed. This is in fact a dialectical process of the resolution of contradictions, which determines the directions of psychosocial development. Whether the resolution will be in a healthy (psychosocial maturity) or unhealthy direction (regression), or stagnation (fixation) largely depends on how a principal contradiction has been resolved. Furthermore, although Erikson did not put explicit emphasis on the notion of unbalance,
he does emphasize the ever changing nature of developmental process and the interactions of opposites at every stage of the life cycle (Erikson, 1968a; Hall, 1983). In this sense, therefore, Erikson shares a dialectical perspective on developmental phenomena.

4.2.7 Psychosocial Maturity and the Goal of Development

Human development is an ever changing process featuring the nature of contradiction, or crises to use Erikson's term. Erikson views this ever conflicting process in a staged way with dialectic balances at different stages between syntonic and dystonic forces. As indicated previously, development is goal directed. Then, where will the development lead? Psychosocial development leads to psychosocial maturity. Since the principal contradictions are different at different stages, the contents, or the criteria of, psychosocial maturity may be different as well. This point is quite readily found in Erikson's postulates. "Virtue" or "strength" is the word he used to represent an ego quality at a dialectic dynamic balanced stage, which is a vital strength necessary both for the life cycle and for the cycle of generation (Erikson, 1978; Hall, 1983). In my terms, after the resolution of each principal contradiction, a new level of psychosocial maturity emerges. Therefore, from Hope to Wisdom, one experiences, or more precisely develops, a hierarchy of psychosocial maturity. One point that Erikson has emphasized and often been misinterpreted about is that to be mature, to accomplish a virtue, both positive and negative sides of a crisis are essential. He seems to choose very carefully the terms used in a way to reflect the nature of his ideas, since he noticed that "'versus' is an interesting little word, because it can mean a reciprocal antagonism carried further in 'vice versa.' Developmentally, it suggests a dialectic dynamics, in that the final strength postulated could not emerge without either of the contending qualities; yet, to assure growth, the syntonic, the one more intent on adaptation, must absorb the dystonic” (Erikson, 1978, p. 26).

Hogan (1976) has applied a dialectical perspective to the study of moral development and has derived a similar point of view in terms of the goal of development.
Two themes of development have been suggested by him. There are natural endpoints to
development that are reached by qualitative changes over time; and life is a continuous
process of adjusting internal conditions to external demands. Hogan points out that "the
ideal endpoint of moral development is moral maturity defined in terms of optimal
placement of the five dimensions; the practical endpoint of moral development is social
conformance, explained in terms of these dimensions" (Hogan, 1976, p.58). It is clear
that Hogan's ideas are similar to those I have discussed. I suggest that there is no
endpoint for development, theoretically speaking. The "endpoint" of psychosocial
development would be psychosocial maturity in terms of Erikson's constructs and the
optimal placement would be an optimal ratio of two poles of eight "strengths". This bears
much similarity to the Chinese concept of harmony, a unity in diversity:

> A harmony includes differences, with all the differences harmonized to produce a state of
> harmony. Nonetheless, if differences are to produce a state of harmony, then it is necessary
> that all differences should have each of its own due proportion and be 'exactly good' to that
> extent, neither exceeding nor coming short. What is described as 'achieving the mean', and
> also as 'in due proportion' amounts to all the differences being neither too much nor too
> little; if a state of harmony is to be achieved. (Fung, 1964, cited in Bishop, 1985, p. 410).

4.2.8 Social Relativity and the Context of Development

Development neither comes from nor proceeds to anywhere. It happens in some
concrete context. What this context is depends on, apart from historical time and
geographical space factors, the basic and principal contradictions of a process. Thus, for
psychosocial development, one's immediate social settings cannot be ignored in terms of
individuals, while much broader settings like communities, cultures are also under focus
in terms of universalities since, after all, "as a social being, man participates in all sphere
of practical life of society" (Mao, 1975, Vol. 1, p. 296). Erikson clearly recognizes this
point, and the name of his psychosocial approach comes from his emphasis on social
factors. He defines an individual's psychological status in terms of the relationships
between the individual's changes and his or her surroundings. He conceptualizes this as
the social relativity of the individual's psychological status (Erikson, 1940), or
psychosocial relativity (Erikson, 1968a). He tightly connects psychological changes with social context. In fact, he treats them as integrated. Identity is a core notion of his theory. He views identity as the identity of two identities: the individual identity and the communal cultural identity (Erikson, 1968a). The process of identity formation for Erikson "can only emerge from a mutual adaptation of individual potentials, technological world views, and religious or political ideologies" (Erikson, 1982, p. 74). One cannot separate personal growth from communal change. An individual lives within a certain social context; thus, individual development is affected by and dynamically integrated with historical development. At the individual level in his or her concrete context, "one teacher can be credited with having kindled the flame of hidden talent" (Erikson, 1968a, p. 125); while at the social level in a general context a person's life history cannot be separated from general history (Erikson, 1974a). Erikson is also aware of the issue of universality and particularity. His epigenetic ontology is universally applied, but the content, or particularity is determined by specific context in which the process proceeds. Given a context, psychosocial development is determined by the dynamic interactions between individuals and their contextual factors. Erikson (1978) emphasizes the active role of individuals in the reciprocal interactions. He views the development of psychosocial maturity, or in his term the psychosocial strengths, as a process of active adaptation rather than passive adjustment. Once an imbalance occurs between the individual and social factors, a change is needed. Otherwise pathological development occurs, either from the individual side or from social side. Therefore, the continuous reciprocal facilitations and interactions between the individual's psychosocial development and the social contextual factors not only are essential for the individual's development but also consist of one of the dynamic forces for social changes.

4.2.9 A Summary

In this section (4.2) I have evaluated Erikson's psychosocial development model using the metamodel I proposed in chapter 3. It has been shown that each aspect of my metamodel at a world view level can be very well represented by Erikson's model at a
specific theoretical level. To highlight, Table 4.1 has been constructed to show the relationships between the two.

**TABLE 4.1 A COMPARISON BETWEEN THE MAIN ASPECTS OF MY METAMODEL AND ERIKSON'S MODEL IN PSYCHOSOCIAL DEVELOPMENT**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Metamodel</th>
<th>Erikson's Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Contradiction</td>
<td>Psycho- versus Social- aspects</td>
<td>Individual versus communal cultural identities</td>
</tr>
<tr>
<td>Force</td>
<td>Contradictions</td>
<td>Crises</td>
</tr>
<tr>
<td>Determinants</td>
<td>Internal factors as causes external factors as conditions</td>
<td>Epigenetic principle as inner law and social interaction as outer relationships</td>
</tr>
<tr>
<td>Course</td>
<td>Spiral rising</td>
<td>A developmental chart</td>
</tr>
<tr>
<td>Form and Content</td>
<td>Nature of contradictions (content) assume certain forms; same form may have different contents</td>
<td>Eight distinct stages in a fixed order; the contents within stages may be culture-specific</td>
</tr>
<tr>
<td>Phase/Stage</td>
<td>Quantitatively continuous and qualitatively discontinuous</td>
<td>Nested life cycles</td>
</tr>
<tr>
<td>Direction</td>
<td>Status of Basic and principal contradictions determines healthy or unhealthy development</td>
<td>A fair ratio of two polar aspects (with more weight on positive polar) guarantees healthy development</td>
</tr>
<tr>
<td>Goal</td>
<td>Psychosocial maturity</td>
<td>Strength of ego identity</td>
</tr>
<tr>
<td>Context</td>
<td>Basic and principal contradictions function through media of interaction among other contradictions</td>
<td>Social relativity of the individual's psychological status</td>
</tr>
</tbody>
</table>

In sum, Erikson's theory fits with the metamodel from a dialectical contradiction perspective. In other words, my metamodel could be "operationalized" in terms of Erikson's specific epigenetic psychosocial development model. Thus, the psychosocial development is an ever changing process towards psychosocial maturity, which is reflected in terms of various strengths depicted in Erikson's model, such as hope; further, this process follows eight distinct stages and the principal contradictions in each of these
stages are reflected through the form of the pairs of bipolar crises such as trust versus mistrust. That these relationships are possible is because Erikson's theory implicitly contains two models, as indicated by P. H. Miller (1983), namely, the Darwinian evolutionary model and the dialectic model of history. Since his classic work (1950), there have been numerous studies of Erikson's theory. In next section, I will present a brief overview of some studies as they are relevant to my research.

4.3 A Review of the Literature on Erikson's View of Psychosocial Development

4.3.1 Reconceptualization

Since Erikson's theory of development has been presented, some theoretical reconceptualization has been carried out. Logan (1986) has proposed a two-cycle repetition model for Erikson's eight stages of development. To Logan, Erikson's eight stages consist of two cycles from basic trust to identity and from identity to integrity, with identity as a beginning-end pivot. The second cycle recapitulates the first one by, starting from identity as it did from trust, repeating the same themes as the first cycle. These eight aspects of development can be clustered into three themes: the instrumental/future theme includes generativity, initiative, and industry; the existential/now theme contains intimacy, trust, and autonomy; and the continuity/wholeness theme covers trust, identity, and integrity. In this recapitulation Logan has connected the sequence of developmental stages with general personality dimensions that may not be stage-related. The two-cycle model also could be understood as an example of the negation principle of the dialectic. That is, from the formation of identity to the negation of identity one completes one of his or her life cycles but the negation of the identity brings about a new era, the integrity, which is qualitatively different from its base, the identity. Erikson in his comments on generativity expressed this idea of cycling back to the origin at a higher level as such: "I'm convinced that old people and children need one another and that there's an affinity between old age and childhood that, in fact, rounds out the life cycle. ... old people often seem childlike,
and it's important that we be permitted to revive some qualities that we had as children" (Hall, 1983, p. 24). He further indicated that old people's childhood-like thinking is not childishly thinking but "think with wonder, joy, playfulness -- all those things that adults often have to sacrifice for a while" (Hall, 1983, p. 24); that is childhood-like thinking with the quality of wisdom. This clearly shows the spiral-like life cycle pattern.

Buss (1979a) has pointed out that Erikson's eight stages of individual development correspond to eight stages of social development. Logan (1986) goes further to claim that Erikson's stages themselves are under a process of evolution corresponding to social evolution. He says: "I recognize the great likelihood that identity may be pivotal only as the special concern of the current 'modern' age. Indeed, I have argued that the development of self-consciousness over history might in fact be construed as a process whereby each of Erikson's stages successively becomes pivotal from era to era" (Logan, 1986, p. 135).

Whether Erikson's stages really manifest themselves in turn according to the evolution of the history needs further evidence, yet, theoretical analysis from a generative approach does offer a way to show that Erikson's theory has its own logical coherence (van Geert, 1987). van Geert regards the eight-stage model as the essence of Erikson's theory and analyses eight stages based on his generative approach. He proposed two types of generative principles, which he conceives as "algorithms ... that generate ... all the basic theoretical statements typical of a theory and only those statements" (van Geert, 1987, p. 238). The first of these statements are state and sequence rules and the second, transition rules. Three epigenetic trends have been proposed within the State and Sequence Rules, in terms of three properties of ego quality at the potential final state, namely, self, specificity and extensiveness. In terms of self, the trend states that "a basic orientation [of ego quality] towards the self (I) succeeds a basic orientation towards the world (W)" (p. 240); in terms of specificity, the second trend "is defined as a process leading from objects of ego qualities defined as representatives of general categories (G) to specific objects (S)" (p. 240); finally, in terms of extensiveness, the third trend
"consists of the widening of the radius of action of the person..., from limited (L) to extended (E)" (p. 241). The combination of each aspect of all three trends thus results in eight stages or triplets in van Geert's terms. Furthermore, these triplets are ordered; that is the features of the stages are defined by the combinations of each of the six aspects of three trends: GLW, GLI, GEW, GEI, SLW, SLI, SEW and SEL from stage one to eight. These eight stages are organized into three hierarchies according to three trends: G-S is the highest, L-E middle, and W-I lowest. van Geert further uses these specific triplets to analyze Erikson's model and has found corresponding relationships between these triplets generated from the generative rules and the eight stages derived from Erikson's model, thus provided a conceptual explanation of Erikson's theory. Moreover, van Geert provides the explanations of the transition mechanisms for the stage successions within his Transition Rules, which Erikson has not provided (van Geert, 1987). To van Geert, the transition mechanisms underlying Erikson's theory contain six components, which could be stated as:

1. If conditions (Si, a, b, c,...) are present
2. a process of the form P will occur
3. with a probability of p
4. within time span dt
5. instantiating a transition of the form T

There are two kinds of conditions (a, b, c,...) for Erikson's stages (Si): universal psychosexual facts and universal and culture-specific psychosocial facts. Under these conditions a process (P), a psychological event, will occur manifested by a crisis. A crisis takes two forms, either exogenous conflict (a conflict between the internal component and that of the outside world) or endogenous conflict (a conflict between internal components). Although the exact probability (p) and the time span (dt) the transition takes are not theoretically inferable, the transition (T) from one state to another takes place in two forms: the integration and the differentiation of ego qualities in terms of the relationship between components of the self. If endogenous conflict is dominant, integration functions leading to a higher level of organization; if exogenous conflict occurs, differentiation of the self is needed to cope better with the outside of the world.
The effect (E) of a transition is represented by the three epigenetic trends. There are three levels of transition corresponding to the three epigenetic trends: the lowest level is the transitions between world- and self-oriented ego qualities; the intermediate level is the transitions between limited and extensive range of effect of ego qualities; and the highest level is the transition from general to specific objects of ego qualities. Essentially, van Geert's generative analysis of Erikson's theory contains characteristics of dialectical contradiction. The three epigenetic trends, the transition forms, and the transition processes all feature contradictions and their transformation. Further, the hierarchic cycle of transition from one stage to another features a developmental course which is dialectical spiral and rising. The successful application of the generative approach to Erikson's theory is because of the dialectical nature of the theory itself, which has been recognized, too, by van Geert (1987). This further supports my rationales for choosing Erikson's theory for my purpose.

It seems that it is possible to rethink Erikson's theory in many ways (Logan, 1986). Indeed, one of these comes from a sociophenomenological framework. Realizing the differences between the sociophenomenological and Eriksonian sociodynamic approaches, Viney (1987a) identifies the assumption common to the two that social interaction is crucial to psychological development. Although she does not accept Erikson's age-related sequential stages, she does accept Erikson's age-related tasks. Following Kelly's (1955) assumption that people interpret and reinterpret events continuously throughout their lives, Viney assumes that through the successive validation-invalidation of constructs of the events people form a hierarchy of pairs of developing constructs, reflecting the accumulating experiences of their continuing social interactions. This formation of the hierarchical system of constructs is experience-determined, thus age-related, but not age-determined. Therefore, Viney has incorporated Eriksonian psychosocial development tasks into her experience-oriented framework and has devised a method to measure those tasks, or constructs of tasks, of psychosocial development. Based on the task related construing of research participants, Viney
rearranges Erikson's stage sequence by putting intimacy before identity formation, which has been supported by several data sets. Viney (1987a) provides this approach as a complement to Erikson's sociodynamic approach, which emphasizes observational data, from a sociophenomenological approach, which emphasizes experience-based data. This experience orientated development notion has been shared by Whitbourne and Weinstock (1979). As they stated: "It is important to keep in mind that the crisis stages represent critical periods during which certain issues become predominant for the individual, but they are not meant to be discrete, age-related segments of the life span" (Whitbourne & Weinstock, 1979, p. 123). It appears to me that Viney's approach can also be viewed from my dialectical perspective, since the validation-invalidation process is in fact a process of negation of old contradictions and forming newer ones, which will continue across the life span. The similarities between the majority of Viney's concept of constructs pairs and Erikson's concept of stages represent a coming together of the subjective experience assessed by content analysis of verbalizations and its behavioral manifestation assessed by observational data. Similarly, the difference between the relative position of identity and intimacy or affinity could be viewed as one status of the contradiction of inner experience and outer manifestation.

Unlike Logan's (1986) model and Viney's (1987a) sociophenomenological interpretation, which are mainly conceptual explanations within Erikson's framework, Franz and White (1985) have shown a way to reconceptualize Erikson's model. Starting from the examination of gender differences in Erikson's theory, they notice its shortcomings as a theory of women's development (Gilligan, 1977, 1982), but go beyond mere criticism of Erikson's lack of description of women's development. Franz and White analyzed Erikson's theory in terms of gender differences in each of eight developmental stages, and argued that the fundamental limitation to Erikson's theory is his theoretical formation. Erikson focuses on identity but neglects the importance of attachment that consists of one of the basic elements in personality development, which results in Erikson's inability to account for female development appropriately. Franz and
White called this model a single developmental pathway. They have added another path, attachment, to extend Erikson's identity-focused single path model, based on the assumption that interpersonal attachment is half the human experience and is essential to the development for both males and females. This two path model of development is "the model of a double helix in which two separate but interconnected strands of psychological individuation and attachment ascend in a spiral representing the life-cycle" (Franz & White, 1985, p. 247).

In addition to those rethinking Erikson's entire model, some developmentalists have instead focused on specific stages. Marcia (1966) pointed out that Erikson's bipolar continuum was not complex enough to include different ways in which adolescents approach their identity issues. Therefore, Marcia proposed a model of two dimensions with four categories to describe how adolescents respond to the identity issues. The dimensions that Marcia used are degree of crisis and the style of commitment on identity issues, by which four categories have been introduced: identity achievement, moratorium, foreclosure and identity diffusion. This has been the first work to try to broaden the focus of Erikson's theory at a specific stage. Following this, Whitbourne and Weinstock (1979) extended Marcia's identity status model to later adulthood. They considered identity a critical condition in integrity issue. Thus they proposed a similar four status model for integrity, namely, achieving integrity/identity, moratorium integrity/identity, foreclosed integrity/identity, diffuse integrity/identity and despair. Whitbourne and Weinstock's concern with the importance of identity reflects Logan's idea on circular development described previously. Although Marcia's approach to operationalize Erikson's theory has been recently debated (Côté & Levine, 1988a, 1988b; A. S. Waterman, 1988), both Marcia's and Whitbourne and Weinstock's work show that Erikson's theory is an open one that allows complementary explorations and interpretations. This is evident in similar studies of intimacy status (e.g., Fitch & Adams, 1983; Orlofsky, 1976; Orlofsky, Marcia & Lesser, 1973). More such studies should be carried out for other stages as well.
From what has been discussed, it is evident that Erikson's theory is flexible in terms of its power of explanation: "Each reader and each study group must continue to develop in his or its own terms what I have gropingly begun in mine" (Erikson, 1959, p. 99). Many more conceptualizations are needed to validate, extend, and contribute to this theory, especially to provide the ground work for studies in cultures other than Western ones.

4.3.2 Methodological Studies

Since Erikson has developed only a conceptual model, efforts have been made by researchers to construct measuring tools to operationalize the conceptual model and to assess the extent of psychosocial maturity. Two types of method have mainly been used to measure Erikson's concepts. The first type is self-report questionnaires. A typical sample among others is Constantinople's (1969) Inventory of Psychosocial Development. Although questionnaire methodology has been used in various contexts and validated to a degree (e.g., Constantinople, 1969, 1970; Dignan, 1965; McClain, 1975; Ochse & Plug, 1986; Orlofsky, 1978; Rasmussen, 1964; Reimanis, 1974; Rosenthal, et al., 1981; Rosenthal, Moore & Taylor, 1983; Simmons, 1970; C. K. Waterman et al., 1970), the scales either have not covered the entire range of stages (new development has occurred, e.g., Domino & Affonso, 1990) or have some limitations in sample selection and contextual applicability. Also, this method cannot, by its nature, reveal the processes of psychosocial development (A. S. Waterman, 1982). The second type is the interview, which may be combined with some rating scales. This trend has been highlighted by Marcia (1966) and followed by Walaskay, Whitbourne and Nehrke (1983-84). However, these interviews have only been focused on some individual stages, such as identity, intimacy or integrity. Further, the adequacy of this "ego identity status paradigm", the operationalization of Erikson's concept of identity formation by Marcia's criteria, has been challenged (Côté & Levine, 1983, 1988).
In terms of the measurement of Erikson's concepts Ochse and Plug (1986) identify three problems to be considered, based on their review of various previous studies. The first is to do with operationalizing the constructs, that is, how to translate Erikson's specific eight dimensions or stages or crises into measurable items. Their solution is to use subjective experiences as indices of the measurement of Erikson's concepts. They indicated that "although it is true that Erikson's constructs are difficult to define in terms of specific overt behaviours, he does explicitly state which types of subjective feelings and attitudes are likely to be experienced by those who have successfully or unsuccessfully resolved the crises involved in the various developmental stages. As such feelings are best known to the individual concerned, they may be measured through subjective report" (Ochse & Plug, 1986, p. 1242).

The second problem is how to represent Erikson's notion of "favourable ratios" as the result of crisis resolution. What is the appropriate index of the degree to which a crisis has been resolved? Several different ways to treat the positive and negative poles of the crisis have been reviewed: the first is to view them as two continua with both high scores on the positive scales and low scores on the negative scales as the index of successful crisis resolution (e.g., Constantinople, 1970; Wessman & Ricks, 1966); the second is to view this issue from a single positive/negative continuum inferred from the differences between the successful and unsuccessful scores for a stage (e.g., Orlofsky, 1978); the third is to view this "favourable ratio" as it is by computing a mathematical ratio from the scores derived from both positive and negative poles, thus the degree of successful resolution of each crisis is represented by a ratio of the negative pole to the positive pole scores (e.g., McClain, 1975); the fourth is to construct a single-continuum scale to measure the achievement of different stages (e.g., Rasmussen, 1964). Ochse and Plug further commented that when one focuses on the resultant or balance between the two opposites rather than on the independence of each, a single continuum which consists of the combination of the two dimensions should be conceptualized.
The third assessment problem they considered is social desirability. Various methods have been used to deal with this problem. McClain (1975) used the criterion of a two standard deviation variation from the mean of social desirability subscales to be unreliable responses. This may, Ochse and Plug argues, introduce some systematic bias into the distribution of overall scores on Eriksonian measures if there is a positive relationship between the items of the social desirability detection scales and those measures. Ochse and Plug, following Orlofsky (1978) and C. K. Waterman et al. (1970), controlled this problem by partialling out the social desirability effects in analyzing the interrelations among the constructs of interest. The methods have been reviewed so far all feature certain implicit researcher-orientated frameworks.

Although various techniques has been devised to overcome these intrinsic problems discussed by Ochse and Plug, studies using other methods may be useful. I am going to use a set of content analysis scales devised to measure Eriksonian concepts of development by Viney & Tych (1984, 1985). I will justify this decision in the next chapter.

4.3.3 Empirical Findings

4.3.3.1 Stages/Age

Stage-like development has been demonstrated in most of the relevant studies, corresponding to the appropriate age ranges. One important issue concerns whether Erikson's psychosocial development tasks are sequential or occur in parallel forms. Ochse and Plug (1986) have presented some evidence of parallel development of all the stages. They have shown that the most of the intercorrelations between all the components of their seven subscales covering the first 7 of Erikson's 8 stages were significantly correlated regardless of age groups. They consider that this is the evidence of the parallel and interdependent development of Erikson's personality components, which corresponds with how Erikson has indicated that all components develop throughout the
whole life span. Further, they assume that identity is the common factor contributing to this finding.

Erikson's concept of sequential stage development, in general, has been supported by studies, but the time of critical stages identified in the life course varies from study to study. As Ochse and Plug (1986) summarized: "identity, intimacy, and generativity do not invariably reach a critical stage of development and become formed in the sequence and at the times of life suggested by Erikson" (p. 1248).

McClain (1975) found significant age differences for the first six stages. Three age groups were studied. The age range was 12 to 18, with 12 to 13 as early adolescence, 14 to 16 as middle adolescence, and 17 to 18 as the late period of adolescence. A common pattern was found for all six subscales: early group scored relatively high, while the middle group scored rather lower, and the late group again scored higher. The most extreme case is in identity formation subscale. McClain explains that the higher scores of the early adolescents reflect a naive certainty about their identity; the lower scores of the middle adolescents suggest a disequilibrium when they face the difficult task of searching for their identity; and the higher scores again of the later adolescents show the signs of success, to a certain degree, in their identity formation. This pattern clearly shows that identity formation is a process in which adolescents experience some difficulties and uncertainties and then regain confidence and reestablish a balance. McClain further suggests that the occurrence of this high-low-high sequence for all six scales reflects Erikson's notion that: " achieving a sense of identity requires a clarification of the meanings of one's experience with the whole sequence of developmental problems simultaneously" (McClain, 1975, p. 533). While I agree with this interpretation, I suggest that this pattern can also be viewed in a more general way. Erikson has suggested that the qualities or the strengths being established or precontained (I mean the elements which have not reached their critical stages yet) will be reviewed in each of next stages. Thus, the high-low-high pattern which occurred in McClain's study, could be viewed from within this extended notion. Since the sample of McClain's study was adolescents from
12 to 18 years of age, which fits with Erikson's identity formation stage, along with this present crisis, every other passed and potential crises may also now in review, with the present stage as the priority. This is exactly what McClain's study reveals. McClain also offered some evidence to support the notion that psychosocial development is a continuous and interrelated process with distinguishable stages.

Ryff and Migdal (1984) also support the notion of stage and the changing nature of development. They used a self-report inventory to measure intimacy and generativity. One hundred female subjects (fifty 18-30 years old young adults and fifty 40-55 years old middle aged people) were asked to fill in the form from two different temporal foci. The results confirmed that intimacy and generativity were the prominent concerns of young and middle aged groups, respectively. Ryff (1984) from a phenomenological framework, in her investigation of the subjective experience of change and the timing of the changing as well as the characteristic of target of changing again confirms this point, and also demonstrates a shift of the critical stages from one age group to another in terms of self-perceived change. For instance, the young age group rated the highest on intimacy from the concurrent framework, while their highest on generativity was from the prospective perspective. This was also true for the older age group, that is the highest score on generativity came from a retrospective rather than a concurrent perspective.

Complementing these data, Viney (1987a) from a sociophenomenological perspective and with an experiences-based methodology, has produced a similar finding. In her sample of 813 research participants (aged from 6 to 86 years old) with two subsamples, white Australians and black Americans, the major predicted age differences and linear trends were found.

In addition to those studies across a range of stages, some other studies of a specific stage also support Erikson's model in general. For instance, basic trust appears to be of importance to a child's future development (Santrock, 1970); identity acquisition shifts from an unstable status to a more stable one featuring the passing of this crisis.
among college students (A. S. Waterman & Waterman, 1971); a greater degree of identity has been achieved by college sophomore women compared with freshmen (Dignan, 1965; Howard & Kubis, 1964); similarly, high school Grade 12 girls manifested a higher degree of identity achievement than their Grade 8 peers, though this was not the case for boys (Pomerantz, 1979). In an effort to test the age difference in identity status, Protinsky (1975) has not only found that older adolescents (aged 19-24 years) had a higher degree of identity than younger ones (aged 13-14 years) but also showed the same trend in stages 1 to 4. That is, this age difference represented by older and younger adolescents had manifested from trust vs. mistrust right through to identity vs. identity confusion in Protinsky's age-limited study. A reasonable prediction might be that this trend extends to the final stage, integrity vs. despair. The empirical evidence to support Erikson's epigenetic principle has also been offered by researchers in another way, that is the intercorrelations among the stages as measured by various scales, such as the Inventory of Psychosocial Development (Constantinople, 1969) and the Content Analysis Scales for Psychosocial Maturity (Viney & Tych, 1984, 1985).

However, some studies have failed to support the age/stage difference in developmental sequence. Gruen (1964) applied a 10-point rating scale to 108 subjects aged from 40 to 65. Although age differences were predicted, the results failed to support the hypothesis. Gruen suggests this may result from the narrow age range of the sample and that facing a problem is not equivalent to solving it successfully. He did, however, show that the correlations between each stage are positive, with higher correlation coefficients on adjacent stages, which to a certain degree verifies Erikson's hierarchical order of the psychosocial development sequence. Some more stage specific studies reveal the same tendency. For instance, La Voie (1976) did not find a significant increase of identity achievement accompanied by increasing grade level in high school students.

The results of all those studies of stage-age relationships have depicted an undetermined pictures. Although the number of studies have been ample, the conclusions are still limited.
4.3.3.2 Gender

In spite of his descriptions of the differences in psychological functioning between the genders, Erikson has not provides specific accounts of gender differences for a particular stage in his psychosocial developmental model (A. S. Waterman, 1982). For Erikson, the tasks for both men and women in their life cycle do not differ, although the contents and specific age range for a specific task may vary depending on cultural and historical factors (Hall, 1983). Most studies, however, have indicated that women usually score higher than men for intimacy.

From their study of the relationships between identity and intimacy and generativity, Ochse and Plug (1986) suggest that the pattern of the development of intimacy and generativity for men may be in a parallel form. McClain's (1975) study reveals that males scored higher than females at two of the six stages being studied: autonomy and industry. These two dimensions, according to McClain, are most commonly associated with the masculine sense of identity and thus the results were consistent with the traditional sex role expectations in Western societies.

Gruen (1964) has confirmed gender differences for intimacy for the three age groups under study (40-45, 50-55 and 60-65). Women scored higher than men on the 10-point rating scale, especially in the latter two groups (50 to 65). Gruen accounts for this difference in terms of continuity of life and social role factors. For men the preoccupation with work is crucial. When they reach later adulthood and face retirement, they have increasing feelings of inadequacy and greater preoccupation with self, making men less able to be intimately involved with others; while women, may maintain close ties with their children and grandchildren and have less discontinuity in personal relationship. These phenomena, when measured, show the gender difference in the intimacy scores. This difference has been confirmed by Lobel and Winch (1988). They investigated the relationship between college students' self concept (measured by The Tennessee Self-Concept Scale, Fitts, 1965) and identity and intimacy (measured by the IPD,
Constantinople, 1969). As they predicted, there were no gender differences in identity; but the pattern of correlations between self-concept and intimacy was different for the two genders. For men, as in identity, the resolution of the crisis of intimacy versus isolation significantly related to all eight aspects of self-concept; for women, however, this significance only related to the behavioural aspect of self-concept and to interpersonal aspects (family, social, and personal aspects), but not to the intrapersonal aspects (physical and moral aspects of self-concept) nor to the identity or self-satisfaction aspects of self-concept. Lobel and Winch suggest that the different developmental paths may exist for males and females in their approaching the intimacy stage. In addition to the similar findings that females score higher than males do on intimacy, Rosenthal et al. (1981) have also found that males scored significantly higher than females on autonomy, initiative, and identity subscales using their Erikson's Psychosocial Maturity Inventory (EPSI).

However, McClain (1975) did not find a significant gender difference on the intimacy scale. Given the age range of the study (12 to 18), this may offer some evidence that the intimacy is a crisis to be solved in later life rather than in the adolescent stage. Yet, interestingly, in a university sample with a slightly older age (mean age 19.1), Roscoe, Kennedy and Pope (1987) found that the concept of intimacy as reflected by adolescents themselves is similar for both genders; although there were some different perceptions for females and males on certain elements of the concept of intimacy (such as physical/sexual interaction; openness), no statistical significances were found.

Ryff (1984) found no gender differences either for the two stages of integrity and generativity across all three age groups (20-35, 40-55 and 60+), which was contrary to expectation. However, Viney (1987a) found that for a sample of white Australians the females scored higher than males at the first four stages on positive constructs, while for a sample of black Americans the females scored higher than males at the last three stages on both positive and negative constructs (identity in Viney's model is Stage 7 rather than Stage 6) but lower on intimacy. Societal and family contextual factors had been cited to explain such a difference. When Australian girls and women face life transitions, the
societally determined sex-role permits them to reveal their return to earlier positive constructs; and for American black girls the modelling in their family context of matriarchy may contribute to the findings.

Stark and Traxler (1974) in their study of the identity status of college students found that females showed less ego diffusion than males within each of their young (17-20) and older (21-24) age groups, which is consistent with many other findings (e.g., Bennett and Cohen, 1959; Constantinople, 1969).

However, there also exist studies indicating no gender differences within Erikson's model at stages other than intimacy (e.g., Simmons, 1970). In their comparisons between the learning disabled and non-learning disabled adolescents matched for age, Pickar and Tori (1986) found significant difference between the two groups in Erikson's fourth stage of development using the EPSI (Rosenthal et al., 1981); however, they did not find any gender differences for either group, nor any group and gender interaction for all the six stages converted by the EPSI. Protinsky (1975) in comparison with older and younger adolescents' identity status found no gender difference in the first five stages, which led him to conclude that gender is not a significant variable in determining ego identity. Tesch and Whitbourne (1982) concluded that Erikson's theory is equally applicable to both men and women regarding the identity and intimacy tasks, because they did not find significant gender differences in identity or intimacy status for their young adults sample.

The findings with regard to gender differences are not conclusive, at best the results are equivocal. However, the research done so far has shown more evidence of similarities across gender than that of differences (Kroger, 1988; A. S. Waterman, 1982). This is consistent with Erikson's notion that the developmental processes are similar for males and females although the content of those processes could be different.
4.3.3.3 Competence and Helplessness

A sense of competence is the strength that results from a successful resolution of the fourth crisis, that is industry vs. inferiority, according to Erikson's model. Although not directly studying the relationship between ego identity and competence, Wilkerson, Protinsky, Maxwell, and Lentner (1982) have shown negative correlations between Erikson's first five stages and involuntary alienation in their adolescents sample. Involuntary alienation consisted of two components: personal incapacity and guidelessness. Personal incapacity was "the feeling of not having the skills necessary for success" while guidelessness was "the rejection of societal means for achieving success" (p. 135). When in involuntary alienation one feels no control over one's life and destiny; success or failure is independent of his or her own effort. Therefore, without sound psychosocial development, one will lack a sense of competence and self-control and feel helpless.

To view this issue from another angle, Pickar and Tori (1986) compared learning disabled high school students with nonlearning disabled ones on three variables: Erikson's psychosocial development, self-concept, and delinquent behaviour. They found that learning disabled adolescents had significantly lower scores on industry subscales than non-learning disabled adolescents, thus providing empirical support for the notion that learning disabled adolescents who fail in school lack a global sense of competence. Although they did not find differences between the two groups on other four stages (Stages 1, 2, 3 and 5), it is reasonable to assume that a healthy psychosocial development is very important for the students to develop a sense of competence and thus a high school achievement.

4.3.3.4 Sociality

Many studies have shown the importance of the social interaction (Hayes, 1982). Sound psychosocial development must be based on support and nurture from sound interpersonal relationships. For children and adolescents, the main circle of the
interpersonal relationship is the peer relationship. As Hogan says: "the primary developmental task for a child in the middle years is to become a social being, a process brought about almost exclusively through peer interaction" (Hogan, 1976, p. 58).

Erikson emphasizes that: "For a human being, in addition to having a body, is somebody, which means an indivisible personality and a defined member of a group" (1968, p. 285). Therefore, a successful resolution of the crises at each stage will be accompanied by a capable sociality to function adequately in an individual's interactions with his or her external world. In fact, interpersonal interaction consists of part of the psychosocial maturity (Greenberger, Josselson, Knerr, & Knerr, 1985).

4.3.3.5 Culture

One of Erikson's concepts of development is that the social-cultural factor is of importance to the development. There are relatively few studies of the impact of cultural factors on psychosocial development, especially cross-cultural studies. McClain (1975) conducted the first cross-cultural study to explore varying levels of success in Eriksonian development stages of adolescents in six cultures in Western Europe and the United States. Differences among different cultures on all six scales corresponding to the first six of Erikson's eight stages emerged. McClain has observed that greater economic security may enable people to master their critical developmental experiences with more success and hence to develop a greater sense of personal adequacy. In addition to other factors and their interaction effects, the most obvious difference between the three high scoring cross-cultural communities (Brussels, Munich, and white Knoxville) and three low-scoring cross-cultural communities (black Knoxville, Charleville-Mézières, and Málaga) is economic. More economic security not only offers promise of appropriate employment and thus a comfortable standard of living but also facilitates one's identity formation, which is the core of the psychosocial development. Further, totalitarian political systems may impose a negative influence on psychosocial development since individuals in their lack the freedom to be unique or to fill whatever roles they want may suffer role diffusion which hinders the establishment of their identities. McClain has noted this in his account.
of low developmental level of subjects from Málaga, Spain. McClain realized the complexity of the issue and tentatively indicates some factors which may contribute the differences. These factors include, in addition to those of economical and political, societal and environmental, family life, religion, history, and geographical factors.

Rosenthal, Moore, and Taylor (1983), basing their work on Erikson's psychosocial developmental model and a model of adjustment for psychological maturity (Offer, 1969), conducted a study to explore the relationship between ethnicity and adjustment. They compared three ethnic groups: Anglo-, Greek-, and Italian-Australian working class high school adolescents. As they predicted there exist ethnic differences in terms of psychological adjustment measured by their EPSI and the Offer Self-Image Questionnaire (Offer, 1969). They found that Anglo-Australians and Greek-Australians had similar levels of development, while both of these groups showed higher levels than Italian-Australians. These differences were discussed in terms of the influences of cultural, family tradition, child rearing practice, and group support. Although only one subscale (trust) out of six was able to differentiate the ethnic groups in their study, the importance of the subject matter and the evidence of the validity of the measurement call for further studies of this kind.

In addition to the direct cross-cultural comparison studies, some other studies have been conducted using Erikson's framework in other cultures other than in America, such as Australia (Rosenthal et al., 1981; Viney & Tych, 1985), Belgium (Verhofstadt-Denève, 1985), Canada (Côté & Levine, 1983, 1988c), Israel (Lobel & Winch, 1988), and New Zealand (Kroger, 1988; Kroger & Haslett, 1988). These studies in general have confirmed the patterns of development that Erikson depicted.

4.3.3.6 Family

Gruen's (1964) study predicted that there would be a significant developmental differences among different social classes. The results however showed that the only significant difference was found for the intimacy dimension with lower-middle class and
working class having higher scores than upper-middle class, and lower class lowest among the four categories of social class. It seemed to Gruen that the social mobility and achievement as well as stability of life pattern were the major contributors to the differences in intimacy. Neither high social mobility nor stress on achievement of upper-middle class, nor the unstable and shifting life patterns of the lower social classes are optimum conditions for the development of closeness and intimacy.

4.3.4 Criticisms of the Studies

Any theory must be open to criticism, and so is that of Erikson. As a theory, it is expected to contain certain features such as internal coherence, power of explanation and capacity to generate hypotheses. Yet even these criteria for evaluating a theory are not universally held by psychologists. As I have shown, each psychologist holds his or her own world view that guides his or her choice of a specific theory and/or model, thus in this case, his or her evaluation of Erikson's theory as well. Now, it is appropriate to look at some of these criticisms of Erikson's theory.

First, Erikson's theory has been seen as "very imprecise about the causes of psychosocial development", because Erikson has not explicitly answered such important questions as "What kinds of experiences must people have to cope with and resolve various psychosocial conflicts?" or "How exactly do the outcomes of one psychosocial stage influence personality at a later stage?" Therefore Erikson's theory is "really a descriptive overview of human social and emotional development" without adequate explanation of "how or why this development takes place" (Shaffer, 1989, p. 50). This imprecision is worsened by the vagueness of concepts inherent in the theory, such as the core concept of identity (Weinstein, 1980), which makes operationalization difficult. This difficulty then becomes an obstacle to empirical studies. The lack of sufficient empirical studies is so formidable that Erikson's psychosocial epigenetic development theory has even been excluded from the reviewing of examples of developmental models and at best the model has been treated as "after-the-fact" framework to discuss the existing data.
All these criticisms are justifiable; yet, from a contradiction point of view, it is because of this "vagueness", of this "lacking empirical study", that that makes Erikson's theory an enlightening framework for exploring developmental issues, a rich source for deriving hypotheses, and an intellectual stimulant for furthering developmental theories as well as methodology. Erikson's theory of epigenetic development fits very well into Mao's dialectical metamodel that I have adopted for my research. Further, a theory does not function as a methodology, although the application of a particular methodology occurs under the guidance of theory. Thus the lack of empirical studies cannot be totally attributed to the theory itself, rather, it is partly because of methodological problems independent of the theory.

Second, Erikson has been charged with not dealing with the development of women adequately. One of Erikson's concepts, women's inner space, has been particularly under the attack. Thus Morgan and Farber (1982, p. 202) wrote: "Eriksonian thought renews emphasis on the determinative nature of anatomical differences on the identity development of women." Because of this "almost exclusively biological basis" Erikson consequently deprived woman of "a significant crisis period" thus "the possibility of meaningful choice and struggle into the female identity development process" (p. 208). This criticism is hardly appropriate. Erikson has never claimed a biological or anatomical base alone to be the only source of determination of whatsoever the developmental quality be. Rather, Erikson always emphasizes the inseparableness of what he called Soma, Psyche, and Polis as he says that "only a total configurational approach -- somatic, historical, individual -- can help us to see the differences of functioning and experiencing in context, rather than in isolated and senseless comparison" (1968, p. 284). "Each of the three aspects of human fate must always be studied in its relation to the two others, for each codetermines the other" (1974b, p. 323). Therefore, "anatomy, history, and personality are our combined destiny" (1968, p. 285). He leaves "ample leeway for free variation in essential sameness" (1968, p. 282) but the integration of those three aspects is "certainly never without conflict and tension" (1968, p. 291). All this is not to say that
Erikson's concept of inner space, on which his accounts for female development is based, has no room for reevaluation. What I am saying is that more empirical studies like Caplan's (1979) should address this issue.

Other criticisms assert that Erikson's theory failed to give much attention to female experience (e.g., Gilligan, 1977, 1979). However, some empirical work suggests that this kind of criticism appears premature, given the studies carried out with females as well as males (Ryff, 1984; Ryff & Migdal, 1984; Ryff & Heincke, 1983; Tesch & Whitbourne, 1982). Ryff and Migdal's (1984) study showed that Eriksonian model is appropriate when applied to females, and thus offers some evidence to counterbalance Gilligan's criticism. Franz and White (1985) have suggested that the problem of gender differences and Erikson's theory is mainly attributable to its theoretical weakness of neglecting the importance of interpersonal attachment in the development of healthy personality for both sexes. They have pointed out that there exists a contradiction in Erikson's struggle for a more positive developmental sequence for women, on the one hand, and his reluctance to neglect Freud's assumptions regarding gender differences in his triple-book-keeping framework on the other hand. This contradiction makes Erikson unable to offer clear cut explanations of gender differences in the developmental course. Looft (1973) comments on the inadequacy of the theory from the angle of societal change, which weakens Erikson's interpretations of the relation between identity and gender. Yet, one should note that Erikson is fairly clear in principle about gender differences and the source of them. He says: "the task itself doesn't differ; the main stages, strengths, and risks do not differ for men and for women. Rather, they help gender differences to complement one another.... It all depends on what the culture makes of it. But essentially, whatever strength has to develop in a certain stage must appear in both boys and girls" (Hall, 1983, p. 27-28). In any rate, these comments are not without value. Yet, more theoretical formulations as well as empirical studies are needed before final conclusions can be drawn.
It seems to me a more relevant criticism is from Buss (1979). Buss has indicated that Erikson's developmental theory contains a conformist tone. This makes the dialectic elements in Erikson's theory less functional. Commenting on the eighth stage of Erikson's model, for which he stressed the positive acceptance of one's own life cycle as it had to be as the key to a sense of integrity, Buss said: "Unqualified acceptance of one's total life history, and by implication of the external forces that have helped shape that life, is too heavy a price to pay for the comfort of integration" (Buss, 1979a p. 329). Thus, in applying Eriksonian model to developmental study, this potential conformist weakness should be aware of.

Although there are comments on Erikson's contributions to other areas such as the expansion of psychoanalysis, for the purpose of the present study, I shall limit my attention to life cycle development. From the work I have reviewed, it can be seen that most of the empirical studies were focused on college students, on one or a few stages, and in western cultures; while most of the theoretical studies were not from the dialectical perspective. The reasons for this are partly attributable to the lack of appropriate research tools for the former, and to the researchers' world views for the latter. Therefore, more empirical and more cross-cultural studies of this theory of development are needed. More varieties of methodology are becoming available for these kinds of studies (e.g., Viney, 1987a).

The importance of cross-cultural studies is well recognized by most psychologists. From the concept of universality of contradictions this issue immediately comes high on the list of priorities as well, since one function of cross-cultural studies is "to examine the generality of theories of development that have been based on Western children" (Rogoff & Morelli, 1989, p. 344). Moreover, since Erikson's integrative approach closely links individual development to social cultural milieu, it opens a door for the application of his model into the study of individual and cultural differences (Kiefer, 1988).
The methodology of such research is also very important, especially in cross-cultural studies. Given the present status of psychology in general and developmental psychology in particular in the People's Republic of China (to be reviewed briefly in the next section), I shall adopt the methodology of content analysis scales as a new strategy with which to tackle this issue of psychosocial development among Chinese children and adolescents.

4.3.5 Erikson's Theory: View About Acceptance in China

Erikson's theory is not entirely alien to Chinese psychologists; yet, the study of Erikson, in particular, the application of his theories in China is as yet rare. In fact, no empirical studies, as far as I can establish, have been attempted based on Erikson's epigenetic development model in the People's Republic of China. Most of the studies have been mainly of an introductory nature (e.g., Jiang, 1987; Lai, 1985; Su, 1985; Sun, 1982, 1984). Jiang (1987) has summarized some views of Chinese psychologists on Erikson's theory. In general, Erikson's theory has been accepted for these three aspects: its role of conflict or contradiction in development, its dialectic and integration or wholeness perspective on development, and its methodology for studying personality through the combination of clinical study and social investigation.

On the other hand, Chinese criticisms of Erikson's theory focus on these four aspects: the neglect of consciousness and higher intellectual functions; overemphasis on ego identity at the expense of overlook the ultimate source of identity confusion, the economic base of the capitalist system; a superficial and incomplete view of the attribution of adult social and authority confusions to the uncompleted childhood psychological tasks, and a class bias of considering as identity confusion adolescents' doubt and lack of satisfaction with the capitalist system; and the uncertainty of the demarcation of stages and tasks, which needs further empirical tests. These comments are appropriate to a certain degree. However, I think it is important to carry out more empirical studies. "The truth of any knowledge or theory is determined not by subjective feelings, but by objective results
in social practice. Only social practice can be the criterion of truth" (Mao, 1968, p. 4). Therefore, it is necessary for developmental psychologists to carry out not only theoretical analyses but also empirical studies of Eriksonian theory in China, both for the corroboration of its universality, thus to contribute developmental psychology in general, and for the testing of the applicability and particularity of Erikson's concepts in China, thus to contribute to the evaluation of this particular developmental theory. The present research attempts to combine Mao's dialectical approach with Erikson's developmental model in the hope of delivering a newborn carrying both universal and particular genes who will bring to our evermore-diverse and complex world some better understanding of ourselves.

4.4 The Hypotheses for This Research

Given the material reviewed in previous passages, some hypotheses for this research seem due now. But before I provide them, let me first briefly offer some information about Chinese culture and tradition which I consider relevant to and important for the understanding of this work, since cultural differences must be considered when applying Erikson's theory to Chinese culture.

4.4.1 The Chinese Culture

The term culture may have different meanings for different people in different contexts. Essentially, it is no more than a context as I depicted in section 3.7.9 of chapter 3. Indeed, no rigid definition will be necessary, or even possible or fruitful (Segall, 1983), so long as I can convey some relevant background information about the Chinese people, their concepts of nature, of society, of people and of family. If a definition is needed, then I shall prefer a developmental concept of culture, as proposed by Valsiner who views culture "as an organizer of persons' relationships with one another, and with their environment" (Valsiner, 1989, p. 506). Thus, culture is no longer an static "concept" as an index, rather, it is a process involving two interdependent processes at the
social and personal levels, respectively. The social level process produces collective
culture, the personal level, personal culture. Their relationship features a unity of common
character and individual character (see section 2.2.4.3, chapter 2). Two important
implications are clear. The first is that cultures change along the time dimension and so do
their influences on their members. The second is that individuals who study cultures are
actively involved in, influenced by and contributed to, the process of culture with their
personal culture development. My discussion of Chinese culture and its influence on
Chinese people's development will be limited, 1) because culture changes, I will focus
my discussion on the present issues while the tradition will only be summarized very
briefly, and 2) because there is no pure interpretation excluding researcher's personal
culture and study activity, I will limit this review to the scope of my dialectical metamodel
and model of psychosocial development.

4.4.1.1 Traditional Chinese Concepts of Human Beings and Their
Development

Psychological development is embedded into a concrete cultural context, with the
influences of that culture's traditional value system and philosophical and/or ideological
Zeitgeist. More than five thousand years' history has provided every Chinese person's
mind with unique characteristics. In this section, I shall provide a profile of typical
Chinese people in terms of their concepts of human beings and development; by typical I
mean general, or common features or collective culture. This model of traditional Chinese
is derived from my readings of Chinese philosophical works, in particular, those of
Confucius, since Confucianism has been influencing Chinese people for the last two
thousand years. Taoism and Buddhism are also relevant: "Every Chinese wears a
Confucian cap, a Taoist robe, and Buddhist sandals" (Hummel, 1961, p. ix). I have
found these readings useful: Adelmann (1982), Blofeld (1980), Bolen (1979), Chan
(1963), Creel (1953), Fung (1937), Makra (1961), Needham (1956), Rawson (1973),
Wang (1946), and Ya (1988).
Chinese people are humanistically oriented with profound moral and ethical conceptions. The majority believe that human beings are basically good in nature; but without cultivation and learning, evil will replace the virtue. Everyone has the potential to be perfect; but the realization of this depends on an individual's self-cultivation. The ultimate goal of human development is Tao, or the Way as in Western translation. Although the interpretation of Tao has not been unanimous, a unity of Heaven and Man has been commonly desired. People are living interdependently within a system of interpersonal relationships, an entire social network, which is maintained by Li (a set of proprieties, moral principles or rules of good behaviour) and spirited by the virtues such as Jen (the benevolence and love), I (justice, righteousness) and Hsiao (filial piety). The nucleus of this social network is family, which extends its influences into every sphere of the culture including political, economic, and social life. Chinese people value the intimacy within the family and rely on it very much. Because of the secure and intimate relationships within families, Chinese people usually are self-contained and self-sufficient in emotional investment without much personal and warm feeling directed outside their families nor much anger directed outwards either. Development is a continuous process of cultivation. Life as an infant is full of love with no responsibilities. Life as a teenager is full of education and discipline with emphasis on impulse and emotion control. Life as an adolescent is full of expectations to practice moral codes and to acquire knowledge and a strong character to uphold virtue. Life as an adult is full of demands to consolidate the family with obligations and filial piety. Life as an older person is full of retrospectations and pride, if life has been a success, enjoying being the paramount object of filial piety. Chinese people of course view the world dialectically. They believe in Heaven with no God; they stress self-cultivation with their fatalism; they value the universal love with little interest outside their families; they are happy and easygoing with excessive tolerance of bitterness and unluckiness. They take the road of the Mean (the doctrine of mean) and cultivate the harmony between Heaven, earth, and the people in their ever-lasting pursuing of Tao.
This is not the whole or only picture of Chinese people. More details can be listed (e.g., La Barre, 1946). Yet, my focus is on the present day Chinese. Chan (1963, p. 3) wrote: "If one word could characterize the entire history of Chinese philosophy, that word would be humanism -- not the humanism that denies or slights a Supreme Power, but one that professes the unity of man and Heaven. In this sense, humanism has dominated Chinese thought from the dawn of its history." However, the realization of that unity cannot be fulfilled by relying only on this humanism, which put the family or kinship in the centre of all relationships. This harmonious kingdom, though never be in such a status before, was shocked, defeated, and awakened in the front of Westerners' forces and sciences. State power, political status and economic situations changed, so did tradition, and everything the Chinese culture encompassed. If "the hundred years that elapsed between the middle of the nineteenth and the middle of the twentieth century, China changed more profoundly than in the previous two thousand years" (Creel, 1953, p. 235), then, the last forty years under the government of the Chinese Communist Party (CPC), China changed even more dramatically than that hundred years in terms of every aspects of the society. In the next section, I shall review some psychological studies related to the Chinese culture and its people, providing further grounds for my hypotheses of this research.

4.4.1.2 Contemporary

If I can borrow Ebbinghaus' words, I would like to say that China has a long past but a short history. Here the history is referred to that of the People's Republic of China. Without passing through the stage of capitalism, China entered into socialism directly from feudalism under the leadership of the CPC headed by Mao Zedong. Thus, in addition to the long traditional and pervasive cultural influences on the Chinese people, the powerful and sharp impact of the CPC, especially of Mao's concepts cannot be ignored, when considering development of individuals in the People's Republic of China.
4.4.1.2.1 A New Culture

Mao and the Communist Party of China adhered to the principle of smashing the old world and building a brand-new China by revolution and class struggle. Mao said: "The Chinese people's culture and education should be new-democratic, that is to say, China should establish her own new national, scientific and mass culture and education (Mao, 1975, Vol. 3, p. 255). A new culture has been advocated in the People's Republic of China today, one with emphasis on believing in and struggling for a communist world and with a strong hostility towards traditional feudalism. However, dialectically, this does not mean this new culture has no connection at all with the long past of Chinese culture, since a cultural change is both continuous in its connection with the past and discontinuous in its quality or meanings implied by the new culture. Mao further pointed out:

New-democratic culture is scientific... A splendid ancient culture was created during the long period of China's feudal society. To clarify the process of development of this ancient culture, to throw away its feudal dross, and to absorb its democratic essence is a necessary condition for the development of our new national culture and for the increase of our national self-confidence; but we should never absorb anything and everything uncritically. We must separate all the rotten things of the ancient feudal ruling class from the fine ancient popular culture that is more or less democratic and revolutionary in character.... China's new culture has also developed out of her old culture, we must respect our own history and should not cut ourselves adrift from it However, this respect for history means only giving history a definite place among the sciences, respecting its dialectical development, but not eulogizing the ancient while disparaging the modern, or praising any noxious feudal element. (Mao, 1954, pp. 154-155)

What is the main feature of this new culture? What is the psychological significance of this feature for Chinese people? I will briefly answer these two questions from two aspects, namely, Mao's conception of human nature and the general characteristics of Chinese people's personality.
Mao's Conception of Human Nature

Human nature has been in a central position in traditional Chinese philosophical thinking. As Sims (1968, P. 127) summarizes the essence of Confucianism: "If there is one thing . . . to be learned from the life and thought of this immortal of philosophy, it is that man is indeed the measure of all things, and there is no limit to what a man can accomplish if he lives with virtue, honesty, and dedication." So similarly, Mao continued in this line: "Of all things in the world, people are the most precious. Under the leadership of the Communist Party, as long as there are people, every kind of miracle can be performed" (Mao, 1975, Vol. 4, p. 454), and "The people, and the people alone, are the motive force in the making of world history" (Vol. 3, p. 207). The continuity is remarkable. In fact, Mao's position and his concept of human nature in Chinese communism are as that of Confucius in Chinese history (Dien, 1982; Fu, 1974; D. H. Smith, 1973). Despite the continuity, the difference is also remarkable: "Is there such a thing as human nature? Of course there is. But there is only human nature in the concrete, no human nature in the abstract. In class society there is only human nature of a class character; there is no human nature above class" (Mao, 1975, Vol.3, p. 90). Recognizing this, Ho (1978) has pointed out the differences between Mao's conception on one hand, and that of traditional Confucianism as well as modern Western psychological trends on the other. Two fundamental assumptions in Mao's conception of human nature can be identified: social nature and class nature. Both assumptions are based on a central theme: "human potentiality for self-transformation" with the characteristic of "voluntary activist capability" (Ho, 1978, p. 394 & 392, respectively). Because of the primary importance of the people, Mao continuously emphasized self-cultivation in terms of "combat self-interest, criticize and repudiate revisionism" and saw individuals as both the source and the target of the revolution in order to purify people's devotions to the communist cause. Because of the social nature of people, Mao always tried to minimize the individual differences and rely on mass movement from small group "criticism and self-criticism" to Great Leap and to the dramatic Great Proletarian Cultural Revolution. Because of the class
nature of people, Mao set up the strategy of "continuous revolution under the dictatorship of the proletariats" and practiced this actively. Under this guidance, Chinese people have never been "at peace" in terms of social and psychological harmonies, which is essential with Mao's dialectical conception of contradiction.

Whether Mao's policy has been a success or a failure is not my concern here. How this Mao Tse-tung Thought has contributed to the change, for good or for bad, of Chinese people psychologically is relevant. Unfortunately, the studies of this aspect are scarce, although some general descriptive books and travellers' documentations are available (e.g., Bonavia, 1982; Kessen, 1975). In the next section, I will review some of the relevant studies to answers the second question I raised at the beginning of this section (4.4.1.2.1), that is, What is the psychological significance of the new culture for Chinese people. The assumption is that the contemporary Chinese culture, as a way of life and thinking with dialectical uniformity within a range of diversities (G. C. Chu, 1985; Valsiner, 1989; Wu & Tseng, 1985), cultivated by Communist Party and Mao is at least one of the causes that bring about the present psychological status of Chinese people.

4.4.1.2.2 The Social Order

"An individual thinks twice in making a decision -- once about the consequences to himself and once about the consequences to the family" (Mei, 1968, p. 340), this statement shows traditionally how important the family means to individuals. The family is still the basic unit of Chinese social systems and plays a vital role in human development. Although Confucian Wu Lun (Five cardinal human relationships) can no longer be heard, in everyday life, the Chinese people still keep this traditions. Individuals are still closely tied to their families, as Pedersen has recognized in the context of counselling in the Chinese culture: "to speak of an individual's health and welfare independently of the health and welfare of the family unit would not make sense" (Pedersen, 1988, p. 40). This continuity is not only manifested in mainland China (Xia,
1985) but also, perhaps even to a stronger degree, kept and practiced by overseas Chinese (Kong, 1985), a manifestation of the pervasiveness of the Chinese culture.

As it was in its ancient time: "the State is thought of as a larger family" (La Barre, 1946, p. 228), the social organization of the People's Republic of China basically is still an extension of the family, which consists of a hierarchy of different sizes of "families". That is, individuals are now, perhaps more than ever, belonging to their families: natural families, neighbourhood families, work unit families, ... and finally the big State family. These various families have powers to control individuals through means such as living conditions, wage increases, and job transfer; and provide a range of services such as primary health care, child care, social welfares and neighbourhood watch networks. Psychologically (or politically and ideologically), they also provide services equivalent to psychotherapy and counselling. In fact, this has become a unique Chinese model of informal social support (Brammer, 1985). These various organizations and community structures play important roles in mental health services as well (Xia, 1985; Yan, 1985). A sense of belonging and security under normal circumstance are thus quite stable and strong. This situation provides unique psychological gains in terms of social supports, which is an influential force for individual development.

In this social web, individual development is mainly determined by the relationships regulating different "families". The individual interests must submit to collectives and/or state interests whenever and wherever there is a conflict between the two; collectives must submit to the state, and the state always has first priority, although the state should also be responsive to the collectives and individuals. Thus, "the self does not develop in a process of gradual separation and individuation, as is often conceptualized in Western psychological theories," rather, it is a process of "a 'little me' maintaining his or her interdependence within the context of the 'big me' -- i.e., the family, the state, and the world, throughout the life span" (Dien, 1983, p. 284). Thus, this strong relationship, in addition to their supportive roles, has set up a psychological boundary for individual development in a sense that the individual is first, and always, a
member of certain families (Ho, 1975). This concept of selfhood development, as noted by Dien, has always been the theme of Chinese culture from Confucianism and Taoism to socialist ideology. In terms of Western standards, this effort "to develop a self-perspective with regard to a particular group rather than with regard to friendship groupings or other groupings which do not have a formal structure" characterizes Chinese society as a restrictive environment for development (Ekblad, 1985, p. 16-17), featuring: "high-density living and low residential mobility; pressure and persuasion within the support network to conform with moral norms; the discouragement of open displays of emotions; and an ideology of male-female equality" (p. 24).

4.4.1.2.3 The Role Models

The Chinese Communist Party is well aware of the value of role models in the cultivation of new generations. Heros and heroines have been set up at various levels for various professions so that everyone will have somebody to follow. Individuals are nowhere to shun away from exemplary models throughout their life spans. Every year in every possible social structures including schools will evaluate the advanced and set up models, which has been one of the most striking features of modeling (Munro, 1975). Therefore, from developmental point of view, individuals have their clear model roles to follow or identify with. This may, on the one hand, reduce the identity crisis, on the other, however, increase the conformity. Whoever the models are, they share one thing in common: they must conform to the Party's lines. While Confucius leaves moral cultivation to the individual's hands, Mao believes that morality must be enforced (Fu, 1974). This tradition of setting up the exemplars to educate the masses serves very much to have conformative young generations with the morality desired by the socialist cause. If the education is successful, this conformity serves as high moral standard or consciousness, since to conform is to self-cultivate; if the education is not successful, this conformity becomes a tragedy, since to conform to the standards of the authorities is to avoid potential dangers, whether consciously or unconsciously. This is more apparent in present day mainland China. With her open door policy, China has been trying to
consolidate socialist and communist ideology and resist the new western liberal and materialist concepts. This is not an easy task for the state, nor is it easy for individuals to reconcile these different ideological impacts. The open door policy has offered Chinese people more opportunities to individualize themselves, but at the same time put them under greater pressure (McClure, 1988), both from within, personal identity and value balance, and from without, state prevention and control. The effect of this contradiction must have significant effects on Chinese people, especially on the development of children and adolescents.

4.4.1.2.4 The Education System

Formal education and the school system in China are similar to those of Western countries in terms of many daily activities and administrations. If there is any difference, the emphasis on moral and ethical education must be one. School education has always been influenced by national ideology and various social movements, but school education is to cultivate younger generations to be the heirs of the communist cause is unchanging. As Cleverley (1984, p. 109) observes: "the ideologies and strategies applied in Chinese education over the last decade represent different routes to similar ends." Thus various moral education regulations and codes have been carried out in accordance to the general social mass education programs, such as the Five Loves (of country, people, labour, science and public property), Five Stresses (on decorum, manners, hygiene, discipline, and morals) and Four Points of Beauty (beautification of the mind, of language, of behaviour, and of environment) (Song, 1985; Xu, 1985). These codes or even slogans are variable in specific context, such as the Five Loves in the Cultural Revolution read as loves "of Mao Tse-tung, the Chinese Communist Party, the socialist motherland, productive labour, and the workers, peasants, and soldiers. As an afterthought several secondary 'loves' and other emotions were added: love of the collective of students, respect for discipline, acceptance of group criticism and dedication to self-criticism, and devotion to internationalism" (Kessen, 1975, p. 5). Under this system, the development of children and adolescents is expected to have fewer individual differences and more
conformity. Collectivism is more important than individualism. The latter is considered to be selfishness. This ideological and moral education has its continuity throughout the history of China, although its contents differ, so that its effects are pervasive. Ho (1986) has summarized several studies of achievement in 1960's and 1970's and some of them (e.g., McClelland, 1963) revealed that Chinese children's achievement motivation are higher than that the world average, which is consistent with Chinese parental and social emphasis on intellectual development. Chen and Uttal (1988) also found that Chinese children show higher mathematics achievement than American children because of the Chinese cultural values and education system. This high level of achievement of Chinese children has also been shown in Taiwan (e.g., Stigler, Lee, Lucker, & Stevenson, 1982; C. C. Lin & Fu, 1990). But Chinese achievement motivation features a collectivist orientation rather than individualistic interests, as Blumenthal indicated in a content analysis of children's stories:

Achievement appeared as the central behaviour in half the stories. The next most frequent behaviour was altruism, and the third was social and personal responsibility. Since achievement was almost always for the group, rather than personal goals, the three behaviours together indicate a strong emphasis on actions which further the interests of society as a whole. (1977, cited in Ho, 1986, p. 27)

Because of Chinese emphasis on achievement, Chinese children in school are encouraged to devote almost all their time to studies. It has been shown that Chinese students spend more time than their American counterparts on their homework, which is the major after-school activity for Chinese students (C. S. Chen & Stevenson, 1989). This on the one hand reveals traditional value of emphasizing education, but on the other hand, to a degree, limits the scopes and opportunities for their psychosocial development. Although many after-school groups are organized by schools according to students' interests, such as language, electronics, photography and music, exist and function well, the burden of homework has always been an unsolved debate. This becomes heavier when Chinese children enter the final year of both primary and high schools. Those who are in the final year of primary school will take the examination for entering a key high
school (selected high school) where better teaching resources and qualities are offered; and those who are in the final year of high school will take the nationwide entrance examination for universities where the competition is strong. If they failed in these tasks, the students, even the parents as well, feel ashamed. These factors cause some stressful pressures on Chinese children's mental health (Luo & Chen, 1986; McClure, 1988).

In summary, various philosophical and ideological doctrines could be found in Chinese history. Tao, the Way, however, could be used to represent all. Although Confucians, Buddhists, Taoists, and even Mao Tse-tung "all use the term Tao in their own ways to indicate their chief principle" yet they in fact "are talking, for all their differences, about fundamentally the same thing" (Rawson & Legeza, 1973, p. 8). This "same thing" it seems to me is how to complete one's self-transformation, a theme of human development. To build a world of Unity of All is all they pursued; to maximize human potentiality is all they declared; and to cultivate selves is all they started. With different contents attached to these framework and different contexts they function within, the outcomes are different indeed. Some relevant empirical studies in mainland China will be reviewed in the following section to provide a better understanding of the Chinese culture and its effect.

4.4.1.2.5 Some Psychological Studies

Studies with Chinese populations are plentiful, but most of them are studies carried out in cultures other than mainland China. This is especially so for those in the area of psychosocial development. I here will mainly review some studies directly related to mainland China to provide better understanding of my work, although some relevant studies outside mainland China are also included. Comprehensive reviews and sources can be referred to for the latter case, such as Bond (1986), Ho, Spinks, and Yeung (1989), Kleinman and Lin (1981), and Tseng and Hsu (1971).
Personality Studies

Whether Chinese people have unique personality characteristics or have similar patterns of personality to those of Westerners has been studied by Chinese psychologists recently. From my dialectical metamodel, the answer will be affirmative on both counts. This has been supported by studies from China. When Gong (1984) applied Eysenck and Eysenck's (1976) the Eysenck Personality Questionnaire (EPQ) to a Chinese sample, he has found that the Chinese people are generally cautious and disinclined to show emotions, as reflected by low scores on both the E and N scales; they also showed a high degree of conformity with social values and standards. However, Gong also found that the general trends of the four EPQ scales for both gender and age difference were parallel to the British and Greek findings. He concludes that a basic similarity of personality characteristics exists cross-culturally. The similar trends were also found in Hong Kong that children scored lower on E and N scales but higher on Social Desirability in comparison with British counterparts (Eysenck & Chan, 1982).

Since 1979, national-wide studies have been conducted to normalize the Minnesota Multiphasic Personality Inventory (MMPI) in mainland China. Song (1985) reported that the application of a Chinese version of MMPI to different regions and age groups showed high stability. Yet, two peaks on the Depression and Schizophrenia Scales apparently suggested negative tendencies. This conclusion, however, was not supported when careful analysis of answers given by American and Chinese subjects on those scale items was carried out. Other differences in terms of national character traits have been demonstrated, "Chinese are emotionally more reserved, introverted, fond of tranquillity, overly considerate, socially overcautious, [and] habituated to self-restraint" (Song, 1985, p. 53), with findings similar to Gong's (1984) study. Yang (1986) points out that "most, if not all, of the differences in emotionality scores of Chinese and Westerners can be convincingly accounted for by cultural differences in the specific and special meanings of some common behaviour patterns in the two contrasted traditions" (p. 139). This is true in that Chinese reserved emotionality is attributable to the culture rather
than to their lack of emotion. In fact, in their moral orientation, Chinese people have a stronger tendency to perform affective/altruistic acts toward others than their English counterparts (Ma, 1989). Harris, Guz, Lipian and Zhu (1985) have also illustrated that Chinese children and children in U.K. present a highly consistent pattern in the insight into time course of emotion. Further, Domino and Hannah (1987) have found seemingly opposite results that Chinese children in comparison with American children were more emotionally expressive in their story completions. As they have pointed out that further study is needed to explore this issue. It might be that Chinese people are emotionally reserved in daily life and direct interpersonal interactions, yet they are more freely expressing their affections in artistic works or contexts such as story completion, where no direct interpersonal interactions are confronted. In other words, there might exist different modes of emotionality. It is also possible that what has been popular in literature of Chinese characteristics might be stereotyped. Stipek, Weiner and Li (1989) studied the attribution-emotion relations in the People's Republic of China and found the results inconsistent with others, such as Hess, Chang, and McDevitt (1987) in the area of family beliefs and attributions in achievement. They indicate that "there is little support for stereotypic characterizations of the Chinese as being particularly other oriented, or support for the descriptions of Americans as being relatively more competitive and self-focused" (Stipek, Weiner, & Li, 1989, p. 114). They suggest an emerging generational differences in China as a result of cultural shifts in which young, educated Chinese are much like their American counterparts whereas those older Chinese and the school-age children whom are under their supervision still maintain a more traditional perceptions and beliefs.

In general, the introversion and socially overcautious of Chinese people by Western standard are well recognized. Pedersen, (1988, p.113) has illustrated this vividly by two sayings: "Americans have a saying: 'If you don't know what to do at least do something.' The Chinese, however, have a contrary saying: 'If you don't know what to do at least don't do anything.'" This cultural determined characteristics has also been found in other Chinese cultures outside of mainland China. L. Chu (1979) in her study of
conformity in Taiwan has found that Chinese children are more conforming and socially dependent than their American counterparts. They are more situation orientated and more responsive to environmental influences rather than self contained. Self-effacement is also typical in Chinese people as a means of pursuing social and interpersonal harmony (Bond, Leung, & Wan, 1982). Stigler, Smith, and Mao (1985) applied Harter’s (1982) the Perceived Competence Scale for Children in Taiwan. They have found, compared to the American children, that Chinese children have the tendency to downrate their self-competence and self-worth, in particular, on the cognitive, physical, and general subscales, although the general pattern of self-perception is similar in terms of the categories of competence. Chinese children also showed higher ratings on some social orientated items. Yet, S. M. Turner and Mo (1984) have shown that Taiwanese Chinese adolescents’ self-concept scores (psychological self, social self, sexual attitudes, and coping self), as measured by the Offer Self-Image questionnaire, are lower than their American peers in most of the areas. Even within the social self, Chinese adolescents only scored slightly higher on Morals aspect but showed poorer self-image on the other two areas: Social Relationships, and Vocational and Educational Goals, which is inconsistent with the finding of Stigler et al. (1985) about social competence. Since Chinese culture is collectivistic orientated and emphasizes interdependence rather than independence, the development of self would be toward the interdependent construal (Markus & Kitayama, 1991). This seems to be supported by S. M. Turner and Mo (1984) who found that in one area of the coping self, Mastery of the external world, Chinese adolescents were poorer than American adolescents. Forgas and Bond (1985) also found that Hong Kong Chinese adolescents in the perception of social episodes emphasized collectivistic characteristics such as communal feelings, social usefulness, and conformity, while Australian adolescents emphasized individualistic characteristics such as competitiveness, self-confidence, and freedom. However, C. Lin and Fu (1990) have found that Chinese parents emphasize the independence of their children more than Caucasian-American parents did. They explained this by distinguishing the family interdependence from individual independence and suggest that Chinese parents emphasize both family
interdependence and individual independence so that their children can cope with social life more adequately. On the other hand, this could also be viewed as a result or indication of parental attitude change along with the general cultural and societal change. Chiu (1987) in his study of child-rearing attitudes of Chinese (Taiwanese), Chinese-American, and Anglo-American mothers revealed another surprising finding: Chinese mothers are more democratic than the Anglo-American mothers in terms of encouraging children's verbalization, equalitarianism between parents and children, and comradeship and sharing with children. This indicated that the tradition, value, or attitudes (e.g., parents are the absolute authority) have been changed to a certain degree, which in turn will be reflected in Chinese children's psychosocial development.

These findings are not all consistent. Nevertheless, in general, they have all indicated that both universality and particularity exist, as compared to Western studies. K. Yang and Bond (1990) pointed out that both the indigenous personality constructs and imported ones have certain overlaps yet no one-to-one correspondence. Thus, the context in which one conducts research is of importance in interpretation of results.

Studies of Only Children

Anyone who studies contemporary Chinese children considers the effect of the current Chinese one-child policy on their development. Literatures are controversial in both the West and China. A general belief is that only children are superior in cognitive development but exhibit some problems in psychosocial development compared with children with siblings (e.g., Gao, 1980, cited in Ho et al., 1989; Jiao, Ji, & Jing, 1986; Zhang, 1988). A recent study from China, however, shows that the negative stereotype of the only child in personality and psychosocial development is not justified. Falbo, et al. (1989) conducted a study to clarify empirically the issue related to the only children in Beijing and Jilin areas of China. Their data revealed no effect of the status of siblings on Chinese children's personality, which was measured by teacher's and mother's rating of virtue and competence, although there were some differences between the only children
and children with siblings on academic achievement. They concluded that "only children are developing normal personalities and that they possess no less virtue, according to Chinese standards, than those with sibs" (p. 491). Their conclusion confined to their own data can be justified; but the generalizability of their general conclusion is beyond the scope of their research. Personality is multifaceted; virtue is even more diverse. For instance, Tao and Chiu (1985) have reported some findings of negative characteristics of only children such as obstinacy, timidity, and temper outbursts, although their conclusion almost has ignored this finding. It painted a more positive picture and advocated one child as a general trend even in Western countries.

Lin (1980, cited in Zhang, 1988a) has made an interesting observation that only children know how-to or ought-to, but they do not know do-to. There is a contradiction for them between the correct judgment and their actual behaviour. When it comes to interactions with other factors, the issue is more complicated. For instance, it has been reported that suburban non-only boys are more sociable than only boys, although this did not apply to girls (Chen, 1985, cited in Ho et al., 1989), while urban only children scored higher than non-only children in independent thinking among the younger group but these scores reversed among the older groups (Jiao et al., 1986). The issue of only children is not one with a simple answer, since the empirical studies reported both in English and Chinese sources are at best controversial, with possible interactions between the sib-status and urban-rural factors and between sib-status and gender factors, as well as among all three (Ho, 1989). However, the important lesson is that "that only children have more difficulties in maturity and social behaviour is a real possibility with grave implications that cannot be ignored" (Ho, 1989, p. 139) in this one of the most significant social experiments ever attempted in China (Jing, Wan, & Over, 1987).

Gender Difference

Traditionally, Chinese women were suppressed in many ways. Since 1949, this has changed. That women are "half of the sky" who can do whatever man can do has
become a profound belief among the people, although in practice this principle might not always be carried out in its full sense. Thus, in general there seems to be a belief that, because of the egalitarian attitude towards both sexes, the gender differences would appear diminished. Cross-culturally, Chinese women in the MMPI studies displayed a higher degree of masculinity than women both in Western countries and Japan or Hong Kong (Song, 1985). This is no doubt because of the efforts of official policy of contemporary Chinese government to maintain equality of women and men. Domino and Hannah's (1987) findings also support this view. By content analysing stories completed by Chinese and American 11 to 13 years old children, they found that four factors were common to both cultures (social orientation, presence of affect, moral-ethical rectitude and concern with authority), one was unique to Chinese children (natural forces) and two to American children (economic orientation and physical aggression). Although American boys and girls were different on factors of aggression and moral-ethical rectitude, there was no gender difference on these factors among Chinese children. However, no cross-cultural gender differences were found either. Studies also exist indicating no significant gender differences among Chinese children in adaptive behaviour and Chinese parents tend to treat both boys and girls in the same way (Ho, 1989).

On the other hand, Falbo et al.'s (1989) study showed that Chinese schoolgirls scored higher on the competence and virtue factors than schoolboys in terms of teachers' rating. Similarly, Ekblad (1985) observed in Chinese children that girls were better than boys in academic achievement. Ekblad also found gender differences in aggression and in TV-watching, with boys scoring higher than girls on those scales. In their survey of the psychological health of school children, Luo and Chen (1986) established that among the primary and high school children the ratios of boys to girls in the occurrence of psychological dysfunctions were in favour of girls, which is supported by Shen, Wang and Yang's (1985) study on minimal brain dysfunction that boys were affected significantly more frequently than girls (a common finding in Western cultures).
Therefore, the issue of gender differences among the Chinese is less than definite. As Ho (1989) concludes that it is premature to have a clear-cut picture of gender differences in mainland Chinese children. This is applicable to Chinese children outside of mainland as well. L. Chu (1979) has shown that Taiwan schoolgirls have a higher level of conformity than schoolboys and indicated that this difference is because of the different gender roles expected and socialized by culture and society. Chiu (1971, 1978) found in Taiwan that fourth and fifth grade schoolgirls scored significantly higher than boys on the Manifest Anxiety Scale, thus are more anxious. Stigler et al. (1985) have found that Chinese boys' rating on general self-competence is significantly higher than girls', although the difference is marginal. Z. F. Yang (1989) has found after reviewing many studies on self-concept in Hong Kong and Taiwan that during the earlier years in primary schools girls tend to score higher than boys on self-concept measurement, however, they tend to decrease in their scores later in comparison with boys. On the other hand, nevertheless, S. M. Turner and Mo (1984, p.136) found "a remarkable similarity between Chinese males and females" rather than any significant gender differences in their study of Taiwanese Chinese adolescents' self-concept. Chinese school girls in Hong Kong showed a higher achievement motivation than boys (Li, 1974), which is consistent with Ekblad's (1985) observation in mainland China. In Singapore, while they expected the gender differences in child-rearing practices of Chinese parents, Kong, Wong, Goh, Lam, Chua and Kok (1988) did not find obvious sex difference in this socialization process.

Age or Grade

In primary schools, surprisingly, children's achievement and competence were found to be negatively associated with grade. Falbo et al.'s (1989) explain this in terms of increasing standards of academic achievement from the first grade onwards. For psychological development or mental health, it has been reported that as high as 17% of primary and high school children suffered different kinds of psychological problems, in particular, the third grade (age of nine) in primary school is the most notable period.
There appeared to be a peak at this stage (22.2% of the survey sample) for some psychological problems to become apparent, such as Minimal Brain Dysfunction, nerve and behaviour dysfunction, and unhealthy habits (Luo & Chen, 1986). This pattern has also been found by Shen et al. (1985) and Xu (1985). It seems that the age of nine is also a stage of major change in judgment in the development of collective ideas (Li, Gen, Ye, Lu, & Shao, 1985). Of course, it may be pattern of detection rather than incidence. Hwang (1979, cited in Ho et al., 1989) in a study of locus of control of Taiwan school pupils found that internality increased with age and internality was positively related with self-acceptance and emotional maturity. Thus, a reasonable inference would be that the psychological maturity would increase with the age as well. Using the Tennessee Self-Concept Scale Lu (1979, 1980, 1981, cited in Z. F. Yang, 1989) conducted a three-year longitudinal study of the self-concept development in Taiwanese school children. He found that in terms of the three structural aspects of the self-concept (identity, satisfaction, and behavior) the children during the school year 2, 3, and 4 showed a gradual increasing trend on all three aspects; then, the scores tended to decrease, in particular, at year 5. Z. F. Yang (1989) reviewed other studies on self-concept development conducted in Taiwan and Hong Kong, and indicates a puzzling issue that self-concept does not increase with age. The preliminary interpretation Yang offered is that the most measurement tools used were self evaluation type but children in different ages adopted different criteria of evaluation and tended to be more self-effacing with the age increase.

**Socioeconomic Status**

Socioeconomic conditions profoundly influence individual's development. Cognitive impairment rate has been found to have a significant inverse relationship with socioeconomic status, in terms of education and income, in Shanghai's elderly population (Yu, Liu, Levy, Zhang, Katzman, Lung, Wong, Wang, & Qu, 1989). According to fathers' occupation (professional, industrial, and peasant, reflecting in descending order the degree of education and occupational prestige in China), Falbo et al. (1989) found children from high status families scored higher on academic achievement and competence...
as rated by teachers. Further, parents' educational level positively relates to children's healthy psychological development (Luo & Chen, 1986; Shen et al., 1985). These might be unique to mainland Chinese children, since studies in other places show different results. For instance, Stigler et al. (1982) found in Taiwan that parents' educational level had no relationship with social competence of children's self-esteem, although social competence is related to school achievement. Ho (1979) study in Hong Kong also showed no relationships between parents' education, either one parent only or jointly, and children's verbal intelligence and academic performance. However, socioeconomic status has significant correlation with assertiveness, among other factors, in junior high students in Taiwan (Tsai, 1985, cited in Ho et al., 1989).

Some Other Studies

China is a collectivistic society. Do the children and adolescent in the People's Republic of China develop their outlook of life accordingly? A study by the Research Group in the Study on Ideals, Motives, and Interests of Adolescents (1982, cited in Ho et al., 1989) confirmed this. It suggested that most Chinese adolescents have developed strong ideals which formulate the basis of their outlook of life. If the outlook of life could be considered as a component of the identity, then, it seemed that Chinese adolescents would have a positive start off in the task of identity formation.

While studies of normative samples are indispensable, studies of non-normative samples can be valuable. "Hence depression, neurasthenia, and chronic pain open a window on Chinese psychiatry and society" (Kleinman & Kleinman, 1985, p. 429). The Kleinmans found that Chinese mental health clients tended to suppress depressive affect and they would accept the diagnosis of neurasthenia but not that of depression. They might express psychological problems to close friends and family members, but when in front of medical staffs the complaints became virtually physical ones. This, on the one hand, reveals the Chinese traditions of emphasizing strengths and overlooking psychological problems (or attributing the problems to lack of effort), which has induced
frowning upon any aberrations away from "norm" and regarded them as shameful. One consequence of this shame of having psychological problems not only put the person involved into a target position but also brought bad "names" (reputation) to the family! On the other hand, this denial in public also has been strengthened in the Great Proletarian Cultural Revolution which lasted ten years (1966-1976). During those years, everything had to be based on political and ideological principles. Psychological disorders did not exist. If it were not physical problem, it must be wrong political thinking. The Kleinmans have commented that "the core principles of this [Chinese] cultural world view centre on the harmonizing of interpersonal relations, the sociocentric orientation of the self, and for these reasons the constitution of affect as moral position in a social field of reciprocal behaviour. Denial of dysphoria is also, of course, a neutral and safe position to hold in an ideological context in which depression signifies potentially dangerous political implications: disaffiliation, alienation, potential opposition" (Kleinman & Kleinman, 1985, p. 468).

In this section, I have reviewed some studies carried out in the People's Republic of China, as well as those in other places relevant to Chinese culture. These are presented as a context where this research is situated and within which the hypotheses are generated. In the next section, the hypotheses of this research will be addressed.

4.4.2 The Hypotheses of This Research

Some hypotheses can now be derived from the dialectic model of psychosocial development to be tested in this research. Before I state specific hypotheses, a summary of the main assumptions from Maoist dialectical model of development I have suggested will be helpful.
Assumptions

1. Psychosocial development is the developmental process in which individuals develop from psychologically immature and socially incapable beings toward psychologically mature and socially competent and adequate beings through the dialectical interactions between individuals and the social context in which they develop. (p. 35)

2. In this dialectical approach, organism and context are always embedded in each other. This context is composed of multiple qualitatively different intertwined levels. The timing of their interaction is crucial to whether development occurs. (p. 38)

3. Yet that interaction has a contradictory nature, too, with the possibility of examining it in concrete situations; and since imbalance is absolute (from the nature of dialectic contradictions), development is always moving towards a new status. (p. 40)

4. Psychological and the social factors make up the basic contradiction of psychosocial development. (p. 43)

5. Development is both universal and particular, and the study of the particular can lead to an understanding of the universal or general. (p. 45)

6. Development takes place through a process of transformation from quantitative change to qualitative change, and so from one stage to another. (p. 46)

7. The course of development is dialectical, following a spiral rising course, and occurs in fits and starts, depending on the roles played by relevant contradictions. (p. 51)

8. The direction of development is determined by the basic contradiction of psyche versus social content in general, while at each stage particular contradictions become important. (p. 54)
9. The goal of development, in general or for specific individuals, is to master the physical, psychological and social environment in the process of interaction with it. (p. 55)

10. The speed of psychosocial development differs from individual to individual. (p. 56)

Previous Findings

1. Most studies of Eriksonian theory have been focused on some specific stages rather than the whole life span. Existing studies generally support Erikson's life cycle development theory. Some cross-cultural studies also have been carried out but not in the People's Republic of China. (sections 4.3.3 and 4.3.5)

2. Developmental psychological research in the People's Republic of China is relatively rare, especially on psychosocial development. Some empirical studies in related areas such as personality and mental health reveal that Chinese people, being necessarily influenced by Chinese culture, present certain particularities in their personality, emotionality and morality characteristics in comparison with some Westerners, although universality also exists among different cultures. (section 4.4.1)

Aim

Study the development of psychosocial maturity in children in the People's Republic of China from Mao's perspective by adopting Erikson's psychosocial development model and using the methodology of content analysis scales; in particular, taking Mao's contradiction theory as a world view to test the applicability of Erikson's epigenetic model in terms of its general pattern of development. Thus, to explore the usefulness of the dialectical metamodel in guiding the evaluating and selecting of a particular research model, the universality of Erikson's model in Chinese culture, the feasibility of applying content analysis scales in China, and ultimately, to contribute to the
progress of developmental studies in the People's Republic of China and our understanding of human development in general.

Hypotheses

I shall now propose a set of hypotheses about Chinese children and adolescents under those assumptions and previous studies summarized above to fulfil my aim of this research.

1. Erikson's epigenetic developmental principle can differentiate between children in different school grades, with each stage-related crisis manifesting itself at the appropriate grade.

2. The higher the level of psychosocial maturity in children, the greater their expressions of self control and sociality and the less their expressions of helplessness.

3. There are gender differences in the psychological dimensions of psychosocial maturity level, sociality, self control and helplessness. In particular, girls are more sociable than boys, while boys express more self control and less helplessness than girls.

4. There are relationships between psychosocial maturity levels and the positive perceptions of self and others.

5. There is a relationship between the children's psychosocial maturity level and their positive perceptions of the teacher-student relationship.

6. There is a positive relationship between the children's school achievement and psychosocial maturity, sociality, and self control, but a negative relationship with helplessness.

7. There is a positive relationship between psychosocial maturity level and high socioeconomic status (parents' educational level, profession, and family income).
8. Only children have lower levels of psychosocial maturity and sociality but higher levels of expressions of self control and helplessness than children with siblings.

9. There is no difference between Western (Australian) children and Chinese (mainland China) children in their general patterns of psychosocial maturity in terms of within-culture school grade differences; but in all school grades, the Australian children show higher levels of psychosocial maturity than Chinese children because of economic, societal, and political differences in the two cultures; and overall, Australian children show more autonomy, initiative, but less industry and affinity.

As can be seen from these hypotheses, the variables in this study included individual factors: (gender and grade), family factors (parents' education, profession, income and siblings), and school related factors (attitudes towards school and teachers, and school achievement). The psychological dimensions are psychosocial maturity, sociality, and perceptions of self control and helplessness. In my next chapter I will describe how these were measured, as well as my research design and selection of research participants.
Chapter Five: Method

Contradictions exist everywhere. Research activity is no exception. The principal contradiction at this stage of my research is the contradiction between content and form, reflected in the relationship between the focus of the research and its methodology. The research focus determines the methodology to be used; yet at the same time the methodology plays an important role in terms of the depth and extensiveness of the research focus being explored. Given the aims and hypotheses I proposed in chapter 4, what is the principal aspect of this contradiction? How do I solve this contradiction in my research? This chapter offers my answers. Briefly, the answers are: methodology becomes the principal aspect and so plays a dominant role, and the application of content analysis scales to verbalization of research participants, the concrete content of the methodology, is my means to test my research hypotheses.

5.1 Content Analysis Scales as Measures of Eriksonian Concepts

In the last chapter I noted that few Eriksonian studies had been found in the People's Republic of China to date, in contrast with Western countries where many research tools and assessment scales are available. Although, in theory, the history of psychological measurement in China could be dated back even to the Confucian era (Zhang, 1988b), in practice, there are only very limited measurement tools available. Like most of the Western techniques, most of them are paper-and-pencil tests and questionnaires, which remain unfamiliar to the Chinese population (Domino & Hannah, 1987). Even if this unfamiliarity could be tolerated, as far as I could establish, there are no empirical research tools for Eriksonian studies available in mainland China. Two solutions to this problem were possible for this research: design and validate a new instrument or select a suitable one from the existing literature. Given the aim of my study and the resource limitations on me, I adopted the latter.
"Psychologists would do well to make greater use of the person himself as the reporting and predicting agent, and by gathering systematic and repeated self-reports along with other types of data, to combine the phenomenological and the 'objective perspectives" (Neugarten, 1977, pp. 639-640). This recommendation is highly applicable to the study of psychosocial development. As I showed earlier in section 4.3.2 of chapter 4, there have been several instruments to assess Erikson's developmental outcomes. Content analysis scales have been selected over other methodologies based on three rationales. First, as I have stated, questionnaires or self-report inventories are of limited familiarity in mainland China. Further, to normalize and validate them in another culture has been beyond my resources. Second, the interview method is appropriate for this developmental research in terms of the role played by the individual participants and the interaction between the researcher and co-researcher (Viney, 1987b); however, this method has not been extended to covering the entire life cycle stages as depicted by Erikson. Third, by overcoming these two limitations, the content analysis scales methodology can fit well into my dialectical framework, because of its emphasis on the internal causes or individuals' active participation and contribution to the understanding of the developmental course in its context (Viney, 1989), as well as into Erikson's life-span framework, because there are content analysis scales which deal with all eight stages of Erikson's epigenetic developmental cycle. It is noted that these content analysis scales cannot be used at the pre-verbal stage of life cycle and thus have the limitation in relation to trying to look at the entire life cycle in that sense, but this is not a problem for my research. These considerations, together with features of the content analysis scale methodology itself which I shall discuss next, has led me to solve the contradiction of the content and form for this research at this stage.

5.1.1 The Methodology of Content Analysis Scales

The method of content analysis is familiar across the social sciences, including communication, politics, psychiatry and psychology. It is a way of analysing verbal content in any context, be it an article, a letter, or a dialogue, where communication
occurs, in order to reveal the meanings explicitly or implicitly contained in these communication. In the past, content analysis was mainly used for data collection in descriptive studies; now, however, it has been applied in explanatory studies as well because of its analytical power and theoretical orientation (Mitchell, 1967). The common elements shared by content analysis and its procedures as well as applications have been well documented by Berelson (1952), Budd, Thorp and Donohew (1967), Gerbener, Holsti, Krippendorff, Paisley, and Stone (1969), Holsti, (1969), Krippendorff (1980), Lasswell and Leites (1965), and Rosengren (1981). The type of content analysis methodology I have adopted, however, is the one particularly developed within the psychological research: the content analysis scales developed by Viney and her colleagues (Viney & Tych, 1985, 1984; Viney & Westbrook, 1979; Westbrook & Viney, 1980), who have significantly contributed and extended this methodology originated by Gottschalk and his associates (Gottschalk & Gleser, 1969; Gottschalk, Winget, & Gleser, 1969).

Since Gottschalk's original work, this specific methodology has been applied in various areas and extended significantly by other contributors (Gottschalk, 1979; Gottschalk, Lolas, & Viney, 1986). In addition to work following Gottschalk's tradition, there are also many studies using content analyses in different areas, such as personality (Tetlock, 1981), self-control (Shapiro, 1983), culture and achievement (McClelland, 1958), dreams (Gregor, 1981), and psychotherapy (Brunink & Schroeder, 1979), for example. However, most of them have either lacked a clear theoretical orientation which has weakened the power of their interpretation of data or the studies were too specific to be generalized. The exception to this is the Gottschalk-Gleser and Viney-Westbrook Content Analysis scales (Viney, 1983a). These scales have clear theoretical orientations underlying them and all follow agreed standards for their development. Further, there are standard procedures to be followed in their applications and the treatment of data from them. Thus, content analysis scales provide a viable methodology. By applying them to open-end spontaneous verbalizations, researchers adopting this methodology are able to
have rich sources for data analysis as well as potential for subsequent refutation and replication of findings because of its standardized scoring system. This standardization also enables researchers to apply powerful statistics in dealing with complex research problems. Three main areas of its application have so far been recognized: basic research concerning relationships between the individual's personality and social context, assessment of dynamic interactions between individual's experiences and community change, and evaluation research (Viney, 1981b). It has also been applied to different populations including children as young as six (Gottschalk, 1976a, 1976b). The value of the content analysis scales methodology "lies in its capacity to provide accurate and consistent interpretations of people's accounts of events without depriving these accounts of their power or eloquence" (Viney, 1983a, p. 560).

Briefly, the application of content analysis scales in this research starts with an open-end interview with the prompt request: "Tell me about your life at the moment, the good or the bad". The interviewer listens to the research participants' response during a certain period of time duration (usually five minutes). The interview is tape recorded. The transcriptions of verbalization then are coded into individual clause to be scored against a set of criteria from relevant content analysis scales. To take into account the number of words in the verbalizations, a correction factor (CF) is calculated, which equals the number of words in the scored verbalization divided into 100. A verbalization contained more than 50 words is considered to be scorableView. The raw scores are transformed into scale scores via scales specific transformation formula to reduce the skewness of the distribution of scores. I shall describe some specific content analysis scales next, with their scoring examples and information about transformation.

5.1.2 Some Specific Content Analysis Scales

Although the original Gottschalk-Glaser scales (e.g., Anxiety, Hostility) were created in the U.S.A. within a psychoanalytic framework and and applied within a clinical context (Gottschalk & Gleser, 1969; Gottschalk et al., 1969), the development of this
content analysis scale methodology has extended its scope in terms of the number of the scales and its areas of research (Viney, 1981b). Viney and her colleagues in Australia have developed new scales to reach beyond clinical and psychoanalytic concerns to a range of experience based constructs such as sociality, competence and helplessness. They are measured by the Cognitive Anxiety Scale (Viney & Westbrook, 1976), the Sociality Scale (Viney & Westbrook, 1979), and the Origin and Pawn Scales (Westbrook & Viney, 1980). Most importantly for this research, scales have recently been developed based on Erikson's life-span development model, the Content Analysis Scales of Psychosocial Maturity (CASPM) (Viney & Tych, 1984, 1985).

To test the hypotheses I have set up, I have chosen these three sets of content analysis scales as the measurement tools: the Content Analysis Scales of Psychosocial Maturity (CASPM), the Sociality Scale, and the Pawn and Origin Scales.

The CASPM measures the degree of psychosocial maturity a person has attained and can be applied across all of the life cycle in which verbal communication occurs. It is the first of its kind in developmental psychology, in particular, in the study of Erikson's theory of life cycle development. The CASPM has eight pairs of scales corresponding to Erikson's eight developmental stages, each pair having two scales representing the positive and negative poles at each stage. Thus, for stage one, positive pole is Trust. Some scorable examples are optimism ("Everything will be ok"), faith in others ("I think the teacher's suggestion is the best") and faith in oneself ("I am in good health"), and the ability to accept help ("It was good to have them help me get the car done"). The examples for the negative pole, Mistrust, are pessimism ("I cannot see any solutions to my problems"), lack of faith in others ("I never trust anybody") as well as in oneself ("I can't really manage it"), and inability to accept help ("but I can't stand it when the kids help"). A complete set of scoring instructions for CASPM with the scoring examples has been included in Appendix 1. Each scored clause gains a score of one. The sum of all the scores for each of the 16 scales then produces 16 raw scores. The raw scores are then transformed into scale scores through this formula:
CASPM scale score = \[ \sqrt{(\text{Total raw score}) \times CF + \frac{1}{2} CF} \],

where CF is the correction factor described in last section.

Australian norms have been established from 813 subjects ranged from age of 6 to 86 years. The application of this scale with people from childhood to old age has proved successful (Viney, 1987a; Viney & Tych, 1985).

The Sociality Scale measures the extent of positive interpersonal relationship. The scale has two dimensions: interaction type and interaction role. The type dimension includes four subscales: solidarity (helping relationships), intimacy (intimate or admiring relationships), influence (influencing relationships), and shared social experiences (good relationships in which exact nature of the interaction is undefined or unknown). The role dimension has three subscales measuring whether one sees self as an initiator, or a reactor, or joint actor with others (Viney & Westbrook, 1979). High scores indicate many positive and rewarding interpersonal interactions while low scores suggest alienation or isolation from social support and poverty of interpersonal relationships. Some examples are: "We had a lovely party yesterday" (shared type with joint actor role), "The teacher asked me to hand out these assignments" (influence type with reactor role), "I helped him to solve that problem" (solidarity type with initiator role), "We chatted all night long" (intimacy type with joint actor role). The log transformation is used for this scale:

Sociality Scale score = \[ \log \left[(\text{Total raw score}) \times CF + \frac{1}{2} CF + 1\right]\]

This scale has been provided in Appendix 2.

The Pawn and Origin Scales deal with a person’s subjective sense of competence and control over him/herself and his or her environment. The Origin Scale assesses the extent of an individual's sense of self-control and attribution of cause to internal factors while the Pawn Scales assesses the degree of an individual's feeling of incompetence or helplessness and attribution of causes to external forces. High scores for Origin suggest competence, with intention, effort, ability, influence and self-attributed causes; while high
scores for Pawn imply helplessness, with purposeless, lack of effort and ability, and other-attributed causes. Scorable examples for Origin are "I wanted to do it." "I did all the assignment by myself"; for Pawn, "I really do not know why I am here." "I am totally lost." Although these two scales seemed to be two side of a continuum, they are not negatively correlated with each other, which suggests that they assess two discrete modes of reaction rather than two poles of one continuum (Westbrook & Viney, 1980). The transformation for these two scales is the same as it is for CASPM. This Scale can be found in Appendix 3.

The reliability and validity information on Sociality and Origin and Pawn scales have been fully documented by Viney (1983a). The information on the CASPM has also been well reported by Viney and Tych (1985), showing that the CASPM has well reflected Erikson's model. However, Table 5.1 summarized relevant information about the reliability and validity for each of these four scales.

It can be seen from Table 5.1 that these scales have acceptable reliability and evidence of validity. They have been successfully applied in research such as psychological transitions of women (Bell, 1990; Viney, 1980) and men (Hampton, 1989; Viney, 1983b), health care (Viney & Westbrook, 1981), stress research (Westbrook & Viney, 1977) and evaluation research (Viney, 1981a; Viney, Clarke, Bunn, & Benjamin, 1985), as well as in the testing of theoretical models (Viney, 1987a).

5.1.3 Cross-Cultural Applications of the Content Analysis Scales

Since Gottschalk's development of the content analysis scales in English, translations of them have been used in other languages such as German (Koch, 1986; Schofer, Koch, & Balck, 1979), Spanish (Aronsohn, Lolas, Manns, & Miralles, 1986), Portuguese (Belmonte de Abreu, 1986), and Danish (Kinney, Jacobsen, Bechgaard, Jansson, Gaber, Kasell, & Uliana, 1986). However most of this work has involved cross-cultural applications of the scales rather than cross-cultural comparisons, and they have been limited to Western countries. Given the relatively short history of the
<table>
<thead>
<tr>
<th>Scale</th>
<th>Average Interjudge Reliability</th>
<th>Stability</th>
<th>Internal Consistency</th>
<th>Evidence of validity</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>Sociality</td>
<td>.96 range: (.95 - .97)</td>
<td>5 scores over 5 occasions with generalizability coefficient of .67</td>
<td>Subscales not significantly intercorrelated and making unique contribution to total scores</td>
<td>Independent of gender, age &amp; occupational status</td>
<td>Viney &amp; Westbrook (1979)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negatively correlated with negatively toned states</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated people who were maintaining good relationships from those who were not</td>
<td>Viney (1981a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated youth workers from the clients they worked with</td>
<td>Viney (1985)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated unemployed youth from others</td>
<td>Viney, Benjamin &amp; Preston (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated the elderly who had psychological problem from those who had not</td>
<td>Viney &amp; Westbrook (1982)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Predicted good rehabilitation of medical patients</td>
<td>Viney (1981b)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Responded as predicted to experimental manipulation</td>
<td></td>
</tr>
<tr>
<td>Origin</td>
<td>.92 range: (.91 - .94)</td>
<td>5 scores over 5 occasions with generalizability coefficient of .22 (&lt;.01)</td>
<td></td>
<td>Independent of gender &amp; age, but correlated with occupational status</td>
<td>Westbrook &amp; Viney (1980)</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Correlated with other measures of this state</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Correlated with reported use of appropriate coping strategies</td>
<td>Viney &amp; Westbrook (1981)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Correlated with measures of other positively toned states</td>
<td>Westbrook &amp; Viney (1980)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated those who were experiencing controllable events from those who were not</td>
<td>Viney (1981a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated youth workers from the clients they worked with</td>
<td>Viney (1985)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated unemployed youth from others</td>
<td>Viney, Benjamin &amp; Preston (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated the elderly ill at home who received short-term psychotherapy from those who did not</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated the HIV antibody positive men from men with other illness</td>
<td>Viney, Henry, Walker &amp; Crooks (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Responded to psychotherapy</td>
<td>Viney, Benjamin &amp; Preston (1990)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Responded as predicted to experimental manipulation</td>
<td>Viney, Clarke, Bunn &amp; Benjamin (1985)</td>
</tr>
<tr>
<td>Pawn</td>
<td>.90 range: (.87 - .93)</td>
<td>5 scores over 5 occasions with generalizability coefficient of .51</td>
<td></td>
<td>Independent of gender &amp; age, but correlated with occupational status</td>
<td>Westbrook &amp; Viney (1980)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Correlated with other measures of this state</td>
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<td></td>
<td></td>
<td>Correlated with appropriate coping strategies</td>
<td>Viney &amp; Westbrook (1981)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Correlated with measures of other negatively toned states</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated chronically ill from others</td>
<td>Viney (1983b, 1985)</td>
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<td></td>
<td></td>
<td></td>
<td>Discriminated unemployed youth from others</td>
<td>Viney (1990a)</td>
</tr>
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<td></td>
<td></td>
<td>Discriminated hospitalized physically ill and injured people who were most at risk of poor resolution of crises, incomplete recovery, or poor rehabilitation</td>
<td>Viney, Henry, Walker &amp; Crooks (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated HIV antibody positive men from healthy men</td>
<td>Viney &amp; Westbrook (1982)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Predicted poor rehabilitation of medical patients</td>
<td>Viney, Benjamin &amp; Preston (1988)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Responded to psychotherapy</td>
<td></td>
</tr>
<tr>
<td>CASPM</td>
<td>.87 range: (.90 - .95)</td>
<td>scores stable over 2-8 weeks; varied over 6 months</td>
<td>Intercorrelations between pairs of constructs were mainly significant (88%) compared with only 21% of nonpairs</td>
<td>Differentiated age groups as predicted</td>
<td>Viney &amp; Tych (1984, 1985)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Epigenetically adjacent constructs more closely related than nonadjacent ones</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated people of different employment status</td>
<td>Viney (1987a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated physical healthy people from those who were ill</td>
<td>Preston (1987)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive poles correlated positively with positive toned measures</td>
<td>Viney, Benjamin &amp; Preston (1988)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negative poles correlated positively with negative toned measures</td>
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<td></td>
<td></td>
<td></td>
<td>Consistent with clinical case study findings</td>
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<td></td>
<td></td>
<td></td>
<td>People at different phase of life span use different poles</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Discriminated religious people from nonreligious people</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Predicted gains of independence in psychotherapy for the elderly</td>
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</tr>
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</table>
methodology, this shortage of studies in both cross-cultural comparison and languages other than Western ones is not surprising. In this relationship of application and comparison the principal aspect is that application is prior to comparison. However, studies providing some information from comparisons has been carried out, for example, the comparison between white Australian and black American (Viney, 1987a). All have shown the applicability and utility of the cross-cultural application of the content analysis scales. In the next section, I shall describe the procedure of the translation into Chinese language of the three content analysis scales I used in this research.

5.2 Translation of the Scales into Chinese

5.2.1 Translation

Since no Chinese studies have used this methodology, these three scales, the CASPM, the Sociality Scale, the Origin and Pawn Scales, had to be translated into mandarin Chinese first. Unlike most paper-and-pencil instruments, the translation of content analysis scales is relatively straightforward. The central task of such translation is the understanding and mastering of the concepts being measured by the scales because of their theory-based orientation (Viney, 1983a). The item to item equivalency issues of vocabulary equivalence, idiomatic equivalence, grammatical-syntactical equivalence, experiential equivalence, and conceptual equivalence identified by Sechrest, Fay, and Zaidi (1972) are not relevant here. For the content analysis scale methodology the research participants' verbal responses are be assumed to be equivalent, whatever the language used. Whatever the language used spontaneous verbalizations after an open-ended request will be similar in that they are verbal expressions of the subjective experiences and psychological constructs of the research participants. The main task of the methodology is to find the concepts and meanings conveyed through those verbalizations. In fact, it makes no sense to try to establish uniform or equivalent language patterns of verbalizations. It is the concepts or constructs they convey that are the central foci. To get a reliable score on a specific scale depends on the scorer's comprehension of the scale.
The translation of these scales was completed by the author whose mother tongue is Mandarin Chinese and had had two years' experience of scoring these scales in English under the supervision of the developer of those scales, Linda Viney, when the translation was carried out. Back-translation, a common way to deal with translation problems in cross-cultural research (Anderson, 1967; Brislin, 1970, 1986), was used for all the scales to assure consistency of translation. The scoring procedures for the original scales were translated into Chinese first by the author, then the Chinese versions of them were translated back into English. For the Sociality Scale, the back translation was carried out by a Chinese lecturer who teaches tertiary-level English in China. The CASPM, and the Origin and Pawn Scales were back-translated by a Chinese language professor whose language specialty is English. Neither of the back-translators had any knowledge of the theories underlying the scales. The comparison of the original and back-translated versions of the scales showed a very high degree of equivalence of meaning which was all the more convincing because identical terms were not always used. Both the author and the scales' developer were satisfied that these results confirmed the reliability of the translation. The details of the back-translated versions compared with the original versions are shown in Appendices 1 to 3.

For the Sociality Scale, which was the first scale being translated, I have taken another step to add some evidence of the reliability of translation. The original English version of the scale scoring was given to a Chinese postgraduate student whose specialty was the English language, in order to secure another Chinese version for the purpose of comparison. Once again, the two Chinese versions were nearly identical. This added evidence that the translation procedure raised very few problems, so this procedure was not applied to the other scales.

The reliability of the translation of the scale scoring implies that the concepts underlying the scales could be conveyed into Chinese language, at least at the linguistical level. This suggests that some concepts are common to different cultures, since all the original scales came from Western cultures. It could be, however, that the equivalence
shown in the translations only indicates the conveying of the language concepts rather than of the psychological concepts. In other words, the equivalence of terms in the Chinese language might be good, and yet whether those Chinese terms convey the same meanings as in the original scales could still be questioned. Given the common assumption that speech expresses the concepts, and the close relationship between language and thought (e.g., Elliott, 1979; Hays, 1969; McQuown, 1982; Whorf, 1956), it seems likely that those concepts underlying the original scales have been conveyed into the Chinese scales. This consistency could be further tested using another criterion, namely, inter-judge reliability.

5.2.2 Reliability

The Interjudge Reliability

The most important index of the reliability of the content analysis scales is inter-judge reliability. High reliability proved possible to achieve. After a few weeks of practice, the inter-scorer reliability of the Sociality Scale scores between an independent Chinese speaker and the author was .95 for a Chinese pilot study sample of 21 students from Grade 1 to 12.

A more thorough reliability check was conducted on a sub-sample from the original sample of 335 students, which will be described later. A pool of 22 verbalizations was randomly selected. The reliability check was a twofold one. The first, English-English check, was of the inter-scorer reliability between the author and the scale developer with verbalizations translated into English to confirm the scorer's (my) comprehension of the scoring method. The second, Chinese-Chinese check, was of the inter-scorer reliability between the scorer and another Chinese scorer, who had some training, with Chinese verbalizations, to confirm the validity of the translation of the scales from English to Chinese and to find out whether the Chinese application of scales was feasible. To avoid the effect of the author's scoring on Chinese versions on the scoring on English versions, that is the author's "residual" effect of the Chinese-Chinese
check on the English-English check, a ten-week interval occurred before the author started to score the translated English versions.

The English-English check was based on English translations of those 22 Chinese verbalizations, which were translated by a group of high school English teachers in China. The Chinese-Chinese check of inter-scorer reliability was derived from the same 22 verbalizations except that they were the original Chinese versions. The results of this inter-scorer reliability check were again satisfactory. Table 5.2 shows these results.

Table 5.2 THE INTER-SCORER RELIABILITY ON CONTENT ANALYSIS SCALES OF SOCIALITY, CASPM, ORIGIN AND PAWN (n=22)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Sociality</th>
<th>CASPM</th>
<th>Origin</th>
<th>Pawn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reactor</td>
<td>Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initiator</td>
<td>Autonomy</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Joint Actor</td>
<td>Initiative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solidarity</td>
<td>Industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intimacy</td>
<td>Affinity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Influence</td>
<td>Identity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharing</td>
<td>Generativity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Integrity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Positive</td>
<td>Total Positive</td>
<td></td>
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<td>.64</td>
<td>.37</td>
</tr>
<tr>
<td>Identity</td>
<td>.49</td>
<td>.18</td>
<td>.49</td>
<td>.18</td>
</tr>
<tr>
<td>Generativity</td>
<td>.52</td>
<td>.21</td>
<td>.52</td>
<td>.21</td>
</tr>
<tr>
<td>Integrity</td>
<td>.48</td>
<td>.18</td>
<td>.48</td>
<td>.18</td>
</tr>
<tr>
<td>Total Positive</td>
<td>1.77</td>
<td>.43</td>
<td>1.77</td>
<td>.42</td>
</tr>
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<table>
<thead>
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<th>Scale</th>
<th>Sociality</th>
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<th></th>
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<tr>
<td>Reactor</td>
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<td>.33</td>
<td>.63</td>
<td>.33</td>
</tr>
<tr>
<td>Initiator</td>
<td>.75</td>
<td>.35</td>
<td>.78</td>
<td>.33</td>
</tr>
<tr>
<td>Joint Actor</td>
<td>.49</td>
<td>.18</td>
<td>.49</td>
<td>.18</td>
</tr>
<tr>
<td>Solidarity</td>
<td>.62</td>
<td>.27</td>
<td>.63</td>
<td>.26</td>
</tr>
<tr>
<td>Intimacy</td>
<td>.51</td>
<td>.20</td>
<td>.51</td>
<td>.20</td>
</tr>
<tr>
<td>Influence</td>
<td>.48</td>
<td>.18</td>
<td>.48</td>
<td>.18</td>
</tr>
<tr>
<td>Sharing</td>
<td>.48</td>
<td>.18</td>
<td>.48</td>
<td>.18</td>
</tr>
<tr>
<td>Total</td>
<td>.98</td>
<td>.46</td>
<td>1.00</td>
<td>.45</td>
</tr>
<tr>
<td>Total Positive</td>
<td>1.33</td>
<td>.34</td>
<td>1.35</td>
<td>.35</td>
</tr>
</tbody>
</table>

\[ \text{Table 5.2}\] THE INTER-SCORER RELIABILITY ON CONTENT ANALYSIS SCALES OF SOCIALITY, CASPM, ORIGIN AND PAWN (n=22)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Sociality</th>
<th>CASPM</th>
<th>Origin</th>
<th>Pawn</th>
</tr>
</thead>
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<tr>
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<td>.40</td>
<td>.21</td>
<td>.94</td>
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<tr>
<td>Initiator</td>
<td>.39</td>
<td>.50</td>
<td>.23</td>
<td>.86</td>
</tr>
<tr>
<td>Joint Actor</td>
<td>.52</td>
<td>.38</td>
<td>.18</td>
<td>.93</td>
</tr>
<tr>
<td>Solidarity</td>
<td>.38</td>
<td>.28</td>
<td>.20</td>
<td>.96</td>
</tr>
<tr>
<td>Intimacy</td>
<td>.27</td>
<td>.31</td>
<td>.19</td>
<td>.97</td>
</tr>
<tr>
<td>Influence</td>
<td>.33</td>
<td>.55</td>
<td>.17</td>
<td>.93</td>
</tr>
<tr>
<td>Sharing</td>
<td>.56</td>
<td>.78</td>
<td>.17</td>
<td>.95</td>
</tr>
<tr>
<td>Total</td>
<td>.78</td>
<td>.78</td>
<td>.17</td>
<td>.95</td>
</tr>
</tbody>
</table>

1 Score 1 = Scale Developer; Score 2 = Author; Score 3 = Chinese scorer
With a correlation coefficient of .75 as the criterion, the inter-scorer reliability coefficients in Table 5.2 were satisfactory for all the subscales of the Sociality Scale and the Pawn and Origin Scales in both the English-English and Chinese-Chinese check. They were well beyond .75, ranging from .84 to .97. All the correlation coefficients for the CASPM scales scores were also judged satisfactory by that criterion except two. In English-English check the correlation coefficient for Initiative was .67, and in the Chinese-Chinese check the coefficient for Autonomy was .66. Although these two coefficients were smaller than .75, they were acceptable, given the relative small sample of verbalizations and large number of coefficients calculated. Overall, the correlations of the English translated verbalizations were slightly lower than those of the Chinese verbalizations. This could be accounted for by the translation procedure. Since the translation was carried out by a group of Chinese teachers living in China, the expressions and styles were somewhat different from current Australian English usage. Therefore, it was possible that those expressions "natural" to the author would be "vague" or "unusual" to the scales' developer; the discrepancies could induce a slight different understanding of the message resulting in different scoring. Most important, t-test to examine mean differences between scorers across all the scales and their subscales showed no significant differences between two independent scorers in the English-English check or the Chinese-Chinese check.

These results support the view that the Chinese versions of the content analysis scales of Sociality, Origin and Pawn, and the CASPM can be applied reliably. There is one issue that is worth mentioning, however, regarding the translation of English scales to Chinese scales and the scale application, that is the unit of analysis. Chinese language is different from English in a number of relevant ways. The most relevant here is the grammatical equivalence of the function a verb plays in syntax. In English, the predicate of a normal sentence must contain an active verb. Thus, the basic rule in English content analysis of verbalization to divide into units for analysis is that there should be one active verb in each unit (clause) (Gottschalk & Gleser, 1969). In most cases this is applicable to
English language. However, this rule can not be used in Chinese without any revision, otherwise it would leave out much information simply because of the fact that in many Chinese sentences there is no verb at all. In other words, the Chinese language allows many different part of speech to be the predicate of a sentence. For example, the sentence: "This movie is very interesting" in English has a link verb "is" which clearly signifies a scorable unit. The same sentence in Chinese literally is: "This movie very interesting." According to one verb, one unit, this sentence will not be scored. This is not true of course, since semantically they are equivalent. Because Chinese sentences can have verb, adverb, adjective, noun, etc. function as predicate; further, Chinese has no morphological distinction between the active verbs and other verbals; therefore, the rule "one verb, one unit" cannot be applied and it is almost impossible to have an exact equivalent concept of "one verb, one unit" in Chinese in terms of part of speech or other morphological features. I have adopted the suggestion made by Chinese linguists that the unit used in this kind of work be predication (Lü, 1985; Chao, 1986)*. The main points of scoring the unit, predication, follow.

A predication is syntactically a clause and semantically an expression segment. As a clause, it then can include words with part of speech other than verb. As an expression segment, it then keeps relatively equivalent weight of semantics scored as in English unit (clause). Basically, a predication is a segment relatively independent in terms of the structure and complete in terms of meanings. It contains one central theme referring to a phenomenon, a status, a behaviour, or in general, anything. There is an apparent pause between predications in speech. If a predication contains another predication without pause, it counts as one unit. Two exceptions should be made. If there is a very short pause and the contents before and after the pause have a closely related theme which cannot be separated, it is still regarded as one predication. If there is no obvious pause yet the themes clearly suggest that they are referring to two independent phenomena or

* Personal communications. S. LÜ, Director of the Institute of Linguistics, The Chinese Academy of Social Science, Beijing. Z. CHAO, Lecturer in the Chinese Language and Literature Department, East China Normal University, Shanghai.
behaviours and further they can often be separated by a comma, then, two predications are counted. Some examples of dividing scoring units can be found in Appendix 4.

5.3 The Peer Rating Scale

In addition to the content analysis scales, I have also used peer assessment techniques to supplement the assessment of psychosocial maturity, since peer perception has been recognized as an important source of assessment (Kane & Lawler, 1978; McCrae & Costa, 1982, 1989). Moreover, content analysis scales are appropriately used in combination with other techniques (Gottschalk, 1974).

Since Moreno's (1978) pioneer work on sociometry in 1930's, various forms of peer assessment have been carried out in areas such as personality measurement (Gronlund & Anderson, 1957; G. M. Smith, 1967), leadership (Hollander & Webb, 1955), group dynamics and social status (Criswell, 1943; Schofield & Whitley, Jr., 1983), education (Gronlund, 1959; Kubany, 1957) and behavioural assessment (Dodge, Coie, & Brakke, 1982; Pekarik, Prinaz, Liebert, Weintraub, & Neale, 1976). In addition to these studies, many reviews of sociometric procedures are available (e.g., Dash & Das, 1984; Kane & Lawler, 1978; Lazarus & Weinstock, 1984; Lewin & Zwany, 1976; Witryol & Thompson, 1953). In general, it has been shown that the peer assessment techniques have high validity and reliability in research into individuals' social status and behavioural characteristics. The two most often used techniques have been peer nomination and peer rating. In peer nomination, each member of the group is asked to nominate certain number of the group members who have been considered as having the highest status in the group according to the criteria specified by the researcher. In peer rating, each group members rate each other member on a set of behavioural or personality characteristics designated by the researcher.

The choice of peer rating in this study was based on the assumption that there is a consistency between individuals' psychosocial maturity level and its behavioural manifestation in the social context in which they realize their psychosocial development.
In other words, the higher the psychosocial maturity level, the higher the probability of showing this quality in daily behaviour, in terms of the behaviour characteristics implied by that quality. Another implicit assumption is that the judgments based on peers' perception are generally reliable. The research evidence bearing on this assumption is still controversial (S. A. Miller, Harris, & Blumberg, 1988). While children appears to have little ability to perceive their peers accurately in specific tasks, they are better at global assessment. Further, their accuracy increases with the school years. To compensate this possible incapabilities of peers' judgement, in particular younger primary school children, teachers' judgments have also been included in this study. They are generally considered to be reliable and valid, in particular in identifying behaviour problems in children (Green, Beck, Forehand, & Vosk, 1980; Ledingham, Younger, Schwartzman, & Bergeron, 1982; Pekarik et al., 1976).

The assumption of the congruence between psychosocial maturity level assessed by content analysis scale methodology and the behavioural manifestation judged by peer ratings depends upon the equivalence between the content analysis scale constructs and the peer rated categories. In other words, the underlying construct of the categories must share a common theoretical framework. In developing these peer rating categories, I have used a psychosocial maturity model based on Erikson's concept of epigenetic development. An account of this model now follows.

Greenberger and her colleagues (Greenberger & Sorensen, 1974; Greenberger et al., 1975) put forward a comprehensive model of psychosocial maturity based on Erikson's theory. Their model formulates the ideal end-points of growth, socialization, and development. The model consists of attributes of both universality and particularity. The universality is reflected in the three general capacities demanded by society for an individual to function effectively: individual adequacy, interpersonal adequacy, and social adequacy. That is, to be psychosocial mature, one has to function adequately on his/her own and interact adequately with others, as well as relate to society constructively and contributively. The particularity, which reveals the universality, however, varies across
different societies. Greenberger et al. have proposed nine specific attributes that they considered adequate to American society. These are self-reliance, identity, and work orientation within the individual adequacy dimension; communication skills, enlightened trust, and role knowledge within the interpersonal adequacy dimension; and social commitment, openness to sociopolitical change, and tolerance of individual and cultural differences within the social adequacy dimension. Various empirical studies have validated the model (e.g., Greenberger, 1972; Josselson, Greenberger, & McConochie, 1974, 1975, 1977a, 1977b). Comparing this approach with Erikson's life cycle stage model, I see Greenberger and Sorensen's general dimension as a more distinct or discrete version of Erikson's radius of significant relation, while their specific attributes are similar to Erikson's crises, although the correspondence is not one to one. In terms of measurement Greenberger and Sorensen's model were a useful supplement to some scales based more directly on Erikson's theory (Rosenthal, Gurney, & Moore, 1981).

The format of peer-rating form is an item by peer matrix. It contains 30 items across ten attributes representing three dimensions, namely the individual, interpersonal, and social adequacies. These 30 items I devised according to the attribute themes defined by Greenberger and Sorenson's (1974) model. The first six developmental tasks of Erikson's model also reflected in these items. The wording of 18 items was such that a higher rating indicated a high level of psychosocial maturity on that attribute, while the remainder of 12 items were balanced in a reverse direction with a higher rating indicating lower level of psychosocial maturity. The selection of item order was random. The 30 items were randomly allocated onto six A4 size papers with ten items on each page. A full copy of the form has been included in Appendix 5.

5.4 The Research Participants

The main sample for content analysis consisted of 360 children and adolescents from two districts of Shanghai in the People's Republic of China. Half of them were female, and the other half male. Their age range was from 6 to 18 years. These subjects
were selected from seven schools, including two primary schools and five high schools. One primary school, the No.1 Central Primary School of Jing'an District, and two high schools, Shanghai No.11 High School and Shanghai May-Fourth High School, which was a district key (or selected) school, were in Jing'an District, which is located in the central area of the city. The other primary school, the No.2 Central Primary School of Wusong District, and the three high schools, Baoshan High School, Songyi Junior High School, and Wusong High School, which was a district key school, too, were in Wusong District, which was then a newly designated district and located in the Wusong/Baoshan suburban area. Baoshan, was one of the ten counties of Shanghai.

Songyi Junior High School used to be a part of Baoshan High School. It became independent a year before the data collection, but most of its resources still came from its mother school. All the high schools, except the Songyi and Baoshan, included Grade 7 to Grade 12, while Songyi Junior had three grades from Grade 7 to Grade 9, and Baoshan High had the other three grades, namely, Grade 10 to Grade 12. Each primary school had six grades ranging from Grade 1 to Grade 6. The 360 research participants were sampled equally across both schools and grades. One class of each grade in each school was randomly selected first, then five male and five female children/adolescents were again randomly picked from that class according to the class roll. Table 5.3 shows the details of the sample distribution. Out of this sample of 360 verbalizations, 26 (7%) were dropped due to: technical (unclear recording) problems (21), noncooperation (2) and too short verbalization (3). This left a sample of 335 children.

In addition to those 360 subjects, another 616 students from Grade 3 to Grade 12 participated in peer ratings. They came from the same classes of the seven schools, excluding four classes of Grade 1 and Grade 2 of the two primary schools because of their limited reading ability, resulting in 32 classes in total. Most classes had 30 students participate the peer rating, but some of the classes had a small class size (the smallest was

* Wu Song District is now merged with part of Baoshan County and becomes Baoshan District.
Table 5.3 THE MAIN SAMPLE DISTRIBUTION ACROSS THE GRADE AND GENDER

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
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<tbody>
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<td>1</td>
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<td>9</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
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<td>20</td>
</tr>
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<td>3</td>
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<td>9</td>
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<td>11</td>
<td>18</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>19</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>168</td>
<td>335</td>
</tr>
</tbody>
</table>

24 students of Grade 12 from No. 11 High). These 30 students consisted of 10 for the main sample, together with 20 extra students who were also selected randomly from the class roll, with equal numbers of both sexes. This procedure was used when the class size was larger than 30 (most of them were, with the largest class size being 50).

5.5 Procedure

5.5.1 Interview for the Application of the Content Analysis Scales

A standard interview procedure was followed (Gottschalk et al., 1969; Viney, 1983a). With the help of the principals and head masters, as well as the class teachers, the research participants were asked to come to a specified room alone with the interviewer. These rooms were relatively quiet at most times, although in some schools it was very difficult to find a "quiet" room due to the lack of spaces and resources. For the two primary schools, the research participants were interviewed during their class time. For the high schools, since most teachers did not want their class time to be used for research, the research participants were interviewed during the time of class recesses and in the morning before or in the afternoon after the classes.

Each interview took ten to fifteen minutes. After coming in to the room and sitting down facing the interviewer, the research participant was told that s/he was participating
in a research project run by the Department of Psychology of the East China Normal University in Shanghai (the author's university in China). They were also told that the aim of the project was to investigate the current psychological states of the students in order to improve school education for them. Rapport was established to minimize research participants' anxiety and shyness. This was done by asking questions about everyday matters. How are you today? What lesson did you just have? What is the next one? Do you like them? Do you have any brothers/sisters? The rapport-building conversation varied, depending on each research participant's reaction. The portable tape recorder could be seen by the research participant. Before turning it on, an explanation was given to the research participant that since the researcher would have quite a few students to interview each day, it might be more efficient to have the talk recorded and transcribe them later. The research participant was also assured that nobody but the researcher, neither parents nor teachers, would have access to what they said. Once they settled down without apparent anxiety or reluctance, the interview went on using standard instructions:

Now I would like you to talk to me for five minutes. Just talk about your life at present; What do you feel your life is like now? Anything good or bad? Once you start to talk, I would like to sit here to listen to you and answer no questions until the five minutes are finished. Do you have any questions? [If the subject asked what he or she should say, or seemed confused, the instructions were repeated] All right, let's start.

If the research participant gave no response after one minute, then an additional prompt was given: "Well, then, will you tell some interesting stories about yourself, or about something in your life that left you a deep impression?"

If after three minutes the research participant still had not spoken, then another prompt was given: "OK, let's see. Could you tell me something about any TV program you've watched or any book you've read?" Very few research participants needed these prompts. When the five minutes period of recording was finished, a one-page personal and family information form was given to the research participant to fill in. I conducted all
interviews. The transcription of the research participants' verbalizations were carried out later either by myself or by selected and trained volunteers.

5.5.2 Peer Rating

The peer-rating procedure was carried out at the class teacher's convenience. It was conducted by them who were told the purpose of the study and shown how to administer the rating procedure. The students were not told about the purpose of the study. Most of the peer ratings were conducted by class teachers. But in one class this procedure was supervised by the student head of the class rather than class teacher. Only one class teacher was not cooperative in that the peer rating was not carried out within the planned time schedule, so the data for those 10 research participants in the main sample are not available. It took about one and a half hours to finish each set of peer-ratings. The class teacher was advised to give the students a ten minutes break within that period, although some class teachers did not do so for the sake of their own course time. The class teachers were also asked to complete a rating on a form the same as that of their classes. Afterwards the class teachers were given a small gift to thank them for their cooperation as is appropriate in the Chinese culture. All these data were collected within two months. For each class that time span might vary from one to three weeks.

I shall present the results of the content analysis scales and peer ratings in the next chapter.
Chapter Six: Results

The results of the data analysis will be presented in this chapter following the hypotheses that were presented in chapter 5.

Basically, two groups of variables have been involved: independent variables (the individual difference factors), and dependent variables (the measures of psychosocial maturity). Individual difference factors include personal characteristics (gender and grade), school related information (school achievement) and family information (parental education level; income and occupation; siblings). The psychosocial maturity indices consist of measures from the Content Analysis Scales of Psychosocial Maturity (CASPM) and a peer-rating procedure that was theoretically a replica of what the content analysis scales measured. Interpersonal relationships were measured by the Sociality Scale. Independence and dependence were measured by the Origin and Pawn Scales. Table 6.1 shows the variable names and analysis levels if appropriate.

These variables were entered into the analyses according to their relevance to the hypotheses using the SPSSX statistics package (Release 3.0) (SPSS Inc., 1988).

6.1 Patterns of Psychosocial Maturity (Hypothesis 1)

The first hypothesis stated that Erikson's epigenetic developmental principle would differentiate between children in different school grades, with each stage-related crisis manifesting itself at the corresponding period of the grade span. This hypothesis has been evaluated through examination of the relationship between the CASPM measures and the school grade factor. Both descriptive and inferential statistics, together with some graphs, have been employed for this purpose.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Level Name</th>
</tr>
</thead>
<tbody>
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<td><strong>Individual related factors</strong></td>
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<td></td>
</tr>
<tr>
<td>School Grade</td>
<td>12</td>
<td>Grade 1, 2, ... 12</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>Male / Female</td>
</tr>
<tr>
<td>Parental Education</td>
<td>4</td>
<td>Primary school</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Junior High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senior High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tertiary or above</td>
</tr>
<tr>
<td>Parental Occupation</td>
<td></td>
<td></td>
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<tr>
<td>Parental Income</td>
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<td></td>
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<tr>
<td>School Achievement</td>
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<td>Like / Dislike the School</td>
</tr>
<tr>
<td>Perception of Teacher</td>
<td>2</td>
<td>Like / Dislike Teacher</td>
</tr>
<tr>
<td>Perception of Teacher Care</td>
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<td>Care / Not Care</td>
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<td>Trust</td>
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<td>Positive Poles</td>
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<td>Autonomy</td>
</tr>
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<td></td>
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</tr>
<tr>
<td></td>
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</tr>
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<td>Integrity</td>
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<tr>
<td>Negative Poles</td>
<td>(8)</td>
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</tr>
<tr>
<td></td>
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<td>Constraint</td>
</tr>
<tr>
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<td>Hesitancy</td>
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<td>Identity Diffusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stagnation</td>
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<tr>
<td></td>
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<td>Despair</td>
</tr>
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<td>Social Interaction</td>
<td>7</td>
<td>Reactor / Initiator / Joint Actor</td>
</tr>
<tr>
<td>Interaction Role</td>
<td>(3)</td>
<td>Solidarity / Intimacy</td>
</tr>
<tr>
<td>Interaction Type</td>
<td>(4)</td>
<td>Influence / Shared</td>
</tr>
<tr>
<td>Perception of Independence/Dependence</td>
<td>2</td>
<td>Origin</td>
</tr>
<tr>
<td>Self Control</td>
<td></td>
<td>Pawn</td>
</tr>
<tr>
<td>Helplessness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Rated Maturity</td>
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<td>(Peer Ratings corresponding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to the levels of psychosocial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>maturity)</td>
</tr>
<tr>
<td>Teacher Rated Maturity</td>
<td>5</td>
<td>(Immature to Mature)</td>
</tr>
</tbody>
</table>
6.1.1 General Characteristics of Psychosocial Maturity of Chinese Children

Table 6.2 shows the means and standard deviations for the CASPM scores for the entire sample which ranged from Grades 1 to 12. An examination of the CASPM mean scores in Table 6.2 reveals some interesting phenomena, which are described in section 6.1.1.1; the statistical inferences will be presented in section 6.1.1.2.

6.1.1.1 Descriptive Analysis of Psychosocial Maturity over Grade

Over all grades combined, the order of the eight positive CASPM scores, in terms of the magnitude of means, is as follows: Trust, Industry, Initiative, Affinity, Autonomy, Identity, Generativity, and Integrity. This pattern indicates that primary and high school students together had low scores for the last three stages of Erikson's model (positive poles), while the first stage had the highest scores. Scores representing the other four stages were at the middle level, with Stage 4, Industry, being dominant. The standard deviations for these measures complement this pattern in that, among the grades, the greatest variabilities occurred for Trust and Industry while the least were for the last two measures, Generativity and Integrity. The CASPM scores for the eight negative poles of the stages revealed a similar but varied pattern. The similarity was that the lowest scores again were associated with the last three stages, with similar standard deviations; namely, Identity Diffusion, Stagnation, and Despair. Yet the highest score was for Stage 2, Constraint, rather than for Mistrust. The next was Inferiority followed by Hesitancy and Isolation. The children focused chiefly on Initiative and Industry, as well as Constraint and Inferiority, in addition to Trust and Mistrust.

When individual grade is taken into consideration, for all the grades the highest scores were on the CASPM positive scales of Trust and Industry, which is consistent with the general pattern described in the previous paragraph. The next two highest scores across the grades also presented certain patterns. For Grades 1 and 2, the next foci were on Stages 2 and 3 of Erikson's model (Autonomy and Initiative); starting from Grade 3, these foci were one stage further, that is, the Stage 3 and Stage 5 (Initiative and Affinity)
<table>
<thead>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<tr>
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<td>1.37</td>
<td>1.71</td>
<td>1.24</td>
</tr>
</tbody>
</table>

Note: 1. The first column shows the 16 CASP scales, the sum of positive scales, and the sum of negative scales.
2. The first row shows Grade 1 to Grade 12, with the number of participants (N) within each grade on the second row.
3. In the body of the table are the means (top) and standard deviations (bottom) for the scale scores respectively.
4. The last column (Combined) contains means and standard deviations for the entire sample on each individual scale.
had the next two highest scores after Stages 1 and 4. Further, this pattern was quite stable until Grade 10. Grade 11 marked a new difference, another with a focus on Stage 3 and Stage 5 to Stages 5 and 6, with Stage 6 (Identity) as the third highest stage. This was apparent for Grade 12 as well. The picture for the negative subscales, however, was not the same as that for the positive ones. For Grades 1 and 2, the primary concerns were at Stages 1 and 2 (Mistrust and Constraint), followed by Stages 3 and 4. Once more, Grade 3 gave the second highest score at Stage 4 (Inferiority), with Stage 5 (Isolation) as the fourth highest scored stage. However, there seemed to be a difference starting from Grade 7, where the main focus on the first two stages shifted from Stage 4 (Inferiority) to Stages 1 and 2. For the last two stages, Stagnation and Despair, each grade scored the same. This implies that, for school students, the crises of stagnation and despair were too remote to be in focus yet. Grades 1 to 6 scored the same for Stages 7 and 8 (out of their focus) but from Grade 7 onwards this crisis (Identity Diffusion) entered into their sphere of concern. In other words, not until high school would the issue of identity become important.

Figure 6.1 shows the profiles of Grades 1 to 12 on the 16 CASPM scales. Across all the scales, the shape of the figures reveals that there is a similar pattern of psychosocial maturity for all the research participants. It shows that the most fluctuations for all grades were between Stages 1 to 5 for positive (Trust to Affinity) as well as negative scales (Mistrust to Isolation), but were less marked for the latter. In contrast, the last three stages were quite comparable, with little differences between grades. Thus, the most notable grade differences in psychosocial maturity for these Chinese children were for the first five Erikson's developmental stages as measured by the CASPM scales. Notable differences were clearly seen in primary school children (see Figure A6.1a to A6.1d in Appendix 6), for positive CASPM scores, specifically for Industry and Identity, but for high school students they were smaller. For negative CASPM scores Mistrust, Constraint, and Inferiority seemed to differ from other scores. For both primary and high school students, Trust was generally the scale with the highest scores. Figure A6.2 and
Figure 6.1 Mean CASPM Scores Over 12 Grades
A6.3 are also included in Appendix 6. They depict the distribution of each CASPM scale across grade levels and allow comparison of the scores within or between grades. These figures complement Figure 6.1. Both, together with Table 6.2, provide descriptive support for the first hypothesis. Statistical analyses of these data are now reported.

6.1.1.2 Statistical Analysis of Psychosocial Maturity Measures over Grade

Although a general similarity in terms of the overall shape of the distributions of scores across grades is evident, the differences between grades on each psychosocial maturity measures were also presented. This has been explored by multivariate analysis of variance (MANOVA), with the 16 CASPM scales as dependent measures and grade as the factor. A significant grade effect has been found (Wilks' $F(176,2823) = 1.76$, $p < .0005$). The effect size index ($\eta^2$) as measured by the proportion of variance accounted for was only .083 indicating that the degree of the departure from the null hypothesis was not very great (J. Cohen, 1977); this is consistent with Figure 6.1, with some differences among grades, but similar overall patterns. A further examination of the differences among the grades across psychosocial maturity measures was needed.

It seemed more appropriate to evaluate the two parts of the CASPM, the positive scales and negative scales separately. Moreover, Figures 6.1 shows that for some profiles the similarity was greater than difference, especially for high school students (see also Figures A6.1c and A6.1d in Appendix 6). A cluster analysis was carried out on both grade and scales to make the subsequent analyses more efficient. It showed that for the CASPM scales, Isolation and Identity Diffusion as one, Stagnation, Despair, Generativity, and Integrity as the other, appeared to provide two clusters, with the other scales standing alone. This pattern in the cluster analysis was consistent in both standardized similarity (correlation) and difference (squared Euclidian distance) proximity measures, using the average linkage between group method. For grade, the first cluster (squared Euclidian distance under averaged between group linkage) was Grade 6/7 (i.e., Grades 6 & 7; the same notation is applied subsequently) then Grade 10/12 appeared as a
cluster with Grade 8/9 another. These were confirmed by SPSSX ONEWAY tests with appropriate contrasts. It was therefore decided that the subsequent analysis would be based on these modified combinations, unless otherwise stated. That is, for grade, Grades 6/7, 8/9, 10/12 were grouped into three clusters, making the total grade number nine instead of twelve. For the CASPM, Isolation/Identity Diffusion, Stagnation/Despair, and Generativity/Integrity were also combined into three clusters, making the total number of positive scales seven and total number of negative scales six.

MANOVA was also carried out on positive and negative scales separately. The results were similar to the total CASPM with 12 grades. The grades were significantly different for positive CASPM scales (Wilks' $\Lambda_{(56,1723)} = 3.36, p < .0005, \eta^2 = .077$) as well as for negative CASPM scales (Wilks' $\Lambda_{(48,1579)} = 2.20, p < .0005, \eta^2 = .052$). The subsequent univariate analysis indicated that the grades differed for all the CASPM scales except two: Affinity in positive scales set and Hesitancy in negative scales set. Table 6.3 shows the results of the univariate tests. For each of the CASPM scales the confidence interval was calculated around the mean of the entire sample for all grades combined. To control the experimentwise error at .05 level, the $\alpha$ level for each confidence interval was set for each set of scales to take into account the multiple comparisons. Thus, for the positive CASPM scale set, the $\alpha$ was set at .0008 and for the negative CASPM scales at .0009. The table also presents the results of a range test using Tukey's HSD method and selected contrasts analysis under Scheffé's criterion. The first is appropriate for many multiple comparisons between pairs of means and the second to multiple comparisons involving more than two means (Keppel, 1973).

These results show that Grade 1 consistently scored higher than the grade averages across all the scales. Grades 2 and 4 scored consistently lower than the grade average on most scales, although Grade 2's Autonomy score was higher than average. Generally, Grades 3 and 5 had higher scores than average on most scales, while those of Grade 11 were lower. For Grades 1 to 5 there was a pattern of zigzag development across most of the CASPM measures. That is, with Grade 1 higher, Grade 2 lower, while Grade
Table 6.3 SIMPLE EFFECT TESTS AND MULTIPLE COMPARISONS FOR GRADE DIFFERENCES IN CASPM SCALE SCORES

<table>
<thead>
<tr>
<th>GRADE</th>
<th>F-Test*</th>
<th>Confidence Interval (CI)**</th>
<th>Grades Out of CI</th>
<th>RANGE TESTS</th>
<th>CONTRASTS (Top grades versus bottom ones) *****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td>(8.326)</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Trust</td>
<td>1.05</td>
<td>.48</td>
<td>5.64***</td>
<td>.12</td>
<td>.96</td>
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<td>4.23***</td>
<td>.09</td>
<td>.47</td>
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<td>2.30**</td>
<td>.05</td>
<td>.57</td>
</tr>
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<td>.39</td>
<td>3.76***</td>
<td>.08</td>
<td>.71</td>
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<td>.17</td>
<td>3.98**</td>
<td>.09</td>
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<td>.15</td>
<td>5.63**</td>
<td>.12</td>
<td>.36</td>
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</table>

Notes:
* These were univariate F tests, with partial $\eta^2$ as the index of effect size, and in this case it equals $R^2$.  
** Confidence Intervals (CI) were calculated for each scale and the experimentwise error were controlled so that overall a level was 0.05  
*** The grades combined by slash (/) were those which had been grouped together based on cluster analysis. The dash (-) connecting grades means "to" inclusive.  
**** The Range Tests using Tukey's HSD reported only those grades which were out of CI, as indicated in the table.  
****** The contrasts had been performed on selected comparisons. The stars (*) indicate the significance level, * $p < .05$, ** $p < .01$; and pooled variance estimates were used.
3 would be higher again, followed by lower scores for Grade 4 and higher for Grade 5 once more. This seemingly grade related alternating pattern is more apparent when Figure 6.3 is examined. However, the differences among those adjacent higher and lower scores were not statistically significant in this alternate pattern over all the grades. The HSD Range test shows that the main difference among those grades out of the confidence limits contrasted Grade 1 with other grades.

Grade differences for individual scale scores were also clear, with Grade 1 scoring significantly higher than most of other grades on all the scales except four: Initiative, Affinity, Constraint, and Hesitancy. For Trust, Grade 1 and the Grade 6/7 cluster scored significantly higher than Grades 10 to 12. Specific contrasts showed that from Grade 6 on, lower grades usually had greater Trust scores than higher grades (See Figure 6.3). There seemed to be three rises in grades: from Grades 3 to 4, from Grades 5 to 6 and 7, and from Grades 11 to 12 (See Figure 6.3). For Autonomy, it was Grades 4 and 11 that scored lowest; and Grade 1 scored significantly higher than both Grades 4 and 11. In the middle, the contrasts showed that Grades 1 to 5 scored higher than Grades 6 to 12, and Grades 1 and 2 higher than 3. Although the high Grades 1 and 5 scores and low Grades 4 and 11 scores were outside the confidence limit for Initiative, the range test and contrasts did not show significant differences among grades. A similar outcome occurred for Affinity, although Grade 5 this time scored significantly higher than Grades 1 to 4 combined. This indicates that, when Initiative and Affinity were considered, there were few grade differences. The fourth positive scale of the CASPM, Industry, showed the second highest peak to Trust and the grade differences at this level came mainly from the difference between Grades 1, 3 and 6/7 at the top end and Grades 8/9 and 10/12 at the lower end.

The contrasts showed that scores from the Grades 1 to 5 were significantly higher than that from Grades 6 to 12. Further, when the latter range was divided, Grade 6/7 cluster scored higher than Grade 8/9 cluster. Identity proved to be a task of adolescents. Except for Grade 1, high scores were achieved only by senior high school students
(Grades 10 to 12). Both range tests and contrasts confirmed this. Figure 6.2 shows three levels of mean scores on Identity: the top level contains Grades 1, 10 to 12; the middle one contains Grades 5 to 9; and the lowest level includes Grades 2 to 4. Figure 6.3 shows that from Grade 4 onwards there was a steady increasing for Identity scores. The last two positive scales as one cluster, Generativity/Integrity in fact had the lowest scores among all the positive scales (Table 6.2, Figure 6.3). The grade differences as reflected in Table 6.3 were located mainly in primary school grades, although Grade 11 was also involved. In Figure 6.2 the same three levels could be recognized: Grade 1 at the top, Grade 5 in the middle, and all the others staying at the lowest end with Grades 4, 2, and 11 lowest, which was confirmed by range test in Table 6.3.

In general, the pattern for negative scales was similar to that for positive scales, that is, Grade 1 still scored highest and Grades 2 and 4 scored lowest (Figures 6.4 & 6.5). It seemed that there were no significant differences between grades on the scales of Constraint and Hesitancy, as range test and contrast revealed none; although when the grand grade means were compared, Grades 1 and 5 were outside both upper limits of Constraint and Hesitancy, while Grades 2 and 4 were outside the lower limits. For Mistrust, which was the second highest of all negative scales, grade differences came mainly from Grades 1 and 4 that was significantly lower than the former, and Grade 8/9 cluster and Grade 11, with Grade 11 significantly higher than the former. A clearer trend can be seen in Figure 6.5. Mistrust score decreased in magnitude from Grades 1 to 4; then, it increased until Grade 11, then, followed another decrease. For Inferiority and the Isolation/Identity Diffusion cluster, grade differences again came in contrast to Grade 1 with Grades 3 and 5 at the high end and Grades 2 and 4 at the low end. Range tests showed that Grade 1 was significantly higher than Grade 2 on both Inferiority and the Isolation/Identity Diffusion cluster, and higher than Grade 4 as well on Inferiority and the Isolation/Identity Diffusion cluster. The last cluster of the negative CASPM scales was Stagnation/Despair. Once more the grade differences were attributed to Grade 1 scoring higher than the rest. Grade 5 was the second highest, but the differences between Grade 5
Figure 6.2 CASPM Positive Scale Mean Scores for Grades (Clustered)
Figure 6.3 CASPM Positive Scale Mean Scores Over Grades (Clustered)
Figure 6.4 CASPM Negative Scale Mean Scale Scores for Grades (Clustered)
Figure 6.5 CASPM Negative Scale Mean Scores Over Grades (Clustered)
and others were not significant. Although the contrasts showed that there were some differences, a more precise picture could be captured through Figures 6.4 and 6.5. The figures showed that primary school students' scores varied more with grade than later years in the school. Further, Stagnation/Despair was the lowest scored scale among other scales.

6.1.1.3 A Summary of Grade Differences

A brief summary of the grade differences is appropriate now. Grade 1 had higher CASPM scores than all other grades, while Grades 2, 4 and 11 scored lower than all other grades. It appeared that the grades differed in a zigzag form, with high-low scores in each successive CASPM scales, especially during the primary school years (Grades 1 to 6). The difference between the primary and high school grades were significant for most of the positive CASPM scales except Trust, Initiative and Affinity, as well as for the Stagnation/Despair cluster. Although grade difference was present for most CASPM scales (except Affinity and Hesitancy), the more substantial grade differences in terms of effect size ($\eta^2 > .06$) occurred for Trust, Autonomy, Industry, Identity, Generativity/Integrity, Mistrust, Isolation/Identity Diffusion, and Stagnation/Despair.

I shall now examine the data in another way. In Erikson's model, each developmental crisis is presented as a pair of tasks to be mastered. My concept of contradiction also implies this polar pairing. Therefore, it should be useful to compare the two measures, positive and negative scales scores combined, to provide information relevant to developmental stage. I shall report these results in the next section.

6.1.2 Psychosocial Maturity Measured as a Unity of Opposites

6.1.2.1 A Description of Stage and Ratio Profiles

When combining the positive and negative scales scores, I used "full size" variables again, that is, neither the CASPM scales nor grades were clustered, to give more complete information. Figure 6.6 presents eight pairs of graphs each representing one
positive and one negative scales corresponding to Erikson's eight stages. The same scale unit has been used for all the figures in order to make comparisons possible. Several observations can be made. First, in terms of differences in the size of scores between the positive and negative scales, the first stage, that is, Trust versus Mistrust showed the greatest, followed by Stage 4, Industry versus Inferiority. The last two stages, Generativity versus Stagnation and Integrity versus Despair had the least. Second, in terms of grade difference, in general, primary school grades (1 to 6) showed more differences than high school grades.

A third observation on this figure is particularly interesting. For Stage 1, the positive and negative measures have diverged in opposite directions, particularly in the grade ranges 3 to 6, 7 to 8, and 9 to 12. The next stage with something of this pattern was Stage 4, most clearly between Grades 5 to 7 and 9 to 12. The other stages do not show this pattern so much; however, in general, this divergence of positive and negative scales scores occurred during those transition years, for instance, from Grades 6 to 7, which marks the transition from primary school into high school; from 9 to 10, which marks entering senior high school from the junior. This pattern can be seen at, for example, Stage 3 (Initiative vs Hesitancy) during both of those transitions just mentioned, Stage 5 (Affinity vs Isolation) during the first transition with the trend being postponed one year later (i.e., Grades 9 to 10) for the second transition; and Stage 6 (Identity vs Identity Diffusion) during the second transition (Grades 9 to 10) while Stage 7 (Generative vs Stagnation) during the first transition (Grades 6 to 7).

Given these observations, I chose to use two other measures based on the positive and negative scale scores of the CASPM: the Stage score and the Ratio score. The measure, Stage, was simply the sum of the scores at the corresponding positive and negative poles for each CASPM scale, for instance, the sum of Trust and Mistrust scores produced the first stage score. Thus, eight stage scores corresponding to eight stages in Erikson's model can be calculated. Ratio, another similar measure, was the ratio of corresponding positive and negative scales, thus, Trust to Mistrust produced the first ratio
score. Eight ratio scores were also derived. In addition, STAGES was denoted to the sum of stage scores (total positive and negative scales) and RATIOS represented total average ratio score between positive and negative scales. When Stage and Ratio scores were examined, a more complete picture of psychosocial maturity could be obtained. In order to distinguish the measures of stage and the concept of stage, I adopted Roman numerals to denote the CASPM stage and ratio measures and kept Arabic numerals for the conceptual stages. Thus, Stage V (Intimacy and Isolation) and Ratio V (Intimacy to Isolation) were two scores for Stage 5 (Intimacy versus Isolation).

When positive and negative scale scores both differ from one grade to the next, the stage score differs as well. Further, the difference size and direction in terms of the dominant pole of the positive and negative scale scores is reflected in ratio scores. The slope of the stage or ratio profiles indicate the degree of difference. Detailed comparisons can be made (Figure 6.6 & Figure 6.7). The left panel of Figure 6.7 depicts Stage, while the right Ratio. I shall take Industry and Inferiority for Grades 5 to 7 (Figure 6.6) as an example. The Stage IV profile for Grades 5 to 7 (Figure 6.7) shows a slight drop from Grade 5 to Grade 6 and roughly the same from Grade 6 to 7. Yet, the Ratio IV profile (Figure 6.7) showed that there was an increase from Grade 5 to 6 and a decrease from Grade 6 to 7. The former reflects that for Grade 6, the Industry and Inferiority scores were further apart with more Industry than Inferiority being expressed (because large ratio scores indicate that more positive than negative scores have been gained). The latter showed for Industry and Inferiority positive scores lower with negative ones higher pattern. These extra measures do give added insight into the development of psychosocial maturity over grades.

These Stage and Ratio profiles could certainly be transposed to a similar grade profiles (Figures 6.2 and 6.4) to reveal the similarities and differences among grades for each stage. These Stage and Ratio measures over grades were included in Appendix 6 (Figures A6.4 and A6.5). They show that most differences were at Stage 4 (Industry vs
Figure 6.6 Paired CASPM Scale Mean Scores Over Grade
Figure 6.7 CASPM Stage and Ratio Scores Over Grade
Inferiority) and Stage 6 (Identity vs Identity Diffusion), apart from Stage 1 (Trust vs Mistrust).

6.1.2.2 Grade Differences Reflected in Stage and Ratio Measures

Are there significant grade differences in the association with the stage and ratio scores? MANOVA shows that the grades differed in their stage scores (Wilks' $F_{(88,2075)} = 2.10, p < .0005, \eta^2 = .068$), and in their ratio scores (Wilks' $F_{(88,2075)} = 1.96, p < .0005, \eta^2 = .063$). The subsequent univariate analyses are presented in Table 6.4. The grade effect for stage scores was larger than for ratio scores (ratio scores represent the relative weights of positive and negative measures while the stage scores are sensitive to the overall strength of the measure).

In terms of stages, the grades differed across all the stages and the range tests showed similar pattern to those revealed in Table 6.3 for the CASPM scale measures. The contrasts showed that primary school grades differed significantly from high school grades with their higher scores for Stage II, Stage IV, Stage VII and Stage VIII, but lower for Stage VI. However, when ratio scores were considered, the grades differed only for Ratios I, IV, and VI. In comparison with high school grades, Grades 1 to 6 scored higher on Ratio I and Ratio II, but lower on Ratio VI.

6.1.3 Summary

In this section it has been reported that the development of psychosocial maturity among the primary and high school students in People's Republic of China seems to be generally consistent with Erikson's model, as proposed in Hypothesis 1. There were similarities between all grades, with particularly high scores on Stage 1 and Stage 4 of the model, while Stage 6 featured a gradual increase during early adolescence. Grade 1 scored high on almost all the scales, while Grades 2, 4, and 11 generally scored low. Primary school children scored higher for Trust/Mistrust and Industry/Inferiority (ratio scores) but lower for Identity/Identity Diffusion than high school children. When the
### Table 6.4

**SIMPLE EFFECTS FOR GRADE WITHIN EACH CASPM STAGE AND RATIO MEASURE**

<table>
<thead>
<tr>
<th>Stage</th>
<th>1-6</th>
<th>1-2</th>
<th>3</th>
<th>4-5</th>
<th>1-4</th>
<th>1-5</th>
<th>1-3</th>
<th>10-11</th>
<th>11</th>
<th>7-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- **R** < .01
- **p** < .05

Range tests used Tukey's HSD; and Scheffe's method was employed for the contrast. Only grades that were out of the CI are reported in the range tests.
nature of the contradiction was considered, it was found that for each grade the relationship between the positive and negative qualities of psychosocial maturity differed, especially during school transition periods.

Three scoring methods have been used for the CASPM: firstly, scale scores, with 8 positive and 8 negative scales; secondly, stage scores from the sum of each of 8 pairs of positive and negative scale scores, corresponding to Erikson's stages; and thirdly, ratio scores, similar to stage scores but with the ratio of the scale scores being used rather than the sum. All three kinds of scores reveal psychosocial maturity from a different perspectives, offering different but related information about psychosocial maturity. Single scale scores offer the richest and most detailed information and provide the base of the other two kinds of scores. Stage scores emphasize the magnitude or level of the psychosocial maturity for each stage without the consideration of the composite details. Ratio scores, on the other hand, stress the composite weight of positive and negative scores and reflect the proportion of the degree of positive residues. My first hypothesis has, then, been supported, by both descriptive and statistical analysis, as well as through different scoring methods of CASPM. They all show similar results as predicted. Now, the next hypothesis will be considered.

6.2 Psychosocial Maturity, Sociality and Self Control and Helplessness (Hypothesis 2)

The second hypothesis predicted that the higher the level of psychosocial maturity in children, the greater their expressions of self control and sociality and the less their expressions of helplessness. The measurement of psychosocial maturity was by the CASPM, while the expressions of self control and helplessness, and sociality were measured by the Origin and Pawn, and Sociality Scales respectively. The means and standard deviations for these scores are listed in Table 6.5 for the entire sample. That table includes two CASPM measures: stage and ratio scores. The scores for CASPM has been discussed in details already. The scores for Origin and Pawn Scales were fairly similar.
For Sociality, the mean total scale score for the entire sample was .50 (SD = .19); for the interaction type dimension of the Sociality Scale, the highest subscales mean was for Sharing; followed by Solidarity and Intimacy; the lowest was for Influence. For the Sociality Scale role dimension, the results revealed that these children were most involved in a Joint Actor roles in their interactions; and after that they played Reactor’s rather than Initiator’s roles. Thus, Chinese school children and adolescents tended to report entering into shared interaction situations as joint actors rather than to be initiators in influential situations.

Table 6.5 MEANS AND STANDARD DEVIATIONS OF CONTENT ANALYSIS SCALES OF SOCIALITY, ORIGIN, PAWN AND PSYCHOSOCIAL MATURITY (STAGE AND RATIO SCORES) FOR THE ENTIRE SAMPLE (N=334)

<table>
<thead>
<tr>
<th>SOCIALITY</th>
<th>M</th>
<th>SD</th>
<th>ORIGIN &amp; PAWN</th>
<th>M</th>
<th>SD</th>
<th>CASPM(Stage)</th>
<th>M</th>
<th>SD</th>
<th>CASPM(Ratio)</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLIDARITY</td>
<td>.19</td>
<td>.16</td>
<td>ORIGIN</td>
<td>.88</td>
<td>.37</td>
<td>Stage I</td>
<td>1.66</td>
<td>.56</td>
<td>Ratio I</td>
<td>2.05</td>
<td>1.22</td>
</tr>
<tr>
<td>INTIMACY</td>
<td>.14</td>
<td>.13</td>
<td>PAWN</td>
<td>.80</td>
<td>.37</td>
<td>Stage II</td>
<td>1.16</td>
<td>.43</td>
<td>Ratio II</td>
<td>.93</td>
<td>.52</td>
</tr>
<tr>
<td>INFLUENCE</td>
<td>.12</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td>Stage III</td>
<td>1.09</td>
<td>.41</td>
<td>Ratio III</td>
<td>1.44</td>
<td>.71</td>
</tr>
<tr>
<td>SHARED</td>
<td>.37</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td>Stage IV</td>
<td>1.33</td>
<td>.54</td>
<td>Ratio IV</td>
<td>1.65</td>
<td>.91</td>
</tr>
<tr>
<td>REACTOR</td>
<td>.24</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td>Stage V</td>
<td>1.01</td>
<td>.43</td>
<td>Ratio V</td>
<td>1.43</td>
<td>.72</td>
</tr>
<tr>
<td>INITIATOR</td>
<td>.17</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td>Stage VI</td>
<td>.92</td>
<td>.33</td>
<td>Ratio VI</td>
<td>1.33</td>
<td>.61</td>
</tr>
<tr>
<td>JOINT ACTOR</td>
<td>.34</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
<td>Stage VII</td>
<td>.81</td>
<td>.32</td>
<td>Ratio VII</td>
<td>1.09</td>
<td>.40</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.50</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
<td>Stage VIII</td>
<td>.80</td>
<td>.32</td>
<td>Ratio VIII</td>
<td>1.03</td>
<td>.17</td>
</tr>
<tr>
<td>STAGES</td>
<td>8.78</td>
<td>2.46</td>
<td>RATIOS</td>
<td>1.30</td>
<td>.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To examine the relationships among these psychosocial measures, Pearson’s product moment correlations coefficients were calculated (see Table 6.6). There was a positive relationship between all measures of psychosocial maturity and sociality, and, this relationship was contributed to more by the positive scales than by the negative scales. The ratio scores showed a medium size correlation. Self control were related to the positive scales of psychosocial maturity, while the lack of control or helplessness was related to the negative toned constructs of psychosocial maturity. This relationship was further supported by the positive coefficient with the Origin Scale scores and the negative coefficient between ratio scores and Pawn Scale scores. The total stage scores related
strongly to both Origin and Pawn Scale scores. The relationship between the degree of sociality and the expression of self control only revealed weak associations ($r = .18$

Table 6.6 PEARSON'S CORRELATION COEFFICIENTS BETWEEN CASPM POSITIVE AND NEGATIVE SCALE, STAGE AND RATIO SCORES AND THE SOCIALITY, ORIGIN AND PAWN SCALE SCORES (N=334)

<table>
<thead>
<tr>
<th></th>
<th>POSITIVE</th>
<th>NEGATIVE</th>
<th>STAGES</th>
<th>RATIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIGIN</td>
<td>.50</td>
<td>.24</td>
<td>.41</td>
<td>.31</td>
</tr>
<tr>
<td>PAWN</td>
<td>.19</td>
<td>.59</td>
<td>.41</td>
<td>-.50</td>
</tr>
<tr>
<td>TOTAL SOCIETY</td>
<td>.50</td>
<td>.23</td>
<td>.41</td>
<td>.29</td>
</tr>
</tbody>
</table>

Note: All coefficients were significant ($p < .0005$)

between total Sociality Scale and the Origin Scale scores; and $r = .14$ between total Sociality Scale and the Pawn Scale scores), which supported the independence of the measures of the psychosocial dimensions from good interpersonal interactions and of self control and helplessness. The correlation between the Origin and Pawn Scale scores was also only $.20$ ($p < .0005$), indicating that they do not simply measure reverse kinds of attributions.

The second hypothesis has been supported by the coefficients between these measures. However, as both sociality and psychosocial maturity are concepts composed of a set of related dimensions rather than single measures, it will be useful to scrutinize the relationships among those dimensions, using canonical correlations.

Six canonical analyses were carried out. The first four were between two dimensions of the Sociality Scale and the CASPM; stage and ratio scores were used because they contained most information yet reduced the number of variables significantly. The last two were between the Origin and Pawn scales, on one hand, and the CASPM, on the other. Ratio scores and single scale scores were used this time because they were theoretically more relevant than stage scores to the relationship between psychosocial maturity and the sense of self control and helplessness. These results were
presented in Table 6.7 to Table 6.9. A criterion $r$ of .30 was adopted in deciding on the number of canonical variates to consider and in the interpretation of the correlations with them. Table 6.7 presents two canonical analyses between the CASPM stage scores and two subscales of the Sociality Scale, namely, interaction types (Solidarity, Intimacy, Influence, and Shared or Unspecified interaction), and interaction roles (Reactor, Initiator, and Joint actor).

The correlations between stages scores and interaction type were reported in the left panel of Table 6.7. Four canonical variates were extracted. However, the last one was

| Table 6.7 CANONICAL CORRELATIONS BETWEEN CASPM STAGE SCORES AND THE SOCIALITY SUBSCALES OF TYPE AND ROLE |
|---|---|
| **Stage Scores with Type Scores** | **Stage Scores with Role Scores** |
| **Canonical Variates** | **Canonical Variates** |
| 1st | 2nd | 3rd | 1st | 2nd | 3rd |
| **Set 1** | **SOCIALITY (Type)** | **SOCIALITY (Role)** |
| SOLIDARITY | - .71 | .54 | .44 | REACTOR | -.63 | .69 | .35 |
| INTIMACY | -.75 | -.59 | | INITIATOR | -.72 | -.46 | .51 |
| INFLUENCE | -.55 | -.80 | | JOINT ACTOR | -.52 | | -.84 |
| SHARED | -.40 | | | | | | |
| % of Variance | 38.41 | 17.99 | 21.19 | Total=77.59 | 39.91 | 23.44 | 36.65 | Total=100.00 |
| Redundancy | 23.33 | 5.69 | 4.84 | Total=33.87 | 18.59 | 5.42 | 4.98 | Total=28.99 |
| **Set 2** | **CASPM (Stage)** | **CASPM (Stage)** |
| Stage I | -.76 | | -.70 | .58 |
| Stage II | -.46 | -.83 | | -.47 |
| Stage IV | -.57 | | -.62 | -.33 |
| Stage V | -.55 | .47 | | -.54 | .61 |
| Stage VI | -.83 | -.51 | | -.79 | -.32 | -.40 |
| Stage VI | -.51 | -.31 | | -.42 |
| Stage VII | -.81 | | -.83 |
| Stage VIII | -.82 | | -.81 |
| % of Variance | 46.21 | 7.30 | 13.68 | Total=67.19 | 44.16 | 8.12 | 8.45 | Total=60.73 |
| Redundancy | 28.07 | 2.31 | 3.12 | Total=33.51 | 20.57 | 1.88 | 1.15 | Total=23.59 |
| $R_c$ | .78** | .56** | .48** | .68** | .48** | .37** |
| $R_c^2$ | .61 | .32 | .23 | .47 | .23 | .14 |
| F | 20.71 | 12.17 | 9.31 | 16.77 | 10.51 | 8.51 |
| df(hypo.) | 32 | 21 | 12 | 24 | 14 | 6 |
| df(err.) | 1189 | 928 | 648 | 937 | 648 | 325 |

Note: Only loadings greater than .30 are reported. ** $p < .01$
not included because of its lack of significance ($p > .01$) and small effect size ($r < .30$). The remaining three were all statistically significant in dimension reduction analysis ($p < .0005$) and with medium to large effect sizes ($r > .30$). The first canonical correlation accounted for 61% of variance; the second 32% and the third 23% of variance. The corresponding F values in the dimension reduction analysis are shown. The percent of variance and redundancy revealed moderate associations between all three pairs of canonical variates. Within the first canonical variate, the redundancies for the Sociality Type set was 23.33% and for the CASPM Stage set was 28.07%. The correlations between both set of variables and the canonical variate showed consistent association and direction. All scores were correlated negatively with the canonical variate. It seems that children who scored low on the CASPM in terms of magnitude, regardless of whether the scales were positive or negative, tended to score low on the Sociality interaction type dimension as well, they referred to more relationships of intimacy and solidarity. The subscales most strongly correlated to the first canonical variate for the Sociality Type set were Intimacy, Solidarity; while for the CASPM Stage set, were Stage V and Stage I. Although the correlations for Stage VII and Stage VIII were high, their standardized coefficients were not (-.32 and .07 respectively). For the second canonical variate for Stage scores with Type of interaction it seems that those who had a strong sense of adequacy and mastering (Stage IV, Industry-Inferiority) yet not having a strong sense of interpersonal closeness and love (Stage V, Affinity-Isolation) had no difficulty in being involved in Solidarity interactions but some in Intimacy relationship. The third pair of canonical variates revealed a positive contribution from Solidarity but a negative contribution from Influence associated with low senses of Autonomy-Constraint and Identity-Identity Diffusion.

The right panel of Table 6.7 indicates the relationships between the CASPM stage scores and the role dimension of the Sociality Scale. Three canonical variates were extracted. The first pair of canonical variates accounted for 47% of the variance; the second 23% ; and the third 14% . The dimension reduction analyses showed that all three
canonical variates were statistically significant. Total percent of variance and redundancy revealed once more that the canonical variates were correlated, especially the first two. Within the first canonical variate, again, two sets of variables consistently correlated negatively with the canonical variate (all r's > .30). The redundancies of the first canonical variate indicate that it accounts for about 20% of variance for both sets. The loadings within the sets showed that low psychosocial maturity generally corresponds to reactive rather than initiative interactions with others. This was particularly so for low scores on Generativity-Stagnation, Identity-Identity Diffusion, Affinity-Isolation and Trust-Mistrust. Children scoring low for these aspects of psychosocial maturity tended to have low sociality scores no matter what roles were considered. The second canonical variate of the Stage with Role relationship indicated that those who had low sense of Affinity and less Initiative but high Trust would assume a Reactors' role rather than take an Initiators' role. However, those who had a low sense of commitment to closeness and affinity but a high sense of competence in the third canonical variate would take distinct roles in their social interactions rather than score high for Joint Actor.

Table 6.8 presents the relationship between the CASPM ratio scores and the Sociality subscale scores. The canonical analysis for the relationship between the set of interaction Type and the set of Ratio scores revealed four canonical variates, but only the first two had considerable effects. The first canonical correlation accounted for 35% of variance, the second, 25% . Ratio scores revealed more specific patterns of associations between psychosocial maturity and psychosocial interactions than the stage score had done.

The first canonical variate showed that those research participants with positive loadings for Ratio I (Trust/Mistrust) and Ratio V (Affinity/Isolation), but with a negative loading for Ratio VI (Identity/Identity Diffusions) tended to be involved often in intimate and solidarity relationships as well as enjoying to be with others; but they rarely mentioned influential relationships. The pattern of association between the Solidarity and Intimacy types of interaction with psychosocial maturity measures was further clarified by
the second canonical variate. It suggests that children who had a strong sense of Affinity in psychosocial maturity (Ratio V) but weak Trust (Ratio I) and Industry (Ratio IV) tended to be involved in intimacy but not solidarity relationships.

The right panel of Table 6.8 illustrates the relationship between the Sociality Role subscales and the CASPM ratio scores. Three canonical variates were extracted from these two sets of variables. All three were statistically significant, but the third one was excluded for the interpretation because its canonical correlation was below the cutoff criterion. The first canonical correlation accounted for 28% of variance and the second for

Table 6.8 CANONICAL CORRELATIONS BETWEEN CASPM (RATIO SCORES) AND THE SOCIALITY SUBSCALES OF TYPE AND ROLE

<table>
<thead>
<tr>
<th>Ratio Scores with Type Scores</th>
<th>Canonical Variates</th>
<th>Ratio Scores with Role Scores</th>
<th>Canonical Variates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set 1</td>
<td></td>
<td>Set 1</td>
<td></td>
</tr>
<tr>
<td>SOCIALITY (Type)</td>
<td></td>
<td>SOCIALITY (Role)</td>
<td></td>
</tr>
<tr>
<td>SOLIDARITY</td>
<td>.68</td>
<td>REACTOR</td>
<td>.82</td>
</tr>
<tr>
<td>INTIMACY</td>
<td>.83</td>
<td>INITIATOR</td>
<td>.30</td>
</tr>
<tr>
<td>INFLUENCE</td>
<td>.38</td>
<td>JOINT ACTOR</td>
<td>.54</td>
</tr>
<tr>
<td>% of Variance</td>
<td>32.44</td>
<td>Total=50.18</td>
<td>35.09</td>
</tr>
<tr>
<td>Redundancy</td>
<td>11.40</td>
<td>Total=16.13</td>
<td>9.94</td>
</tr>
<tr>
<td>Set 2</td>
<td></td>
<td>CASPM (Ratio)</td>
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</tr>
<tr>
<td>CASPM (Ratio)</td>
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<td>CASPM (Ratio)</td>
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</tr>
<tr>
<td>Ratio I</td>
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<td>-.50</td>
<td>-.50</td>
</tr>
<tr>
<td>Ratio IV</td>
<td>.67</td>
<td>Ratio V</td>
<td>.33</td>
</tr>
<tr>
<td>Ratio V</td>
<td>.57</td>
<td>Ratio VI</td>
<td>-.56</td>
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<td>Ratio VI</td>
<td>-.41</td>
<td>Ratio VII</td>
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<td>Ratio VII</td>
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<tr>
<td>% of Variance</td>
<td>14.34</td>
<td>Total=26.72</td>
<td>13.63</td>
</tr>
<tr>
<td>Redundancy</td>
<td>5.04</td>
<td>Total=8.23</td>
<td>3.86</td>
</tr>
<tr>
<td>( R_c )</td>
<td>.59**</td>
<td>( R_c^2 )</td>
<td>.53**</td>
</tr>
<tr>
<td>( R_c^2 )</td>
<td>.51**</td>
<td>( R_c^2 )</td>
<td>.39**</td>
</tr>
<tr>
<td>F</td>
<td>9.31</td>
<td>13.63</td>
<td>8.19</td>
</tr>
<tr>
<td>( df(hypo.) )</td>
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<td>24</td>
<td>24</td>
</tr>
<tr>
<td>( df(err.) )</td>
<td>1189</td>
<td>928</td>
<td>937</td>
</tr>
</tbody>
</table>

Note: Only loadings greater than .30 are reported. ** \( p < .01 \)
The redundancies of the two sets indicated that the canonical variates extracted for interaction role set were more accountable (total $R_{d1,2} = 14.16\%$) than that for the CASPM set (total $R_{d2,1} = 5.84\%$). Taken individually, the second canonical variate was not credible, given its marginal redundancies, in particular for the CASPM set. Within the Sociality Role set, the first canonical variate accounted for 35% of total variance, with the highest correlation with the Reactor role followed by Joint Actor role. The contribution of the Initiator role was marginal only.

The first canonical variate within the second set revealed a pattern in which high positive loading for Trust/Mistrust ratios (Ratio I) and medium negative one for Identity/Identity Diffusion ratios (Ratio VI), together with moderate positive one for ratios of Affinity/Isolation (Ratio V), tended to be associated with being likely to report the taking Reactor and/or Joint Actor roles, but less likely, the Initiator role. The second canonical variate in the first set was mainly associated with high negative initiator role taking (Initiator), while in the second set, the correlations had a positive loading for Ratio VI (Identity/Identity Diffusion), and negative loadings for Ratio VII (Generativity/Stagnation), Ratio IV (Industry/Inferiority), Ratio III (Autonomy/Hesitancy), and Ratio V (Affinity/Isolation). Reporting taking the initiative in interaction with others would be less likely for those who scored low for psychosocial maturity attributes of autonomy, industry, affinity, and generativity, although they might report high identity scores.

Table 6.9 presents the results of canonical correlation analysis between CASPM scores and scores from the Origin and Pawn Scales. The left panel of the table reports the results for the Origin and Pawn Scale scores, on the one hand, and the CASPM ratio scores, on the other, while the right panel contains those for the Origin and Pawn Scale scores and the CASPM single scale scores. Two canonical variates were extracted in each case.

I shall deal first with the relationship between the Origin and Pawn and Ratio scores. The first canonical correlation accounted for 54% of variance, and the second
Both canonical variates were statistically significant. The total percent of variance for the set 1 (the Origin and Pawn Scales) indicated that the two canonical variates accounted for all the variance within the set, and also accounted for about 28% of variance in set 2 (Ratio scores). The two canonical variates within set 2 accounted for about 28% within set variance and only about 11% of variance in set 1. The first canonical variate in set 1 was correlated positively with the Origin Scale scores but negatively with the Pawn Scale scores. In set 2, the Ratio scores correlated with the first canonical variate came from Autonomy/Constraint (Ratio II), Initiative/Hesitancy (Ratio III) and Industry/Inferiority (Ratio IV). Therefore, it seems that those who had high ratio scores for stages 2 to 4 of Erikson's model tended to have higher levels of competence, control and confidence with lower levels of helplessness. The second canonical variate in set 1 correlated positively with both measures, while in set 2, Ratio III and Ratio VII correlated positively, and Ratio I, Ratio VI and Ratio V correlated negatively, with the second canonical variate. This canonical correlation was not large, and, more importantly, virtually no variance of the Pawn-Origin set could be accounted for by this second canonical variate of the Ratio score set ($R_{d2,1} = 1.12\%$ only). It has been noted that the CASPM ratio measures would reduce the redundancies. The relationships between psychosocial maturity and the sense of self control and helplessness were explored further using the CASPM single scales scores.

The right panel of Table 6.9 shows that, of the two canonical variates extracted, both were significant. The first canonical correlation accounted for 78% of variance and the second 67%. Within set 1, the Pawn Scale scores correlated with the first canonical variate apparently perfectly, while in set 2, the correlations between the CASPM measures and the canonical variate were from five consecutive negative scales from stage 1 (Mistrust) to stage 5 (Isolation). Thus, the first five negative poles seemed to be canonically associated with a sense of helplessness. The second canonical variate in set 1 was quite different from the first, that is, the Origin Scale scores correlated highly with it. A similar difference was also apparent for set 2. This time, the major correlations were
with Autonomy, Initiative, Industry, and Generativity. This suggests that there was an association between the Origin Scale scores and the CASPM positive scales' scores. Those who scored high on Autonomy, Initiative, Industry, and Generativity tended to score high on the Origin Scale as well.

Table 6.9 CANONICAL CORRELATIONS BETWEEN CASPM RATIO SCORES AND SINGLE SCALES AND THE ORIGIN & PAWN SCALES

<table>
<thead>
<tr>
<th>ORIGIN &amp; PAWN with Ratio</th>
<th>Canonical Variates</th>
<th>ORIGIN &amp; PAWN with CASPM Scales</th>
<th>Canonical Variates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st</td>
<td>2nd</td>
<td>1st</td>
</tr>
<tr>
<td>SET 1</td>
<td></td>
<td></td>
<td>SET 1</td>
</tr>
<tr>
<td>O-P</td>
<td></td>
<td></td>
<td>O-P</td>
</tr>
<tr>
<td>ORIGIN</td>
<td>.66</td>
<td>.75</td>
<td>ORIGIN</td>
</tr>
<tr>
<td>PAWN</td>
<td>-.60</td>
<td>.80</td>
<td>PAWN</td>
</tr>
<tr>
<td>% of Variance</td>
<td>40.14</td>
<td>59.86</td>
<td>Total=100</td>
</tr>
<tr>
<td>Redundancy</td>
<td>21.77</td>
<td>5.76</td>
<td>Total=27.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SET 2</td>
<td></td>
<td></td>
<td>SET 2</td>
</tr>
<tr>
<td>CASPM (RATIO)</td>
<td></td>
<td></td>
<td>CASPM (Single Scales)</td>
</tr>
<tr>
<td>Ratio I</td>
<td>-.56</td>
<td></td>
<td>Trust</td>
</tr>
<tr>
<td>Ratio II</td>
<td>.69</td>
<td></td>
<td>Autonomy</td>
</tr>
<tr>
<td>Ratio III</td>
<td>.52</td>
<td>.38</td>
<td>Initiative</td>
</tr>
<tr>
<td>Ratio IV</td>
<td>.62</td>
<td></td>
<td>Industry</td>
</tr>
<tr>
<td>Ratio V</td>
<td>-.34</td>
<td></td>
<td>Affinity</td>
</tr>
<tr>
<td>Ratio VI</td>
<td>-.39</td>
<td></td>
<td>Identity</td>
</tr>
<tr>
<td>Ratio VII</td>
<td>.41</td>
<td></td>
<td>Generativity</td>
</tr>
<tr>
<td>Ratio VIII</td>
<td></td>
<td></td>
<td>Integrity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mistrust</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Constraint</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hesitancy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inferiority</td>
</tr>
<tr>
<td>% of Variance</td>
<td>16.84</td>
<td>11.59</td>
<td>Total=28.42</td>
</tr>
<tr>
<td>Redundancy</td>
<td>9.13</td>
<td>1.12</td>
<td>Total=10.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R_c$</td>
<td>.74**</td>
<td>.31**</td>
<td>.88**</td>
</tr>
<tr>
<td>$R^2_c$</td>
<td>.54</td>
<td>.10</td>
<td>.78</td>
</tr>
<tr>
<td>$F$</td>
<td>22.48</td>
<td>4.94</td>
<td>53.97</td>
</tr>
<tr>
<td>df(hypo.)</td>
<td>16</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>df(err.)</td>
<td>648</td>
<td>325</td>
<td>632</td>
</tr>
</tbody>
</table>

Note: Only coefficient greater than .30 are reported. ** p < .01
The results shown in Table 6.9 suggest that there was a positive association between the psychosocial maturity of Chinese children and their expressions of self control as well as helplessness. Generally, self control was associated with the positive poles of psychosocial development while helplessness was associated with negative poles. Given the redundancies, it seems that accountability by the second canonical analysis with 16 CASPM scales was greater than that for the first one with the CASPM ratio scores; moreover, the canonical variates extracted from the set of Origin and Pawn Scales scores had strong predictive power for psychosocial maturity ($R^2_{d1,2} = 72.84\%$), but the reverse relationship did not hold ($R^2_{d2,1} = 17.70\%$).

The second hypothesis, then, that there would be a positive association between psychosocial maturity and sociality and the expressions of self control and helplessness, had been supported by the canonical correlation analyses. This implies that the measures of sociality and self control and helplessness through the Sociality, Origin and Pawn Scales could increase our understanding of psychosocial maturity.

6.3 Psychosocial Maturity, Sociality, Self Control and Helplessness and Gender (Hypothesis 3)

The third hypothesis suggested that there would be gender differences for these psychological dimensions, but, in particular, that girls would be more sociable than boys while boys would express more self control and less helplessness than girls.

A 12 x 2 factorial MANOVA was carried out to test this hypothesis, with grade and gender as the independent variables and four general measures of psychological dimensions as dependent variables. The summary scores of these four psychological measures (psychosocial maturity, sociality, self control and helplessness) were used as the dependent variables, including scores of the Origin and Pawn Scales, total Sociality Scale, and total CASPM as indexed by total stage and total ratio. Stage and Ratio scores had been analyzed separately, however, with three other measures. The results showed
that there was no significant effect of grade by gender interaction, nor was significant
gender effect found, whether when total stage score or ratio score was used with other
measures. To test the gender difference in specific psychological dimension, the Sociality
subscales, the Origin and Pawn Scales, and the CASPM scales scores, stage and ratio
scores were subjected to the MANOVA separately. No gender main effect nor grade and
gender interaction were found.

In summary, the data analyses revealed that there were no gender difference in
Chinese children for any measures (Sociality, Origin, Pawn, and CASPM scores), thus,
hypothesis 3 was not supported.

6.4 Psychosocial Maturity Measured by the CASPM and Self-, Peer-, and
Teacher-Ratings (Hypothesis 4)

Hypothesis 4 stated that there would be positive relationships between
psychosocial maturity as measured by the CASPM and the ratings of self and others
based on Greenberger and Sorensen's (1974) model. The attributes related were:
individual adequacy (self reliance, identity, and work orientation); interpersonal adequacy
(communication skill, trust, role knowledge, and intimacy); and social adequacy (social
involvement, leadership, social flexibility, and social tolerance). In addition to these
categories, some rating items that were more directly related to the CASPM ratio scores
were further grouped into six stages corresponding to the CASPM first six stages.

The relationships stated in the hypothesis 4 were studied by canonical correlations.
Rating were available in three categories: self rating, peer rating, and class teacher rating.
The three sets of ratings were explored separately. Overall, there were virtually no
associations found between the ratings and the CASPM scores.

Canonical correlation analyses were conducted with 11 peer-rating attributes as
one group of variables and the CASPM scores as the other. The ratio scores were selected
for the CASPM measures because they more appropriately manifested the outcome of the
crises resolution than the stage measure and were more likely to increase the power of analysis and interpretability than the CASPM single scale measure in terms of the number of variables involved. Three relationships were explored between psychosocial maturity and self ratings, peer ratings, and class teacher ratings. Self ratings of psychosocial maturity and the CASPM ratio scores were not significantly correlated. Nor was the predicted relationship between teacher ratings and the CASPM ratio scores supported. However, a significant canonical correlation was found between peer ratings and the CASPM ratios. The canonical correlations for the first and the second canonical variates accounted for about 16% and 14.3% of variance respectively; and the remaining six were all below .30. Only the first, however, was significant. Table 6.10 shows the correlations for the first canonical variate and the peer ratings and ratio variables in two sets, with corresponding means and standard deviations for each variable. It seemed that those who had high ratios for Identity/Identity Diffusion (Ratio VI), Generativity/Stagnation (Ratio VII) and Industry/Inferiority (Ratio IV) but low for Autonomy/Constraint (Ratio II) and

<table>
<thead>
<tr>
<th>Table 6.10</th>
<th>MEANS AND STANDARD DEVIATIONS FOR AND CANONICAL CORRELATIONS BETWEEN CASPM (RATIO) AND PEER RATINGS FOR THE FIRST CANONICAL VARIATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set 1</td>
<td>Peer rating</td>
</tr>
<tr>
<td>Individual Adequacy</td>
<td></td>
</tr>
<tr>
<td>Self Reliance</td>
<td>.52</td>
</tr>
<tr>
<td>Identity</td>
<td>3.24/.32</td>
</tr>
<tr>
<td>Work Orientation</td>
<td>.57</td>
</tr>
<tr>
<td>Interpersonal Adequacy</td>
<td></td>
</tr>
<tr>
<td>Skill</td>
<td>.66</td>
</tr>
<tr>
<td>Trust</td>
<td>3.49/30</td>
</tr>
<tr>
<td>Role Knowledge</td>
<td>3.60/.39</td>
</tr>
<tr>
<td>Intimacy</td>
<td>3.32/.29</td>
</tr>
<tr>
<td>Social Adequacy</td>
<td></td>
</tr>
<tr>
<td>Social Involvement</td>
<td>.76</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.29/45</td>
</tr>
<tr>
<td>Social Flexibility</td>
<td>.46/.37</td>
</tr>
<tr>
<td>Social Tolerance</td>
<td>3.53/.29</td>
</tr>
<tr>
<td>% of Variance</td>
<td>25.49</td>
</tr>
<tr>
<td>Redundancy</td>
<td>4.02</td>
</tr>
<tr>
<td>$R_c = .40$</td>
<td>$R_c^2 = .16$</td>
</tr>
</tbody>
</table>

Note: Only loadings greater than .30 are reported.
Trust/Mistrust (Ratio I) were rated by their peers as possessing the individual attributes and abilities of interpersonal communications (Skill). They were more likely to be involved in social activities (Social Involvement), with the capability to become leaders (Leadership) as well as generous in social interactions (Social Tolerance). The redundancies, however, indicated that this pair of canonical variates had shared little variance with the variables in other set, which limited their interpretability across sets, although the canonical variates themselves had some 16% common variance.

The relationship between ratings corresponding to the CASPM's first six stages and so the first six CASPM ratio scores was also examined through canonical correlation. Once more, no significant canonical correlations were found for self ratings and teacher ratings with CASPM ratios; however, the first canonical variate between peer ratings and first six CASPM ratios was significant. Table 6.11 presents the correlations for variables in each set and their relevant means and standard deviations.

The first canonical variate revealed that those who were high for Identity/Identity Diffusion (Ratio VI) and Industry/Inferiority (Ratio IV) but low for Trust/Mistrust (Ratio I) were viewed by their peers as having considerable identity, industry, autonomy and initiative, but little trust. Thus, peer-rating results, as reflected by peer ratings rather than

| Table 6.11 MEANS AND STANDARD DEVIATIONS FOR AND CANONICAL CORRELATIONS BETWEEN THE FIRST SIX CASPM (RATIO) MEASURES AND CORRESPONDING PEER-RATING ITEMS FOR THE FIRST CANONICAL VARIATE |
|-----------------------------------|-----------------------------------|
| **Set 1 (Peer rating)** | **Set 2 CASPM (1st 6 Ratios)** |
| Variable | (n=275) | Corr. | Mean/SD | Variable | Corr. | Mean/SD |
| 1st Stage (Trust) | -.39 | 3.78/39 | | Ratio I | -.43 | 2.07/1.26 |
| 2nd Stage (Autonomy) | .49 | 3.42/36 | | Ratio II | .92/51 | |
| 3rd Stage (Initiative) | .46 | 3.12/48 | | Ratio III | 1.45/1.72 | |
| 4th Stage (Industry) | .51 | 3.35/41 | | Ratio IV | .33 | 1.66/92 |
| 5th Stage (Intimacy) | .72 | 3.32/29 | | Ratio V | 1.46/76 | |
| 6th Stage (Identity) | .60 | 3.33/34 | | Ratio VI | .79 | 1.38/65 |
| % of Variance | 20.34 | | % of Variance | 16.40 | |
| Redundancy | 2.38 | | Redundancy | 1.92 | |
| $R\_c = .34$ | $R\_c^2 = .12$ | $F(36,1158) = 1.52$, $p = .027$ | |

Note: Only loadings greater than .30 are reported.
self or teacher ratings, did relate to the CASPM measures. However, the small redundancies in Table 6.11 should be considered in any interpretations. It has been noted that both Table 6.10 and Table 6.11 have revealed a negative relationship between trust and identity as measured by the CASPM, when they were related to peer-rating through canonical variates. This suggests that trust and identity were viewed by peers as different or even opposite attributes.

Although these results indicate certain relationships between peer-ratings and the CASPM measures, they are not very promising given the low residuals found in the canonical analysis (Thorndike, 1978). Further, the findings that no significant associations between self ratings and the CASPM measures and between teacher ratings and the CASPM measures were not expected by the author. This suggests that there might exist different constructs of psychosocial maturity from different perspectives; that is, self, teacher, and peer may judge psychosocial maturity differently from one another and differently from the psychosocial maturity measured by the CASPM.

Table 6.12 presents the correlations among ratings of psychosocial maturity from three kind of raters (self, peer, and teacher) and the CASPM ratio scores. The correlations were all very low. Even with those significant coefficients, the strength of the associations were very weak, too (the maximum correlation coefficient was .27 for Leadership (C2) and Ratio VII).

When self ratings were considered, only two correlations were significant. Self ratings of both Self Reliance (A1) and Autonomy (CP2) were positively correlated with Ratio VIII. When peer ratings were concerned, the most correlated the CASPM ratios with rating items were Ratio VI and Ratio VII. It seemed that individual adequacy in peer-rating (A) was correlated with Ratio VI (Identity/Identity Diffusion) while social adequacy (C) was correlated with Ratio VII (Generativity/Stagnation). Ratio VI was correlated with all three attributes of individual adequacy (Self Reliance (A1), Identity (A2) and Work Orientation (A3); it also correlated with skills of Interpersonal Interaction (B1), Social
Involvement (C1) and Autonomy (CP2). Ratio VII was significantly associated with Social Involvement (C1) as well as Leadership (C2). In terms of teacher ratings, a negative correlation was found between the CASPM Ratio II (Autonomy/Constraint) and ratings on Trust (CP1). The next significant association between teacher ratings and the CASPM ratios was between ratings on interpersonal adequacy (B) and Ratio IV (Industry/Inferiority). A relationship between ratings on Leadership (C2) and Ratio VII (Generativity/Stagnation) was also found significant.

Given the weak associations between the CASPM and peer-rating, it could be informative to explore the relations among self, peer, and teacher ratings on the rating scale. These results have been included in Tables A6.1 and A6.2 in Appendix 6. There seemed to be a general consistency between self ratings and ratings from peers, but not from teachers. Yet, a few exceptions were noted. From the peer's point of view, the ability to communicate and interact was mainly related to the degree of the ratee's trust of peers as well as to the actual ability itself. The perception of capacity for intimacy was viewed by the peers as more socially tolerated (C4) rather than intimate. Another difference was that self perceived social flexibility (C3) did not tally with peer's perception of the same attribute, but rather, peers perceived it as trust (B1). In general, the more the children perceive self as having a strong identity the more they tended to be rated as psychosocial mature by peers. However, teachers tended to view students' identity (A2) and social tolerance (C4) more as an issue of work orientation (A3) than the other attributes. The different perspective of teachers on the psychosocial maturity attributes was more evident when peer ratings were compared with teacher's. What teachers perceived as psychosocial maturity (T) was more correlated with what peers perceived as self reliance (A1) and interpersonal interaction ability and skills (B1). Teachers concentrated more on work orientations (A3). Most of the correlation coefficients between teacher's A3 and other peer rated attributes were the highest among the relevant peer rated coefficient and other teachers ratings. The only exception was that peer rated intimacy (B4) was not correlated with work orientation. In the teachers' view, intimacy perhaps
revealed more role knowledge (B3) and social involvement (C1) rather than intimate behaviour.

These descriptions are plausible but tentative only, since the smallness of the correlation coefficients prevented further explanations. However, for the descriptive purpose, for which correlation coefficient serves as one of its functions, "correlations of all magnitudes are useful" (Thorndike, 1978, p. 51); therefore, although the correlation analysis between the peer-rating and the CASPM measures of psychosocial maturity in this section was not as expected in terms of the magnitudes, some interesting associations among self, peer, and teacher ratings did indicate its usefulness. In sum, hypothesis 4, that there would be a positive correlations between peer-rating results and the CASPM measures of psychosocial maturity, was not clearly supported.

6.5 Psychosocial Maturity Measures and Other Individual and Family Factors (Hypotheses 5, 6, 7 & 8)

6.5.1 Perception of Teacher-Student Relationships

Hypothesis 5 predicted a positive association between children's psychosocial maturity level and their perceptions of the teacher-student relationships. Canonical correlation was carried out, with the CASPM ratio scores as one set and three variables related to children's perceptions of school and teacher as the other. These three variables were the children's own perception of their degree of liking of their school, of their teacher, and of the extent to which their teacher cared. Table 6.13 shows the results. The first canonical correlation accounted for 9% of variance and was statistically significant. The remaining two canonical correlations were neither significant nor greater than .30. Within the school perception set the canonical variate was correlated highly with all three variables: perceptions of teacher, school and teacher caring. Within the CASPM ratio set, Ratios I to IV, and VI were correlated with the canonical variate with correlation coefficients greater than .30. It seems that the perception of school- and teacher-student
relationships, which were scored so that low scores represented like rather than dislike, was consistent with the CASPM ratios, which were negatively correlated with the canonical variate. That is, those children who had favourable

Table 6.13 MEANS AND STANDARD DEVIATIONS FOR AND CANONICAL CORRELATIONS BETWEEN CASPM (RATIO) MEASURES AND PERCEPTION OF TEACHER-SCHOOL-CHILD RELATIONSHIPS

<table>
<thead>
<tr>
<th>Set 1 (Perceptions)</th>
<th>(n=319)</th>
<th>Set 2 CASPM (Ratios)</th>
<th>Mean/Sd</th>
<th>Mean/Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Corr.</td>
<td>% of Variance</td>
<td>Redundancy</td>
<td>% of Variance</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.83</td>
<td>55.74</td>
<td>.09</td>
<td>16.21</td>
</tr>
<tr>
<td>Like School</td>
<td>.75</td>
<td>4.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Caring</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio I</td>
<td>-.75</td>
<td>2.05/1.23</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>Ratio II</td>
<td>-.36</td>
<td>.92/52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio III</td>
<td>-.40</td>
<td>1.45/72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio IV</td>
<td>-.42</td>
<td>1.64/91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio VI</td>
<td>.40</td>
<td>1.34/62</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio VII</td>
<td></td>
<td>1.09/41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio VIII</td>
<td></td>
<td>1.03/18</td>
<td></td>
</tr>
</tbody>
</table>

Note: Only loadings greater than .30 are reported.

perceptions of school and teacher (i.e., liked school, liked teacher, and perceived teacher's care) tended to have higher ratio scores on the first four stages of psychosocial maturity (Ratios I to IV), but a low scores on Ratio VI.

Judged by the size of the interpretable correlation coefficient (i.e., $r > .30$), the strongest relationship between the CASPM ratio scores and the canonical variate in set 2 was with Ratio I (Trust/Mistrust). Judged by the redundancies, it seems that the two composites extracted within each set have little overlap of the variance. Judged by the canonical correlation coefficient itself only about 9% of variance between the two composites of canonical variates was accounted for, a weak association. To assist the further comprehension, MANOVA was also carried out with three perceptions as three factors to see if the CASPM ratio scores would be differentiated by them. The results showed no significant effects, neither interactions nor main effects. Thus, hypothesis 5
was generally not supported, although a weak canonical correlation was found between the positive perceptions of school and teachers, and the CASPM ratio scores.

6.5.2 School Achievement

Hypothesis 6 stated that there would be a positive relationship between the children's school achievements and psychosocial maturity, sociality and self control, but a negative relationship with helplessness. Multiple regressions were used for testing this hypothesis. Students' school achievement was measured by averaged examination scores in their major subjects, including Chinese, Mathematics, English, History, Geography, Biology, Physics, Chemistry, and Politics for high schools and Chinese, Mathematics and English for primary schools. Some subjects were offered at a particular grade level, for example, English was not offered for Grades 1 to 3 in primary school; but it was not necessary that each grade covered all the subjects. The results of multiple regression analyses revealed a general non-significant associations between psychological factors and school achievement. Table 6.14 shows the results of five multiple regression analyses. Multiple R's and regression coefficients as well as the correlations between the five sets independent variables (IVs, psychological measures) and dependent variables (school achievement) are reported.

The first set of independent variables were scores for the total CASPM stages, the total CASPM ratios, the total Sociality Scale score, the Origin Scale score and the Pawn Scale score. The second and third sets of independent variables were two dimensions of Sociality scale: interaction roles and interaction types. The fourth set consisted of scores from the Origin Scale and the Pawn Scale. The last set was the CASPM ratio scores. Although two individual variables showed significant regression coefficients (the Sociality role of reactor and type of solidarity), their unique contributions to the associations with school achievement were very small (sr² = .02 and .01, respectively). More fundamentally, none of the five R's was found significant. Therefore, it seemed that psychological measures, whether they were CASPM, Sociality, or Origin, Pawn, have
little association with students' school achievement assessed by routine school examination scores. Hypothesis 6 was not supported.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>B</th>
<th>b</th>
<th>sr²</th>
<th>R</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACASCORE (DV)</td>
<td>77.68</td>
<td>11.59</td>
<td>-.642</td>
<td>.328</td>
<td></td>
<td>R²=.02</td>
<td>-.02</td>
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<tr>
<td>Psychosocial Measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CASPM STAGES</td>
<td>8.78</td>
<td>2.46</td>
<td>1.439</td>
<td>2.892</td>
<td></td>
<td>Adj.R²=.01</td>
<td>.08</td>
</tr>
<tr>
<td>CASPM RATIOS</td>
<td>1.30</td>
<td>.32</td>
<td>1.439</td>
<td>2.892</td>
<td></td>
<td>R=.17 (n.s.)</td>
<td>.11</td>
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<tr>
<td>SOCIALITY TOTAL</td>
<td>.50</td>
<td>.19</td>
<td>7.684</td>
<td>3.997</td>
<td></td>
<td>F(5,328)=1.99</td>
<td>.09</td>
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<tr>
<td>ORIGIN</td>
<td>.88</td>
<td>.37</td>
<td>3.071</td>
<td>2.141</td>
<td></td>
<td></td>
<td>.02</td>
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<tr>
<td>PAWN</td>
<td>.80</td>
<td>.37</td>
<td>1.760</td>
<td>2.391</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sociality Role</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>REACTOR</td>
<td>.24</td>
<td>.18</td>
<td>8.559*</td>
<td>.131</td>
<td>.02</td>
<td>R²=.02</td>
<td>.13</td>
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<tr>
<td>INITIATOR</td>
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<td>.13</td>
<td>.550</td>
<td>.006</td>
<td></td>
<td>Adj.R²=.01</td>
<td>.05</td>
</tr>
<tr>
<td>JOINT ACTOR</td>
<td>.34</td>
<td>.19</td>
<td>.061</td>
<td>.001</td>
<td></td>
<td>R=.13 (n.s.)</td>
<td>-.00</td>
</tr>
<tr>
<td>Sociality Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>SOLIDARITY</td>
<td>.19</td>
<td>.16</td>
<td>8.506*</td>
<td>.117</td>
<td>.01</td>
<td>R²=.02</td>
<td>.12</td>
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<tr>
<td>INTIMACY</td>
<td>.14</td>
<td>.13</td>
<td>2.808</td>
<td>.031</td>
<td></td>
<td>Adj.R²=.00</td>
<td>.06</td>
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<tr>
<td>INFLUENCE</td>
<td>.12</td>
<td>.10</td>
<td>-1.370</td>
<td>-.012</td>
<td></td>
<td>R=.13 (n.s.)</td>
<td>.01</td>
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<tr>
<td>SHARED</td>
<td>.37</td>
<td>.17</td>
<td>-.991</td>
<td>-.014</td>
<td></td>
<td>F(4,329)=1.33</td>
<td>.00</td>
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<tr>
<td>Self Control and Helplessness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORIGIN</td>
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<td>.37</td>
<td>2.745</td>
<td>.087</td>
<td></td>
<td>R²=.01</td>
<td>.09</td>
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<td>PAWN</td>
<td>.80</td>
<td>.37</td>
<td>-.023</td>
<td>-.001</td>
<td></td>
<td>Adj.R²=.00</td>
<td>.02</td>
</tr>
<tr>
<td>CASPM Ratio Measure</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RATIO I</td>
<td>2.05</td>
<td>1.22</td>
<td>-.160</td>
<td>-.002</td>
<td></td>
<td>R²=.03</td>
<td>.04</td>
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<tr>
<td>RATIO II</td>
<td>.93</td>
<td>.52</td>
<td>-.013</td>
<td>-.001</td>
<td></td>
<td>Adj.R²=.01</td>
<td>.01</td>
</tr>
<tr>
<td>RATIO III</td>
<td>1.44</td>
<td>.71</td>
<td>-.093</td>
<td>-.006</td>
<td></td>
<td>R=.18 (n.s.)</td>
<td>.03</td>
</tr>
<tr>
<td>RATIO IV</td>
<td>1.65</td>
<td>.91</td>
<td>.675</td>
<td>.053</td>
<td></td>
<td>F(8,325)=1.30</td>
<td>.06</td>
</tr>
<tr>
<td>RATIO V</td>
<td>1.43</td>
<td>.72</td>
<td>1.504</td>
<td>.094</td>
<td></td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td>RATIO VI</td>
<td>1.33</td>
<td>.61</td>
<td>.791</td>
<td>.042</td>
<td></td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>RATIO VII</td>
<td>1.09</td>
<td>.40</td>
<td>2.067</td>
<td>.072</td>
<td></td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td>RATIO VIII</td>
<td>1.03</td>
<td>.17</td>
<td>1.072</td>
<td>.108</td>
<td></td>
<td></td>
<td>.10</td>
</tr>
</tbody>
</table>

*p < .05; B = regression coefficient; b = standardized regression coefficient; R = multiple correlation; Adj. R² = adjusted R²; R² = coefficient of determination; F = significance test for R; sr² = semipartical r²; r = bivariate r between IVs and DV.
6.5.3 Socioeconomic Status

Hypothesis 7 predicted a positive relationship between psychosocial maturity and socioeconomic status (parents' education level, profession, and family income). Education was classified into four levels: primary school, junior high, senior high, and tertiary and above. Incomes were monthly salaries. Professions, however, had no well-studied uniform criteria available. Two criteria were initially adopted. The first was based on the classification of a large scale survey of social attitudes conducted by then the China Institute of Economy System Reform ("Survey Study", 1985). It was the first of its kind and conducted through the China Youth magazine; and more than 74 thousand responses were collected. The professional classification of that study consisted of 11 categories, including, in the order of the rated social status from high to low, university students, cadres, professionals, management and technicians, primary and secondary school teachers, sales and service personnels, workers (state-owned enterprises), workers (collective-owned enterprises), self-employed, farmer, and the others (unemployment). The second criterion adopted was from the third state population survey data. There were 8 major categories: professional, administrators, clerical workers, sales workers, service workers, workers in areas of agriculture, woods industry, fishing industry, and animal husbandry, manufacturing and transporting workers, and others. For this research, simple correlations were carried out between these variables and the CASPM measures. Surprisingly, between parents' education, income, professions and the CASPM scores (either separate scales or stage and ratio scores), not even one correlation coefficient proved significant at the .01 level; in fact, the maximum correlation coefficient was only .14. It seems that the measures of psychosocial maturity were uncorrelated with the socioeconomic factors measured by parents' education, income, and job prestige.

The correlation between the two criteria of job classification was, however, high (r = .84 for fathers and r = .81 for mothers, both p < .001); further, there were no significant correlations between education and income, nor income and job prestige, although the correlations between education and job prestige were significant. Since there
exist few reliable socioeconomic indices for use in China, N. Lin and Xie's (1988)
education-income index (EII) and manual/nonmanual-education-income index (MEI) were
valuable in deriving an indexing of socioeconomic status. They reported that these indices
of Occupational Prestige for China were sufficiently precise in determining the
occupational prestige through education, income, and manual/nonmanual variables
(explained 75% of variance; $R^2 = .72$ for EII and $R^2 = .74$ for MEI). The equation for EII
index is: EII = -5.188 + 13.874 (education) + .262 (income); the equation for MEI index
is: MEI = 1.604 + 7.795 (nonmanual) + 11.041 (education) + .239 (income) (Lin & Xie,
1988).

MANOVA was conducted using Lin-Xie's EII as the factor and psychological
measures, the CASPM stage and ratio scores, the Sociality Scale scores, and the Origin
and Pawn Scales scores as dependent variables. Three EII were derived: father's EII,
mother's EII, and parents' EII. Percentiles (25, 50, and 75) were calculated so that four
different socioeconomic status levels were formed in order to examine the socioeconomic
status' influence on psychosocial maturity. The CASPM stage and ratio scores were used
in this analysis. The Sociality Scale's two dimensions (interaction type and role) were
analysed separately. The Origin Scale and the Pawn Scale scores were entered into the
MANOVA as a set. The results showed that there were no significant differences between
different socioeconomic status in terms of the CASPM stage or ratio scores, across all
three EII's. Thus, psychosocial maturity as reflected in the CASPM measures was not
associated with socioeconomic status, and therefore, hypothesis 7 was not confirmed.

However, the Sociality Scale scores were found to differ across socioeconomic
levels. Using parents' EII, both Sociality Role and Type were significant. The subsequent
univariate tests indicated that children from different levels scored differently on Initiator
role and Solidarity type. These results were presented in Table 6.15. Duncan's multiple
range test showed that for Sociality Initiator role, those who were from low
socioeconomic status families scored higher than those who were from higher status
families. For the Sociality Solidarity type, also those from high status (status 4) were
Table 6.15 ANALYSIS OF VARIANCE RESULTS OF SOCIOECONOMIC STATUS (PARENTS' EDUCATION-INCOME INDEX) FOR SOCIOITY MEASURES

<table>
<thead>
<tr>
<th>Variables</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Multivariate Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociality Role</td>
<td>2.10</td>
<td>9, 718</td>
<td>.027</td>
<td>.021</td>
</tr>
<tr>
<td>Sociality Type</td>
<td>1.90</td>
<td>12, 778</td>
<td>.032</td>
<td>.025</td>
</tr>
<tr>
<td>Initiative</td>
<td></td>
<td>Univariate Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (1)</td>
<td>4.76</td>
<td>3, 297</td>
<td>.003</td>
<td>.046</td>
</tr>
<tr>
<td>Below Average(2)</td>
<td>4.13</td>
<td>3, 297</td>
<td>.007</td>
<td>.040</td>
</tr>
</tbody>
</table>

Mean, Standard Deviation & Comparison at .05 Level

<table>
<thead>
<tr>
<th>Status</th>
<th>Initiator</th>
<th>Solidarity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Low (1)</td>
<td>.18</td>
<td>.14</td>
</tr>
<tr>
<td>Below Average(2)</td>
<td>.19</td>
<td>.15</td>
</tr>
<tr>
<td>Above Average(3)</td>
<td>.12</td>
<td>.08</td>
</tr>
<tr>
<td>High(4)</td>
<td>.15</td>
<td>.12</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>.16</td>
<td>.13</td>
</tr>
</tbody>
</table>

Duncan's Multiple Comparisons

<table>
<thead>
<tr>
<th></th>
<th>1, 2 &gt; 3</th>
<th>1, 2, 3 &gt; 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solidarity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

significantly less likely to be involved in this type of interaction than those who came from lower status (status 1 to 3) families, however, there seemed to be no difference among those who came from status 1 to 3 in solidarity type. Further, when parents' EII was considered for father and mother separately, it was found that only father EII was significant (for interaction role, $F_{(9,732)} = 1.95, p = .042, \eta^2 = .019$, and for interaction type, $F_{(12,794)} = 2.84, p = .001, \eta^2 = .036$). Thus, although socioeconomic status showed no difference in the CASPM and the Origin and Pawn measures, it did reveal a difference for the Sociality Scale with Initiator roles and Solidarity types of interactions. The difference was contributed mainly by fathers' status.

6.5.4 Number of Siblings

Hypothesis 8 predicted that only children would have lower levels of psychosocial maturity and sociality but higher levels of expressions of self control and helplessness than children with siblings. Both CASPM ratio scores and single scale scores were used
to explore the effect of having sibling on overall levels and specific aspects of psychosocial maturity. Using not having/having sibling as the factor, MANOVA results showed that in terms of both CASPM ratio measures and all the 16 scales scores, there was a significant difference. This difference was also significant for the Sociality scores. Table 6.16 shows these findings and the results of univariate tests with Duncan's multiple range comparisons between three groups: only children (n = 119), children with one sibling (n = 168), and children with two or more siblings (n = 44). The univariate analyses showed that the differences between the groups for the CASPM were in Ratio II (Autonomy/Constraint), Ratio IV (Industry/Inferiority) and Ratio VI (Identity/Identity Diffusion). Further, these differences were contributed mainly by the differences in positive measures rather than negative measures, that is, the differences in Autonomy, Industry and Identity. Duncan's range tests revealed that only children scored higher on Autonomy and Industry than those with two or more siblings; however, the reverse was true for Identity. That is, children with two or more siblings scored higher than the only children did. The same pattern was found for the CASPM ratio scores.

When only children were compared with children with one sibling, for the CASPM positive measures, only children scored higher for Autonomy than those with one sibling, but the latter scored higher on Identity than the only children did. The CASPM ratio scores revealed the same pattern, though the only children were higher on Ratio IV (Industry/Inferiority) than those with one sibling as well. This was because the accumulated differences between the two groups in both positive (Industry) and negative (Inferiority) measures were not significant when the two measures were tested independently.

The differences for these three groups in role were reflected in their scores for both reactor and initiator roles, while the differences in interaction type were revealed in solidarity and sharing types. Duncan's range tests indicated that only children scored higher than children with two or more siblings on all these four Sociality measures. Yet,
Table 6.16 ANALYSIS OF VARIANCE RESULTS OF ONLY VERSUS NON-ONLY CHILDREN FOR CASPM AND SOCIALITY MEASURES

<table>
<thead>
<tr>
<th>Variables</th>
<th>Multivariate Tests (Wilk's Criterion)</th>
<th>CASPM (ratio)</th>
<th>Industry/Inferiority</th>
<th>Identity/Identity Diffusion (scale)</th>
<th>Sociality (role)</th>
<th>Sociality Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>df</td>
<td>p</td>
<td>η²</td>
<td>F</td>
<td>M/SD</td>
</tr>
<tr>
<td>CASPM Ratio</td>
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<td>.000</td>
<td>.078</td>
<td>5.83</td>
<td>.92/.51</td>
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<tr>
<td>CASPM Scales</td>
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<td>.004</td>
<td>.086</td>
<td>3.58</td>
<td>1.65/.92</td>
</tr>
<tr>
<td>Sociality Role</td>
<td>4.68</td>
<td>6, 652</td>
<td>.000</td>
<td>.041</td>
<td>5.17</td>
<td>.51/.21</td>
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<td>Sociality Type</td>
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<td>8, 650</td>
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<td>.036</td>
<td>5.06</td>
<td>.79/.39</td>
</tr>
</tbody>
</table>

Univariate Tests (df=2,328)

<table>
<thead>
<tr>
<th>CASPM (ratio)</th>
<th>F</th>
<th>M/SD</th>
<th>p</th>
<th>η²</th>
<th>Sociality (role)</th>
<th>F</th>
<th>M/SD</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy/Constraint</td>
<td>5.83</td>
<td>.92/.51</td>
<td>.003</td>
<td>.034</td>
<td>Reactor</td>
<td>8.48</td>
<td>.24/.18</td>
<td>.000</td>
<td>.049</td>
</tr>
<tr>
<td>Industry/Inferiority</td>
<td>3.58</td>
<td>1.65/.92</td>
<td>.029</td>
<td>.021</td>
<td>Initiator</td>
<td>7.00</td>
<td>.16/.13</td>
<td>.001</td>
<td>.041</td>
</tr>
<tr>
<td></td>
<td>(scale)</td>
<td></td>
<td></td>
<td></td>
<td>Shared</td>
<td>6.41</td>
<td>.37/.17</td>
<td>.002</td>
<td>.038</td>
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Mean/Standard Deviation and Comparisons Significant at the .05 Level

<table>
<thead>
<tr>
<th>CASPM (ratio)</th>
<th>Only Child 1 (n=119)</th>
<th>One Sibling 2 (n=168)</th>
<th>&gt;= 2 Siblings 3 (n=44)</th>
<th>Duncan Range Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy/Constraint</td>
<td>1.05/.61</td>
<td>.86/.43</td>
<td>.83/.48</td>
<td>1&gt;2,3</td>
</tr>
<tr>
<td>Industry/Inferiority</td>
<td>1.83/.97</td>
<td>1.58/.89</td>
<td>1.48/.97</td>
<td>1&gt;2,3</td>
</tr>
<tr>
<td>Identity/Identity Diffusion (scale)</td>
<td>1.17/.43</td>
<td>1.35/.60</td>
<td>1.73/.86</td>
<td>3,2&gt;1; 3&gt;1,2</td>
</tr>
<tr>
<td>Autonomy</td>
<td>.57/.27</td>
<td>.50/.21</td>
<td>.44/.29</td>
<td>1&gt;2,3</td>
</tr>
<tr>
<td>Industry</td>
<td>.86/.42</td>
<td>.77/.40</td>
<td>.65/.24</td>
<td>1&gt;3</td>
</tr>
<tr>
<td>Identity</td>
<td>.47/.19</td>
<td>.53/.22</td>
<td>.57/.23</td>
<td>3,2&gt;1</td>
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</tbody>
</table>

Sociality (role)

<table>
<thead>
<tr>
<th>Reactor</th>
<th>One Sibling 2 (n=168)</th>
<th>&gt;= 2 Siblings 3 (n=44)</th>
<th>Duncan Range Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>.28/.19</td>
<td>.22/.16</td>
<td>.17/.15</td>
<td>1&gt;2,3</td>
</tr>
<tr>
<td>.18/.13</td>
<td>.17/.13</td>
<td>.10/.07</td>
<td>1,2&gt;3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Solidarity</th>
<th>One Sibling 2 (n=168)</th>
<th>&gt;= 2 Siblings 3 (n=44)</th>
<th>Duncan Range Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>.21/.18</td>
<td>.19/.16</td>
<td>.13/.11</td>
<td>1&gt;2,3; 1,2&gt;3</td>
</tr>
<tr>
<td>.40/.16</td>
<td>.36/.17</td>
<td>.30/.14</td>
<td></td>
</tr>
</tbody>
</table>

Note: Only significant results are reported.
the only children scored higher than those with one sibling only for Reactor role and Sharing type of psychosocial interactions.

No differences were found for the Origin and Pawn Scale scores between only children and those with siblings. ANOVAs were performed also for the total Sociality scores, total CASPM stage and total CASPM ratio scores. No differences were revealed for CASPM measures, but total Sociality scores did differ among the groups ($F_{(2,328)} = 10.43, p < .0001, \eta^2 = .060$), with only children ($M = .54, SD = .18$) and children with one sibling ($M = .50, SD = .19$) scoring significantly higher than children with two or more siblings ($M = .39, SD = .17$) did.

In sum, hypothesis 8 was partly supported. There were no differences between only and other children for the total CASPM ratio and stage scores, nor for Origin and Pawn scores. However, only children did score higher than those with two or more siblings for the total Sociality scores. Only children showed more autonomous, diligent, and more likely to involve themselves into separate interaction roles as reactor and initiator than those with two or more siblings. They seemed to experience more sociality in terms of the supporting, helping and sharing kind of interaction with others. In comparison with children with only one sibling, only children tended to act more as reactors. Only children were more often involved in the sharing type of psychosocial interactions, and they were more autonomous and tended to have a better balance of positive and negative tasks achieved over stage 4 of psychosocial maturity scale (Industry versus Inferiority). However, only children seemed to be less certain about themselves than other children in terms of their identity scores.

6.6 Comparisons of Psychosocial Maturity Measures Between Australian and Chinese Samples (Hypothesis 9)

The last hypothesis suggested similarities and differences between Chinese and Australian children. In terms of general patterns of psychosocial maturity, no difference were expected to be found for the effects of the grade factor. However, in terms of the
overall strength of scores, Australian children were expected to score higher than Chinese children because of general economic, societal, and political differences. However, in terms of particular tasks of psychosocial development, they would score higher on Autonomy, Initiative but lower on Industry and Affinity.

A sample of 150 Australian primary and high school students was drawn in Wollongong, New South Wales, Australia. The content analysis scales were applied to the responses of this sample to the same standard open-end interview as Chinese children. Table 6.17 shows the means and standard deviations of the 16 CASPM scales for each grade. The sample was not so evenly distributed across grades as the Chinese sample, in particular, in the high school years (Grades 10, 11, and 12), the representation for some grades was small (see Table 6.17).

Figure 6.8 presents the general patterns of the 16 CASPM scales scores for the Australian sample, while Figures A6.9 and A6.10 (in Appendix 6) show the CASPM stage and ratio scores for the Australian sample. In comparison with equivalent table (Table 6.2) and figures (Figure 6.1; Figures A6.4 and A6.5) for the Chinese sample, they show considerable similarities between the two samples, with noticeable differences for some scales as well. Further, the total scores for the Chinese sample were higher than for the Australian sample (Table 6.2 and Table 6.17). The noticeably similar patterns between the two samples were revealed through a zigzag form of scores (Figure A6.4 and Figure A6.6) for both positive and negative measures of the CASPM scales (Figure 6.1 and Figure 6.8). For particular scales, both samples had high scores for Trust, with other peaks on Industry and Constraint. For the last three stage measures, Identity, Generativity and Integrity on the positive side, and in particular, Identity Diffusion, Stagnation, and Despair, on the negative side, the samples were comparable (Figures 6.1 & A6.4 and 6.8 & A6.6). On the other hand, dissimilarity was also apparent, for Industry, Constraint, and Affinity/Isolation (Figures 6.1 & A6.5 and 6.8 & A6.7). Since this section examines hypotheses about similarity and difference between two samples from different countries, it is appropriate to compare those samples rather than explore differences within the
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</table>

Note: † Mean ‡ Standard Deviation †† Entire sample on each individual scale
Australian sample. Comparisons of the summary scores between the two sample should be informative.

In comparison with the total positive and negative CASPM scales scores (see Tables 6.2 and 6.17), the Chinese sample seems to have scored higher on both than the Australian sample did. The ANOVA analysis, however, showed that there was no difference between the Chinese (n = 344) and Australian (n = 150) samples in terms of their total ratio scores (Chinese: $M = 1.30$, $SD = .32$; Australian: $M = 1.30$, $SD = .32$), nor in terms of their total stage scores (Chinese: $M = 8.78$, $SD = 2.46$; Australian: $M = 8.44$, $SD = 1.46$). Psychosocial maturity is, however, better understood when both overall scores and its composites scores are considered. Figure 6.9 presents the mean ratio scores for Chinese and Australian samples, Figure 6.10 depicts the mean Stage scores for the two samples, and Figure 6.11 compares the mean scales scores of the two samples.

In terms of the ratio scores (Figure 6.9), the most notable differences are for Ratio IV and Ratio V, and less so for Ratio VI, and still less for Ratio I and Ratio II. It seems that the Australian sample scored higher on Industry/Inferiority (Ratio IV) and Affinity/Isolation (Ratio V) than their Chinese counterparts, but lower on Identity/Identity Diffusion (Ratio VI) and, to a lesser degree, Trust/Mistrust (Ratio I) and Autonomy/Constraint (Ratio II). Statistical analysis confirmed these statements except for Ratio I. Table 6.18 presents the results of MANOVA and univariate F-tests. Ratio scores were used as the dependent variables and country as the factor in MANOVA. Overall, Chinese and Australian samples differed significantly in terms of ratio scores. The difference was contributed to by Ratio II, Ratio IV, Ratio V and Ratio VI, as univariate F-tests indicated. The Australian sample scored significantly higher on Industry/Inferiority (Ratio IV) than the Chinese sample, also on Affinity/Isolation (Ratio V). However, the Chinese sample scored higher on Autonomy/Constraint (Ratio II) and Identity/Identity Diffusion (Ratio VI) than the Australian sample.
Figure 6.8 Mean CASPM Scores for Grade (Australian Sample)
Figure 6.9 CASPM Ratio Mean Scores for the Chinese and Australian Samples
Figure 6.10 CASPM Stage Mean Scores for the Chinese and Australian Samples
Figure 6.11 CASPM Scale Mean Scores for the Chinese And Australian Samples
Table 6.18 MANOVA AND UNIVARIATE RESULTS OF COMPARISONS OF THE CHINESE AND AUSTRALIAN SAMPLES ON THE CASPM RATIO MEASURES, AND RELEVANT MEANS AND STANDARD DEVIATIONS

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**Multivariate Test (Wilk's Criterion)**

**Chinese**

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**Australian**

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Note: Only significant results are reported.

Differences in terms of stage scores (Figure 6.10) between the Chinese and Australian samples also seem likely. MANOVA showed that the two samples differed significantly in their scores for stage measure, and the univariate F-tests showed several significant differences between the Chinese and Australian samples. The Chinese sample scored higher than Australian sample for Stage I (Trust-Mistrust), Stage IV (Industry-Inferiority), Stage VI (Identity-Identity Diffusion), Stage VII (Generativity-Stagnation) and Stage VIII (Integrity-Despair). The Australian sample scored higher for Stage V (Affinity-Isolation). These results are shown in Table 6.19.

Table 6.19 MANOVA AND UNIVARIATE RESULTS OF COMPARISONS OF THE CHINESE AND AUSTRALIAN SAMPLES ON THE CASPM STAGE MEASURES, AND RELEVANT MEANS AND STANDARD DEVIATIONS

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**Multivariate Test (Wilk's Criterion)**

**Chinese**

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**Australian**

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</table>

Note: Only significant results are reported.
These findings from ratio and stage measures provide complementary information. In terms of the proportions of positive scores to negative scores, the Australian sample seemed more mature than the Chinese for Industry/Inferiority and Affinity/Isolation, but less mature than the latter for Autonomy/Constraint and Identity/Identity Diffusion. This was so for Affinity-Isolation and Identity-Identity Diffusion in terms of the level of the positive and negative scores. For Trust-Mistrust, Generativity-Stagnation and Integrity-Despair, the same pattern can be found in both ratio and stage measures (Figure 6.9 and Figure 6.10). Yet the reversal occurred for Autonomy-Constraint and Industry-Inferiority; that is, although for ratio scores the Australian sample scored higher than the Chinese sample for Industry/Inferiority, yet it was lower than the latter sample in stage scores. The same occurred for Chinese sample for Autonomy/Constraint. Thus, these reversals were contributed most by the larger scores for Inferiority for the Chinese, while Australian sample increased their Constraint scores significantly (Figure 6.11). The most notable differences between the two samples are for Trust, Affinity, Identity, Constraint and Inferiority. Table 6.20 presents the results of ANOVA for each of the scales for Chinese and Australian samples.

Table 6.20 MANOVA AND UNIVARIATE RESULTS FOR CHINESE AND AUSTRALIAN SAMPLES FOR THE CASPM SCALE MEASURES, AND RELEVANT MEANS AND STANDARD DEVIATIONS

<table>
<thead>
<tr>
<th>Multivariate Test (Wilk’s Criterion)</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASPM Scales</td>
<td>7.41</td>
<td>16, 467</td>
<td>.000</td>
<td>.202</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate Tests (df=1.482)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M/SD(n=334)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>1.05/.48</td>
<td>.93/.35</td>
<td>7.54</td>
<td>.006</td>
</tr>
<tr>
<td>Affinity</td>
<td>.58/.32</td>
<td>.74/.36</td>
<td>26.66</td>
<td>.000</td>
</tr>
<tr>
<td>Identity</td>
<td>.51/.21</td>
<td>.42/.15</td>
<td>22.27</td>
<td>.000</td>
</tr>
<tr>
<td>Generativity</td>
<td>.42/.18</td>
<td>.37/.12</td>
<td>8.51</td>
<td>.004</td>
</tr>
<tr>
<td>Integrity</td>
<td>.40/.18</td>
<td>.36/.10</td>
<td>8.85</td>
<td>.003</td>
</tr>
<tr>
<td>Constraint</td>
<td>.65/.30</td>
<td>.71/.30</td>
<td>5.53</td>
<td>.019</td>
</tr>
<tr>
<td>Inferiority</td>
<td>.54/.27</td>
<td>.43/.18</td>
<td>23.36</td>
<td>.000</td>
</tr>
<tr>
<td>Identity Diffusion</td>
<td>.41/.17</td>
<td>.37/.10</td>
<td>6.65</td>
<td>.010</td>
</tr>
<tr>
<td>Stagnation</td>
<td>.39/.15</td>
<td>.36/.09</td>
<td>7.24</td>
<td>.007</td>
</tr>
<tr>
<td>Despair</td>
<td>.39/.15</td>
<td>.35/.09</td>
<td>8.36</td>
<td>.004</td>
</tr>
</tbody>
</table>

Note: Only significant results are reported.
The Australian sample scored higher than Chinese sample for Affinity and Constraint, but lower for Trust, Inferiority, and the last three stage measures for both positive and negative scales. The size of the differences between the two samples for the scales Affinity, Identity and Inferiority was greater than for other scales scores.

In summary, differences between the Chinese and Australian samples in psychosocial maturity, as measured by the CASPM, have been examined with different CASPM scales. For specific CASPM scales, Australian children tended to score higher on Affinity and Constraint, while their Chinese counterparts scored higher on Trust, Identity, Generativity, Integrity, as well as Inferiority, Identity Diffusion, Stagnation, and Despair. When positive and negative scales were considered as summed pairs, however, Australian students scored higher for Stage V (Affinity-Isolation), while Chinese students scored higher for Stage I (Trust-Mistrust), Stage IV (Industry-Inferiority), Stage VI (Identity-Identity Diffusion), Stage VII (Generativity-Stagnation), and Stage VII (Integrity-Despair). This overall higher scores did not necessarily mean that the Chinese children experienced more psychosocial maturity. With the ratio scores differences between Chinese and Australian children and adolescents were found for Ratio II (Autonomy/Constraint) and Ratio VI (Identity/Identity Diffusion) with the Chinese sample scoring higher, and, for Ratio IV (Industry/Inferiority) and Ratio V (Affinity/Isolation), with the Australian sample scoring higher. Many similarities between the Chinese and Australian samples have also been noted, in terms of an overall decreasing tendency of scores from earlier to later stages and total positive and negative scores of the CASPM scales. Nor have all hypotheses postulating differences between the Australian and Chinese been confirmed. Although there seemed to be similar patterns across the scales in terms of overall scores, Australian children did not exceed Chinese children in the magnitude of their CASPM scores; nor did the Australian sample show a higher level of Autonomy or lower level of Industry and Affinity. Actually, the Australian children proved more constrained than Chinese children, yet, showed more Industry and Affinity...
rather than Inferiority and Isolation. Chinese children, however, had a more favourable ratio for Identity versus Identity Diffusion, which had not been predicted.

6.7 Summary

In this chapter I have presented the results of my data analyses. To highlight the main findings, I will conclude this chapter with Table 6.21 to summarize the main information about the testing of my hypotheses, the measures and statistical method used, the results of the testing, and the major findings. These aspects will be discussed in the next chapter.
<table>
<thead>
<tr>
<th>HYPOTHESIS</th>
<th>MEASURE</th>
<th>ANALYSIS</th>
<th>RESULT</th>
<th>MAIN FINDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Erikson's maturation model will be validated over school grades</td>
<td>CASPM</td>
<td>MANOVA, Graphs</td>
<td>Supported in various ways</td>
<td>Pattern – zigzag, overall decreasing with grade and major foci at stages 1, 4 were apparent. Grade – primary schools were more variable than high schools. Identity increased in high school. Scores – differences for -CASPM were great than that for -CASPM. Stage and Relative scores were suggested and used.</td>
</tr>
<tr>
<td>2. The more PSM, the more sociality and self-control</td>
<td>CASPM, Sociality Origin, Pawn Scales</td>
<td>CANCORR, Pearson’s r.</td>
<td>Supported</td>
<td>Correlations between +CASPM and Origin, -CASMP and Pawn, total Sociality and +CASPM; Pawn and total Ratio were all ≥ .50.</td>
</tr>
<tr>
<td>3. Gender differences for all measures; girls more sociality, boys more self-control, less helplessness</td>
<td>CASPM, Sociality Origin, Pawn Scales</td>
<td>MANOVA</td>
<td>Not supported</td>
<td>No gender differences were found for any measures.</td>
</tr>
<tr>
<td>4. Positive relationship between PSM and ratings</td>
<td>Rating Scale, CASPM</td>
<td>CANCORR</td>
<td>Not generally supported</td>
<td>No significant relationships were found between Self-, Teacher-ratings and CASPM scores; Significant relationship existed between Peer-ratings and CASPM scores.</td>
</tr>
<tr>
<td>5. Positive relationship between PSM and perception of teacher - children relationships</td>
<td>CASPM</td>
<td>CANCORR, MANOVA</td>
<td>Not supported</td>
<td>No interaction, nor main effects of school perceptions (like teacher, like school, teacher caring) on PSM were found; though there were weak associations between them.</td>
</tr>
<tr>
<td>6. Positive relationship between school achievement and PSM, sociality and self-control; but negative relationship with helplessness</td>
<td>CASPM, Sociality Origin, Pawn Scales</td>
<td>REGRESSION</td>
<td>Not supported</td>
<td>Psychological measures predicted little of school examination scores.</td>
</tr>
<tr>
<td>7. Positive relationship between SES and PSM</td>
<td>CASPM, Sociality Origin, Pawn Scales, SES</td>
<td>MANOVA</td>
<td>Partly supported</td>
<td>No differences in scores of CASPM, Pawn, Origin were found for different SES groups; It was found that the lower the SES, the higher the Sociality Initiator and Solidarity scores, mainly due to father’s SES.</td>
</tr>
<tr>
<td>8. Only children will have more PSM and sociality, self-control and helplessness</td>
<td>CASPM, Sociality Origin, Pawn Scales</td>
<td>MANOVA</td>
<td>Partly supported</td>
<td>No differences were found for Ratios, Stages, Pawn, Origin. Only children were more Social (Reactor, Initiator, Solidarity, Sharing scores) than those with two or more siblings; Only children showed higher autonomous, diligent, lower identity;</td>
</tr>
<tr>
<td>9. AU and CN similar in general PSM pattern; AU greater than CN for PSM across grades; AU higher for Autonomy and Initiative, lower for Industry and Affinity</td>
<td>CASPM</td>
<td>MANOVA, Graphs</td>
<td>Partly supported</td>
<td>There were similar distributions and shapes for CASPM scores for AU and CN, but no difference was found for CASPM total ratios and stages; AU was higher than CN for Ratio IV and V, Stage V, Affinity, and Constraint; CN was higher than AU for Ratio II and VI, Stage I, IV, VI to VIII, Trust, Identity, Generativity, Integrity, Inferiority, Identity Diffusion, Stagnation, and Despair.</td>
</tr>
</tbody>
</table>

Note: AU = Australian sample  
CN = Chinese sample  
SES = socioeconomical status  
PSM = Psychosocial Maturity  
+CASPM = CASPM positive scales  
-CASPM = CASPM negative scales
Chapter Seven: Some Reflections on This Study of Psychosocial Development in Chinese Children

Scientific research is carried out at different levels, in terms of the scope of its description, of its discoveries, and of its problem solving. My dialectic metamodel suggests that such research is determined by its principal contradictions at different stages of the research process and in different contexts of interactions among various contradictions. I agree with Overton (1984) that the best criterion for evaluating the advance of science is the capacity to predict and problem solve rather than make mere observational discoveries. A very important principle of Marxist dialectics unites theory and practice: "the most important problem does not lie in understanding the laws of the objective world and thus being able to explain it, but in applying the knowledge of these laws actively to change the world" (Mao, 1967, p. 205). This process of explanation is endless. However, one cannot have theory before practice. One cannot solve the problem before one observes and describes the problem as accurately as possible.

My research is not of the problem solving type; rather it describes and explores. This is so because of the limitations imposed by the contradictions between the subjective need for appropriate theories and the objective lack of them, between the goal of building a theory and the lack of sufficient resources, between the need for explanations at a more general level and the lack of observations at some basic levels, to name just a few.

"Exploration" is necessary from the dialectical perspective because "in our approach to a problem we should start from objective facts, not from abstract definitions, and that we should derive our guiding principles, policies and measures from an analysis of these facts" (Mao, 1967, p. 211).

However, science advances more when the research programs involve theory before data collection (Hyland, 1981). My description and exploration have not been aimless; rather, they were under the guidance of theory. Although "on the whole, psychological research seems to follow the pattern of a degenerating problem shift" (that
is, theory after data) and facts "are collected for their own sake, not because they confirm or falsify a theory" (Hyland, 1981, p. 13), this study of psychosocial development in Chinese children has involved data collection within a dialectical framework in order to confirm a particular theory.

So comes a contradiction. My research is more an exploration than a prediction, given the nature of data in developmental psychology in general and in the People's Republic of China in particular. My research is also more theoretically oriented and guided deduction rather than empirical data based induction. Dialectically, this is natural. The implication of this contradiction between theory and practice for my research is explicit: my interpretation of the findings of this research is theoretically generalizable yet practically limited. The scope of this limitation is to be reduced only through continuous research activities by the psychologists in the field.

I will now, therefore, explore the findings derived under the theoretical guidance, evaluate my approach to development and the implications of the research for the future research in this area.

7.1 Exploration of the Findings

7.1.1 The Common Tasks of Psychosocial Development for Chinese Children

The results of this research have confirmed that Erikson's Western epigenetic theory of psychosocial development theory is applicable in the People's Republic of China. This has been reflected in the results from the testing of several hypotheses, in particular, hypothesis 1. According to Erikson's model, developmental tasks are age-related, or at least experience-related (Viney, 1987a). In this study, experience was assessed in terms of school grade. School aged children, in particular, those younger than 11, proved to be facing the main task of establishing their sense of competence, a strength resulting from favourable solutions to the contradiction between industry and inferiority,
the crisis of the fourth stage. Children from puberty to their early twenties proved to be experiencing most strongly the next stage crisis, with the task of forming a clear identity as the favourable solution to the contradiction between identity and identity diffusion. The most experienced task for the Chinese children over all the grades, in addition to the first stage task, trust, appeared to be the fourth stage task, industry. This indicates that one of the main concern of Chinese school-aged children is indeed how to establish a sense of competence. This was true for its negative counterpart, a sense of inferiority, as well. Further, when measures based on the concept of a fair ratio were applied, another task which concerned them was identity formation, especially in high school grades. This finding is consistent with other studies (Pomerantz, 1979; Protinsky, 1975). The largest between-grade differences occurred at these two stages, as well as at the first stage, trust versus mistrust. Therefore, generally, the importance of establishing a sense of competence and forming a strong identity for school aged children have been confirmed by this research. Now, I shall examine this pattern in more detail.

### 7.1.2 The Predictable Order of Psychosocial Development

Psychosocial development over predictable epigenetic stages has been proposed by both Erikson and my contradiction model. Each stage is linked, and also contains all the previous stages in modified forms and all the future stages in germinal forms. The implicit assumption in Eriksonian model seems to be that at each stage of life-span development only one task or crisis will be the main concern, which should be experience-appropriate.

This assumption, however, was not strongly supported by my data, in that the initial stage task, trust, proved to be still dominant. In fact, the contrast between trust and industry, a task concerning school-aged children in Erikson's model, was significant. This may be because the ability to trust and the resulting strength, hope, are the cornerstone of psychosocial development for the resolutions to the contradictions of autonomy versus constraint, intimacy versus isolation and integrity versus despair, which
are the tasks most experienced by the Chinese children. This can be considered from at least two perspectives. Firstly, Erikson (1963) has indicated that trust of others is essential to intimacy. Further, trust, autonomy and intimacy all belong to a thematic dimension of existential/now (Logan, 1986), while integrity is the destiny of trust in the life cycle at a higher level. Therefore, trust is intrinsically imbedded in those tasks so it could logically manifests itself with other tasks as revealed in this study. Secondly, however, this phenomenon of dominant trust also implies that more than one of the central tasks can coexist. This coexistence occurs because tasks sharing common themes, whether they have been achieved successfully or will be in the future, must go through a new form of contradiction resolution in order to develop the new developmental strength. Or it may be because the resolution of this basic trust in these research participants' early stages of development was unsatisfactory, so that the task of trust versus mistrust kept re-occurring. The former appears more likely because that the trust seemed to be the principal aspect of the contradiction between trust and mistrust for these Chinese children. No direct evidence is available yet to sort out these possibilities. Ochse and Plug's (1986) evidence of parallel development, however, indicates such a possibility although they considered identity rather than trust, to be the common factor underlying the process. Further research is needed to clarify this issue. If the coexistence of different tasks occurs at all stages then the assumption of distinct stages with their single central task might need modification.

In terms of order alone, all four measures of psychosocial maturity have supported the relative positions of all of Viney's (1985, 1987a) modified Eriksonian stages, except two. That is, the ordinal position of the stages, excluding stage 2, is 1, 4, 3, 5, 6, 7, and 8. The second stage proved to be the last in the ordinal sequence when measures indicating the extent of the dominance of the positive and negative poles of the task were considered, but the first for measures of the development of negative poles only. The high level of trust of these children has been discussed. The last three stages also are accurately predicted by Erikson's theory. Here, Viney's modification of putting the task of achieving
intimacy in the fifth position rather than the sixth has been supported. Although the strengths of care and wisdom (the results of successful resolution to the seventh and eighth stage crises) are too far in the future to be shown by school-aged children, those of fidelity and love (the results of successful resolution to the fifth and sixth stage crises according to Erikson’s model) did enter into these children’s experience. An intimate relationship does seem to offer a sound context for a strong identity. However, this modified order may be attributed to the specific method rather than a critical theoretical alteration of order for Erikson’s model, because open-ended questions can hardly tap the unarticulated self (R. H. Turner, 1987). The issue that whether the subjectively experienced intimate relationships offer a firm and necessary background for identity formation or the open-ended interviews adopted by content analysis methodology are not sensitive enough to detect the changing process of unarticulated self is worth being studied.

The variation of the second stage position reveals that the task of developing a firm will through positive resolution of the contradiction between autonomy versus constraint was not achieved well by Chinese children. In fact, this task was the least achieved in terms of positive resolution of the crisis. Chinese children felt constrained, controlled and influenced. It was their most common negative developmental experience. Ekblad (1985, 1986) has described China as an authoritarian society, with children being restricted in contrast to their Western peers. Chinese families and schools emphasize discipline. Obeying teachers is regarded as good, while obeying parents is considered to be appropriate filial conduct. Yet, psychosocial development, following its own basic and principal contradictions, urges children to become more independent, to have their own ideas and opinions and, most importantly, to build up a sense of potential, at least, for self control with a strong feeling of its possibility and a real experience of this. When this internal demand (the psycho-aspect of psychosocial maturity) was not met by external conditions (the socio-aspects) of encouragement, support and facilitation, the identity status of contradiction (see section 2.2.8 of Chapter 2) underwent a transformation, with
the constraint, unfortunately, rather than the autonomy, striving for the principal aspect of this contradiction. As a result, Chinese children experience crisis and a frequently expressed sense of constraint is evident.

7.1.3 Grade Differences

Differences between grades were also apparent for these children. Differences in degree of psychosocial maturity were more evident between grades for positive rather than for negative poles of the contradictions, which indicates that their main focus in most grades was on the positive constructs of psychosocial maturity, although the other side of the contradiction, the negative constructs were inevitably encountered as well, but to a lesser extent. Further, the variability was greater in primary school grades than in high school grades. This could be accounted for by the nature of psychosocial tasks and their relative durations in each life span. The concept of spiral development implies a hierarchical complexities of different contradictions at different levels. In particular, this hierarchy is made possible by the principle of transformation from quantitative variation to qualitative change. Each Eriksonian development stage represents a qualitative change with which new strengths can emerge, such as hope, will, and purpose. Yet, the complexities of these strengths are not at the same level. They are getting more and more complex in each transformation, because each new strength not only features new ways of organizing the complex net of contradictions and greater potential for psychosocial maturity but also contains modified or, more often than not, improved forms of strengths that already existed. Therefore, earlier tasks need less time to be completed than later ones. High school students were concerned with the tasks of intimacy and identity formation and they had developed more of those strengths of purpose and competence than primary school children. However, the strengths of love and fidelity need a much longer time and much broader experience to build up. In other words, the contradictions in developing these strengths will stay longer as part of their identity status. Here, then, is one possible account of my finding that psychosocial maturity development in primary school children varied more than high school students.
In addition to this distinction between high school and primary school children, I found, as my model predicted, a zigzag pattern across most of the measures for psychosocial maturity development over grades, in particular, the first to fifth grades. This finding is inconsistent with that from Protinsky's (1975) study in which old adolescents consistently scored higher than young adolescents. McClain (1975) found a similar pattern to mine, although the specific school grades and developmental stages were different. The three age groups of McClain's research were matched in my sample (Grades 6-7, 8-10, 11-12). However, my findings were for primary not high schools. Moreover, it occurred at one grade interval, rather than for clustered grades. McClain found that the stage task most clearly revealing this pattern was identity formation, but in the Chinese high school grades of my research, a sense of identity strengthened grade by grade. McClain suggested that the process of identity formation was from a naive certainty about identity through the practical incompetence of solving problems, and to the final mastering of the task. This interpretation would be challenged if the findings of the present study could be replicated, because even long before the period of identity formation this pattern already existed, yet it was not so for the high school students who were currently facing this task. Another point that should be noted is the differences in our measurement of psychosocial maturity. McClain applied the concept of fair ratio. However, the zigzag pattern in my study was more consistent with the magnitude measures (i.e., either positive or negative poles of psychosocial development or the absolute level of both) rather than the ratio measures. My findings suggest that development is not constant; it has ups and downs or healthy regressions. We go backwards first in order to leap forwards, another example of contradictions in development.

This research has also shown that changes in psychosocial maturity are most likely to occur during transition periods, as reflected by the tendency of changing in opposite directions of positive and negative poles of psychosocial maturity. The most obvious transition period for these Chinese children was from grade six to grade seven, entering
high school. For most measures of psychosocial maturity this included an increase in the negative poles of the contradictions at the relevant stages but also a decrease in the positive poles, and hence a decrease in overall psychosocial maturity level.

Several inferences can be drawn from these trends. 1) The nature of each developmental contradiction is different, depending on its stage. Sometimes, these two, positive and negative, poles of the contradiction could be in harmony, going along the same direction at the same pace. Then, the general state is balance. 2) However, in transition, the balance is no longer sufficient for a resolution, thus, for one pole to be dominant in coping with the reality, the other pole has to be suppressed; thus the "net" gain shows the results of the struggle, either successfully or unsuccessfully solving of the contradiction, depending on the dominant pole. 3) Usually, the greater the difference in the levels of development between the positive and negative poles, the more efficient the resolution of the contradiction, regardless of the direction the difference. The lesser the difference, the more problematic the resolution. The trend toward similarity or diversity between the positive and negative poles of psychosocial development indicates the direction the development of the contradiction at that time. 4) If the contradiction is not the principal one, then the similar magnitude of the positive and negative poles indicate a "sleeping" status; but if it is, then, the closer the levels of the two poles, the stronger the tension or struggle of the contradiction indicating a transitional status. 5) If the contradiction is resolved, then the similar magnitude of the two poles might indicate that they are not of concern. However, if they are very different, it could mean either of two things: first, they are the results of regression attributable to the unsuccessful resolutions in earlier stages; or, second, they are important to the present contradictions, either as background or coexisting main contradictions.

Although these inferences were based mainly on my research observations, the issues of how psychosocial maturity changes during transition periods and what is the exact relationships between different measures of psychosocial maturity and their implications during these transition periods, and in other periods as well, are of general
It seems that if the change of both positive and negative poles is in the same direction, the contradiction is in its seemingly stable status; but if the change is in opposite direction, a crisis is evident. I would also suggest that the strength of the psychosocial maturity (as reflected by stage measures) and the proportion of positive residuals (as reflected by ratio measures) are both important to development. The optimal condition is to have both increasing at the same time. The proportion reflects the status of maturity, or psychosocial adequacy, while the strength reveals the quality of maturity, or psychosocial tolerance. Adequacy of maturity without tolerance of crises is not effective, and tolerance without adequacy is not desirable.

### 7.1.4 Real Trust and Naive Maturity

One notable finding that youngest Chinese children of the study appeared to be unusually psychosocially mature was not expected. Their high performance on the first four stage-related tasks might be because these tasks are relevant to their age groups, yet, their maturity at the later stages cannot be accounted for easily. However, when measures based on the concept of fair ratio was applied, this seemingly high maturity phenomenon disappeared. It may be that grade one children's experiences of psychosocial maturity actually represented a naive maturity. This is understandable since they had just entered primary school, bringing with them the as yet unconstrained dreams and expectations of childhood. Other factors might as well have influenced their performance on the psychosocial maturity measures. For example, their limited verbal ability to express their own experience could have caused them to use secondary experiences (usually these were what they had been told rather than what they had experienced). More research is needed to explore the role of these variables, and the concept of a fair ratio between positive and negative aspects of development and its relevant measures can help to reduce this sort of bias (McClain, 1975).

Another interesting finding was that for all grades, the performance on the positive pole of the first stage task, trust, was consistently high. Either this was because the crisis
of trust and mistrust had not been resolved during the early years, or trust serves as a cornerstone for psychosocial development. When later crises occur this basic strength, hope, is needed. I prefer the latter account, as I have indicated. This suggests that when Chinese children come to their different developmental tasks, they try to face their main crises but at the same time use this fundamental strength they have established in an earlier developmental stage. Trust has proved of importance for later development (Santrock, 1970). Viney (1987a) reported that in addition to their dominant constructs of integrity and despair, the elderly men and women she studied also still used trust very often, in fact their scores were significantly higher than those of the younger group. She accounts for this in terms of many chronically ill elderly using trust to cope with those illnesses, so that context or situation can elicit a return of older constructs. Erikson's model offers the possibility of this kind of cycle, and so does my metamodel. However, exactly how this fundamental trust functions to facilitate later transition merits more research. Further, the relationship between the form and the content of contradictions should not be ignored. Although the form, high trust, has been proved consistent across the grades, the content of this high trust could be different. That is, even if the trust is pivotal and the parallel development is possible (see section 7.1.2), the issue of qualitative differences of trust versus mistrust during different stages of psychosocial development should be considered. Unfortunately, the data from present research are not sufficient to solve this issue. Future studies, however, should not ignore this.

7.1.5 Male-Female Equality

One of the basic characteristics of child-rearing practice in socialist China is a strong ideology of male-female equality (Ekblad, 1985). Although its practice might not be strictly followed, officially this principle has been stressed. In this research no gender differences in any measures of psychosocial maturity were found. This finding is in contrast to those of most of the Eriksonian studies in the West, in which gender differences for intimacy were common (see section 4.3.3.2 of Chapter 4). Yet it is consistent with Erikson's belief that all people, male and female, will have the same tasks
in psychosocial development (Hall, 1983) and confirms Tesch and Whitbourne's (1982) findings. I believe that Chinese societal's advocacy for the male-female equality has contributed much to the present finding, especially because my research participants were school children who were still idealistic. Their experiences and perceptions may well change when they enter eventually into adult society.

7.1.6 Psychosocial Maturity, Competence and Sociality

The development of psychosocial maturity takes place in the context of general psychological development. A psychosocially mature individual has therefore been predicted in this research to be a competent, independent and sociable person. The findings supported this hypothesis. Specifically, those Chinese children who showed high levels of the strength of competence, the results of successful resolution of the contradiction of industry and inferiority, but low levels of the strength of love, which results from the successful resolution of the contradiction between affinity and isolation, were more willing, in social interactions, to be involved in supportive relationships rather than intimate close ones. Those who had not established a firm will and with an unclear sense of identity preferred supportive relationships to those involving power and influence. These findings are consistent with the predictions of my model. People with little established sense of trust and identity could not involve themselves fully in social interactions. Further, intimacy and solidarity proved to be two different types of interaction. People could help each other, but may not involve themselves into deeper relationships. This might be in particular true for the Chinese, who usually have had those they can love, in most cases, family members, and those who can trust and be trusted, clearly differentiated. Although collectivism is highly valued in China and the love of the people and to love each other are constantly advocated and associated with helping and solidarity both in the media and school education, these two concepts, intimacy and solidarity, are not merging together.
Interpersonal closeness appeared to require the strength of love. Those children who possessed this strength as well as the strength of hope seemed to be smoothly entering into both intimate and helping social interactions. Nevertheless, they also seemed to have a relatively undefined sense of identity. Thus, for Chinese children a strong sense of personal identity was associated neither with interpersonal help and support, nor with interpersonal intimacy, although a strong sense of trust was present. It has been noted that intimate relationships may demand sacrifice and compromise (Hall, 1983), which, for these Chinese children, could not be compatible with a strong sense of identity. This finding is in contrast to Erikson's model, in which only people who have a strong sense of identity could commit themselves to mutual care and love. It is possible, that since these children had not reached the identity stage yet (recall that identity is preceded by intimacy), they were unable to provide, and accept, a mature identity in their interpersonal interactions. This could also be attributable to societal difference, in that the element of individuality contained in the sense of identity is not encouraged in China. This point will be further clarified in the next paragraph.

I also found that the combination of much solidarity but few influence interactions was associated with little concern with the contradictions of autonomy versus constraint and identity versus identity diffusion. This can also be accounted for by China's emphasis on collectivism and conformity. Individuality is frowned on by implication, in the encouragement of helping and sacrificing personal interest to consolidate collectivism (see section 4.4.1.2.4 of chapter 4). Individual power and control also receives little emphasis. This is reflected in the little sense of autonomy and poor identity development, the less of this kind of development the better in terms of keeping power in the hands of the leadership. Popular slogans have advocated: "Do whatever the party tells me to do! Go wherever the party wants me to go!" If Chinese people had developed a strong sense of identity and self concept, this kind of conformity could not function without obstacles. Paradoxically, or dialectically to be more precise, however, this seemingly negative
condition for a strong sense of identity could result in the opposite manifestation, that is, a higher identity status could emerge from them. I will discuss this later.

These Chinese children also showed that the more developed they were in the positive poles of their psychosocial maturity, the stronger the sense of independence and self control they experienced; and the reverse was true, too. It seemed that successful resolution of the crises of the second and the fourth stages of Erikson's model contributed most to a sense of self control. This confirms the finding of Wilkerson et al. (1982). Indeed, if children in this social context possessed the feeling of security and the ability to act in preparation for the future (Logan, 1986), how could they not feel pride of themselves to be, or to be able to be, independent and competent in mastering their own lives?

7.1.7 Psychosocial Maturity and Academic Achievement

If the self concept is one important aspect of psychosocial maturity, then a positive association between psychosocial maturity and academic achievement might be expected and confirmed (Rajabally, 1987). This research, however, failed to find such a relationship. This discrepancy may be attributed to differences in indices of academic achievement. For instance, Rajabally's measure of achievement was 20 true-false questions after a 3-week period of ten units of 45-minute developmental psychology instruction. The test was conducted immediately after the completion of the last unit. In my study, however, the index was the average of students' major subjects marks examined by the standard school system. Achievement at school thus was independent of psychosocial maturity. This suggests that psychosocial development and cognitive development may be two independent dimensions of human development, although, of course, school achievement is only one dimension of cognitive development.
7.1.8 Psychosocial Maturity and the Family

Family is an important context for the development of psychosocial maturity. Parental educational level, family income, and socioeconomic status are the family factors commonly considered. This research did not find any relationship between children's psychosocial maturity and parents' education level, income, or profession. These factors seemed not to be important to Chinese children's psychosocial development. This could be partly attributable to the Chinese societal emphasis, economically, on egalitarianism rather than free enterprise, and sociopolitically, on conformity rather than diversity. There was no association between educational level and income, nor between income and profession, although parental education was correlated with profession. No effect of socioeconomic status could be found on psychosocial maturity, although these children's experiences of their social interactions were associated with their family socioeconomic status. However, it was those from low and below average socioeconomic status families who showed much sociability, in particular, they took more initiatives in social interactions and preferred helping interactions. It was father's status that contributed to this relationship rather than mother's.

This finding seemed mainly attributable to educational level. Highly educated parents may over-emphasize the value of independence and tend to encourage their children to concentrate more on academic activities than on other affairs, including social interaction, which may be seen as irrelevant to study. These parents may also have a greater awareness of the mores of Chinese social life, which value meekness, modesty and to certain degree, passivity rather than initiative, being active, or assertiveness. Although the sociopolitical education of the communist party encouraged active involvement in both social and political activities, Chinese people, especially intellectuals, are often taught that to take initiatives rather than passive roles in social activities may lead to trouble. This kind of perception then might affect their children's sociality. In addition, significant contributions to these differences came from fathers. This is consistent with
the Chinese tradition that fathers usually are the head of the family, and the education of the children, in a very general sense, is thought to be the responsibility of fathers.

These findings are specific to the culture of the People's Republic of China, a combination of the traditional Chinese culture and modern socialist and communist development; they are not consistent with that of other studies in western cultures, such as Gruen (1969), but some of these unique cultural outcomes have been observed in various areas (Lindsay & Dempsey, 1985). Further studies are necessary in order to understand the processes and mechanisms of the effect of these sociopolitical factors on the development of psychosocial maturity.

The issue of the psychological adjustment of only children has not been resolved yet. My research has shown Chinese only children to not be different from their peers with siblings in terms of levels of psychosocial maturity, nor did they differ in their senses of competence and helplessness. This finding added some weight to the study by Falbo et al. (1989). Yet, some specific differences were also noted. Only children were better able to resolve tasks at the second and fourth stages. They tended to be more autonomous and studied harder than their peers with siblings but seemed to have a less developed sense of identity. This first observation argues against a popular belief that only children in China are usually spoiled and not independent, while the last offers some indirect evidence to the proposition of Zhang (1989a) that Chinese only children experience a contradiction of ought-to and do-to, not so dominant for other children. They know only the former, while reality demands both and often judges by the latter; they are then confused. This lack of maturity may be attributable to the unique way only children are treated, whether it is positive or negative, or to the possibility of a certain time-lag in maturity between only children and other children, or to the lack of sibling interaction thus less adequate interaction with peers during their development. This last suggestion, however, was not supported by the data. In fact, only children tended to be more involved in helping and shared types of interpersonal interactions, and to take reactor's as well as initiator's roles than children with two or more siblings. In terms of reactor's role
and shared type of interaction, they even showed higher levels than children with only one sibling. It could be that their parents, and maybe their teachers as well, have been concerned about negative effects of being only children being reported publicly and so tried to emphasize these interactions more. Of course, this process of parental and teachers' emphasis would increase the only children's knowledge of ought-to, yet, might not speed up their knowledge of do-to.

These findings support the view that only children in China showed no less psychosocial maturity than other children, and they were even more mature in some ways. Yet, caution should be taken in the attempting to generalize this statement beyond this research. Specific aspects of these issues may be better answered by research designs specific to them.

7.1.9 Peers' and Teachers' Views of Psychosocial Maturity

Although subjective experiences of the self and the observable expressions of the self are two separate domains, under normal conditions they are consistent. Unifying the contradiction of subjective and objective is an ability all of us practice daily. Therefore, the use of both subjective experience-based research methodologies and objective observation-based methodologies together is appropriate. Peer-rating procedures (see section 5.3 of chapter 5) have been used in this research to supplement the content analysis scale methodology. However, the results of hypothesis testing showed there was no strong, reliable association between the two assessments of psychosocial maturity by content analysis scales and ratings by others. Specifically, no relationships were found between teacher's ratings of psychosocial maturity and the children's experience of that as measured by content analysis scales, although peer ratings showed some weak relationships. Surprisingly, not even these children's self-ratings on maturity were related to their self-experienced maturity measured by content analysis scales. These discrepancies might be attributable to different methodologies adopted (Craig-Bray &
Adams, 1986), which might suggest rating procedure and content analysis scales assess two aspects (forms) of the same process (contents).

Nevertheless, some interesting observations were made. It seemed that the more Chinese children experienced trust and autonomy, the less mature they proved in peers' eyes. The relationship between strong identity formation and the achievement of autonomy and trust was negative, which probably reflects a certain kind of values. For many Chinese, being loyal might mean loss of autonomy and basic trust. This may partly account for a common observation among the Chinese people that there are more conflicts when they stay together than when they are separate. This is so because they have lost their sense of basic trust. They are also quite easy to mobilize because someone with little autonomy is considered to be a mature person! The societal ideology, too, emphasizes caring for others and being actively involved. The combination of this collectivism orientation with the actual constraining of individualistic autonomy, together with the dominance of "class struggle" for their social interactions (thus, little basic trust), can make life difficult for Chinese people. They may have to choose to become "dissidents" (as either hero or enemy) or just stay "irresponsible".

The negative relationship between trust and identity when they were represented by peer-ratings in the canonical correlations implies that trust and identity were viewed by peers as different or even opposing attributes. This relationship is worth pursuing since it might reveal a pattern fundamental to Chinese people: a contradiction between individual values and collectivistically enforced social values. That is, identity, a quality or strength of loyalty as depicted by Erikson, does not fit with trust, a basic and vast trusting of one's surroundings, due to the Chinese emphasis on class struggle and continuous revolution under the proletarian dictatorship.

For teacher ratings, a significant negative relationship was found for trust and children's experiences of positive resolution of the second stage contradiction between autonomy and constraint. It seemed that for the teachers, trust cannot be related to
autonomy. They did not expect students to have strong autonomous ideas or concepts. In other words, if primary and high school children trust their surroundings, people and environment, they then should not have individualistic autonomy because they can simply "trust", thus just leaving decisions to teachers and parents. In Chinese teachers' eyes, so long as children study hard and are active, they are most probably interpersonally adequate.

These as yet tentative accounts were based on small correlational coefficients. I have used them to identifying some possible areas of Chinese development to be studied further. Although in psychological studies small but psychologically important correlations are not uncommon (Nunnally, 1972), the conclusive judgement on these phenomena is still to be made.

7.1.10 The Psychosocial Maturity of Chinese and Australian Children

The contradiction of universality and particularity is imbedded in my dialectical metamodel, and its manifestation in the development of psychosocial maturity has been illustrated already in section 7.1. I will now discuss this contradiction further in relation to the development of Chinese and Australian children.

Similar patterns of psychosocial maturity were found for my Chinese sample and an Australian sample of children. For both, there was a high level of trust over all school grades. Moreover, there were no differences between the two samples in terms of extent of overall psychosocial maturity. These findings confirmed that the Chinese children of this research generally did not differ from their Australian counterparts in the processes or levels of their psychosocial maturity. There is, therefore, some evidence for the universality of psychosocial development, which parallels Gong's (1984) finding. However, dialectically, particularity must also be evidenced in order to affirm universality. Most studies similar to this one have shown similar pattern overall, with some difference identified (see section 4.3.3.5, chapter 4).
The differences between the Chinese and Australian samples were found for different aspects of psychosocial maturity as well as with different measures of it. The Australian school children included in this study showed less concern with the negative poles of psychosocial maturity than their Chinese peers, especially for later stage tasks such as identity diffusion, stagnation, and despair. There was one exception, constraint. They also showed more affinity. On the other hand, their concern with the positive aspects of maturity corresponding to those negative ones was also less than that of the Chinese sample. The Chinese sample also showed higher level of trust. The Chinese sample seemed to be quicker than Australian sample to resolve the tasks for the first, fourth, sixth to eighth stages, but slower for the fifth stage task. These stage differences only indicated possible strength rather than any net-gain maturity. However, these results did suggest that the Chinese children were more concerned about the tasks of these stages, even though some of these stages were very remote in their own life spans. This probably reflects some cultural difference in their focus-of-life, in terms of whether one lives for the future or for the present. In China, in particular for school children, future-directed education has been emphasized, because children are the future heirs of the communist cause. Ideological education is the primary focus of schooling, not second even to science (see 4.4.1.2.4 of chapter 4). In addition, the models (see 4.4.1.2.3 of chapter 4) set up for the various target groups are usually future-directed. These explicit future-directed focus-of-life in China makes the later stage tasks, such as generativity versus stagnation and integrity versus despair, clearer for Chinese children than Australian children.

Those differences are examined within one of the measurement framework of this research, namely, the level of psychosocial maturity development. This reveals the degree of concerns about that stage. It could mean little tension, when high positive poles combine with low negative poles, or high negative poles versus low positive poles (but only without an external frame of reference). It could also imply high tension when both positive and negative poles struggle to be the principal aspect of the contradiction. The
status of the resolution of the contradiction or crisis is reflected in the relative dominant positions of the positive and negative poles of psychosocial maturity. Now, I shall examine the psychosocial maturity of the Chinese and Australian children through this framework.

This research showed that there were quite a few differences between Chinese and Australian children in terms of the degree of concern about some stage tasks. However, differences in the resolution of the stage crises, as revealed in the positive residuals in the contradictions, occurred to a lesser degree. The Australian children showed aware of the strength of competence, a positive residual of resolving the contradiction of industry and inferiority, as well as of love, a positive outcome from the struggle between intimacy and isolation. However, their strength of fidelity was not as strong as that of the Chinese children. These findings are not consistent with those of McClain (1975). Economic and sociopolitical differences between China and Australia are apparent, yet their roles in psychosocial development of Chinese children are apparently not those described by McClain (see section 4.3.3.5 of chapter 4). In Erikson's model, the strength of competence is essentially the capacity to learn, to work, and to master skills in order to get ready for adult life. For children, school work provides the main activity through which to establish competence. Chinese children have more school work than Australians (for example, six days in school instead of five) and face more demands from parents, teachers, and peers. Although C. S. Chen and Stevenson's (1989) data compared the Chinese, Japanese and Americans, their findings are applicable here. They have shown that most after-school hours for Chinese children were spent on homework; however, there was no relationship between hours doing homework and achievement. Chinese children had less time than Australian children, then, to spend on other activities. Further, although they spent many hours on school work, their achievement still might not be as high as their parents, teachers, and they themselves expected. Thus, on the one hand, Chinese children were more industrious, on the other hand, they were more frustrated and felt more inferior than Australian children who had less demands but more opportunities
to choose and decide for themselves in their school lives. Thus Chinese children expressed less competence than Australian children in their resolution of the fourth stage task, industry versus inferiority.

Regarding the strengths of love and identity, stages five and six tasks, Chinese children showed less maturity for the former but more for the latter. This was not expected, since the close family-centred support tradition and pervasive interpersonal network in China should provide better intimate relationships while Australian's democratic society and freedom of personal choices should offer more opportunities for establishing one's identity. This finding in opposition to these assumptions suggests that some reconceptualization of current views of children's psychosocial development is necessary.

The measure of intimacy and isolation used treats the resolution of this crisis as occurring prior to identity and identity diffusion. Also, I have pointed out that for Chinese children a future orientation has been emphasized throughout their schooling. For most of the children participated the study, identity is a future, or near-future, task, rather than a present one. Chinese children may start earlier than their Australian peers to concern themselves with the future: Who am I? They seemed not to experience less maturity in affinity, because the higher level of Australian sample on the strength of love was contributed by their higher level of positive pole (affinity) rather than lower level of negative pole (isolation). Moreover, sound, intimate interpersonal relationships are bonded through continuous interactions, for which Australian children would have some advantage because of their greater freedom and opportunities in their social lives. On the other hand, Chinese children may be content with their interactions within families, a prototype of all social organization (Mei, 1968) and an easily accessible repertoire for intimacy whenever they need it (Hsu, 1985). They did not feel isolated and they did not have to go to seek more affinity either. This thus led to relatively less maturity for affinity.
Other accounts of these findings are possible. For example, the equivalence of the concept of affinity in the Content Analysis Scales for Psychosocial Maturity (CASPM) to that of intimacy in Erikson's original model can be questioned. It seemed that the content analysis scales' concept of affinity was wider than Erikson's concept of intimacy. The former emphasizes a sound interpersonal relationship as the base for sound psychosocial development, while the latter stresses the intensity of the strength of love which can be strong enough for mutual sacrifice but allows keeping one's sense of identity. Another explanation could be that Chinese people are cautious and conservative in expressing affect publicly, intimate experiences not being shared with others except for the receiver of that intimacy. Thus, the measured results might be systematically lower than their actual feelings and experiences.

The issue of identity has been addressed in section 7.1.6 in the context of the relationship between the sense of self control and psychosocial maturity. The roles of the cultural values of collectivism and individualism have been mentioned. I argue that this is the main factor contributing to the differences between the Chinese and Australian children, a social context difference which at the institutional level (Vygotsky, 1978, cited in Rogoff & Morelli, 1989) affects the members within. Collectivism is advocated as a cultural standard for social interaction throughout levels in China; and Chinese society is regarded as a restrictive one (Ekblad, 1985). Personal choice is very limited. Children are disciplined once they enter school and are trained and educated to be a member of a collective (Gilliom, 1978), whether it is a group, a class, or a school, a city, or ultimately, an heir of communism. The Self and the self development are to be equated to selfishness. "Little me" should be reformed into "big me" (Dien, 1983). All these factors for most Western developmental psychologists, indicate a poor environment for identity formation. This study, however, suggests that Chinese children, surprisingly, may have had a better start with identity formation task than their Australian counterparts who live in a more open and individualistic society. I consider that collectivism and conformity contributed most to this difference. Certainly, conforming to norms, respecting the old
and obeying the authority can all be dated far back into Chinese history. But advocating and stressing collectivism are naturally followed by conformity, otherwise the latter is hardly achievable. High conformity to social values and norms has been found for Chinese people (L. Chu, 1979; Gong, 1984). Although the concept of identity includes many elements (Erikson, 1959) and therefore many manifestations, Marcia (1980) has suggested four forms: foreclosure, moratorium, diffusion, or achievement. Under high conformity, the most likely forms for the Chinese children of this study were foreclosure or achievement. Achievement seemed to be too early for them; foreclosure then was the most likely form, showing no real identity crisis, with values and ideological goals taken as given as the results of conformity. This was possibly because of societal and authoritative enforcement of collectivism as early as in preschools and state centralized control of mass media and other information channels. Under these conditions, a unique self is not possible (Juhasz, 1982), a foreclosure becomes necessary. This, therefore, may account for the higher identity status in Chinese children than that in Australian children. However, a better start with foreclosure may imply a worse end with overall identity formation. More thorough studies are needed to explore this issue.

Interestingly, this research also found that both Chinese and Australian school children were experiencing more constraint than autonomy. Further, Australian children felt more constrained than Chinese children. Australia is commonly observed to be a less restricted and controlled society than China. And the following prediction would be that Chinese children would experience more constraint than Australian peers. The results showed that this was not the case. For the Australian sample, the most constraint was experienced by Grades 9 and 12 children, while for the Chinese sample, it was experienced by Grades 3, 5 and 10, in addition to the possibly naive Grade 1. It seemed that both between and within the two samples there were many intriguing differences relevant to how children develop. Further studies to test hypotheses generated by developmental models in this area are needed.
7.2 Evaluation

7.2.1 The Contradiction Metamodel and Dialectical World View

I have explicitly adopted Mao's contradiction framework and dialectical world view as my metamodel for the study of psychosocial development in the People's Republic of China. Within this framework, a specific theory, Erikson's epigenetic development theory, has been evaluated. Given these bases, the review of the relevant literature led to my hypotheses, and of course, contributed to the interpretation of my findings. I believe that this dialectical approach has proved fruitful. Western psychology is moving towards using these concepts more. Contradiction, for example, has been "discovered" and recognized in the study of self (Markova, 1987), while "the fundamental question for developmental research is the nature of the dialectical interplay between change and preservation of sameness over a life-span" (Haan & Day, 1974, p. 11). In their review of cross-cultural psychology studies, Kagitcibasi and Berry (1989) indicate that the contradiction or conflict between the emic and the etic approaches is the force functioning in the dynamic of cross-cultural psychology. Further, "cross-cultural psychology can progress only through a dialectic of the two" (p. 520).

This research has been conceptually guided by Mao's accounts of contradiction, yet some doubts about the originality of Mao's ideas have been raised. A. A. Cohen (1964), for example, considers that:

The [Chinese] claims for Mao as a contributor to the theory of dialectical materialism are largely spurious. His only contribution seems to be the extensive discussion of contradiction -- a discussion rather dubious as philosophy -- in which he has hit upon a new way to describe the process of qualitative change in things. Other than this, he is indeed tedious and unoriginal, ... Yet, Mao's prestige in China as a 'philosopher' remains high, as it does not depend on the credibility of his essays as real philosophy, but rather on the image of him as a 'philosopher' they have helped to create. (p. 27, italics original).

Cohen has shown that most of Mao's thoughts on contradiction and practice could be credited to Marx, Engels, Lenin and even Stalin. I think, however, that this issue is
beyond the scope of the present work. My own philosophical education has been dialectical, through the study of Mao's works. Further, my intention was not to approve or dispute the authenticity of Mao's theory, but rather to explore the utility and heuristic implications of dialectics for developmental psychology. In fact that Mao's work has been already articulated by other dialectical philosophers strengthens the choice of the dialectical approach in my research. Many of our approaches can be dated back to ancient Greek, Indian, or Chinese philosophy. This is the essence of human development. Human development has already been considered as a dialectical process rather than mechanistic or organismic (Breger, 1974).

Within any framework, at what level the theory is to be applied to the phenomena being studied is of importance. I have explicitly set it at the individual level. That is, the development of psychosocial maturity occurring for individuals in their dialectical interaction with their immediate contexts. Certainly, the data from these individuals (particularity) reflected some common features (universality) and the interpretation and explanation of these features have gone beyond concrete individuals. This is necessary from a practical point of view, but not sufficient from the theoretical point of view.

Therefore, my account of the findings should be taken with caution. There have also been some methodological limitations that may restrict the generalization of the findings, such as sampling numbers and regions, cross-cultural counterbalance of such factors as numbers of research participants, school representation, other relevant psychological variables and family influence, to name a few. But these limitations should not weaken the application of dialectical framework. Dialectically, limitations are probably desired because they offer a start to a new cycle of development.

7.2.2 The Theoretical Model of Psychosocial Development

This research has applied Erikson's psychosocial developmental model in a Chinese context. Holding the dialectical world view, I see the psychosocial developmental metamodel in general and Erikson's epigenetic model in particular as open models. That
is, they both have the potential for further development. Without this potential the study
of psychosocial development would not develop. Erikson's model is open in this sense,
so it has been reinterpreted in several ways (Logan, 1986; van Geert, 1987; Viney,
1987a), and it will continue to be.

Erikson's conceptualization of the positive and negative poles of psychosocial
maturity, and that both are necessary for sound psychosocial development, is consistent
with the dialectical approach. Some have been reluctant to use the term development for
these negative poles, however weathering these negative poles is as important as to
cultivate the positive poles for the development of psychosocial maturity since both are the
inseparable parts of the contradiction. Adolescents who experienced more emotional
conflicts had a more favourable sense of social integration and have seemed to be more
successful in achieving their aspirations when they reached young adulthood
(Verhofstadt-Denève, 1985). Although this research has not explore this issue, it can not
be ignored.

Having said this, I should also add that although Erikson's theory has some
dialectic features, he seems to emphasize too much the role of social context and leaves
little room for the effects of the individual on that context. Erikson, for instance, saw
possible psychological growth and health limited to the extent that the individual conforms
to society (Buss, 1979a). This is true, but is not itself a complete statement. From a
dialectical point of view, psychosocial development is determined by its basic
contradiction; depending on the nature of this basic contradiction and its varieties at
different stages, society may not always provide optimal conditions to foster a "healthy"
development. Therefore, only emphasizing individual's conformity to society may lead to
an unnatural and even unhealthy development, or may offer some legitimate excuse for a
totalitarian regime in some cases. Buss' (1979b) comment on Erikson is appropriate here:
"He is too much the subjectivist -- being too satisfied with a sense of mastery, continuity,
and identity rather than critically examining objective situation. Such a position once again
leads him to conformist conclusion" (p. 69).
This criticism has been echoed by Datan (1977b). She saw the life cycle as a succession of transformations in the parent-child relationship. However, Erikson's (1963) theory lacks concern with the relationship between parent and child. It assumes that parental figures always play the nurturant roles, which is unrealistically optimistic. Although Erikson emphasizes the role of social factors in development, the nature of their role, as Datan has suggested, has been seen as positive only; this is why Erikson has made some criticisms of his own pro-capitalist social system (Buss, 1979b; Jiang, 1987). Datan has suggested that "a dialectical model of parent-child interaction, in which the needs of each generation affect the other, and each acts upon as well as being acted upon by the other, is a more accurate representation of the dynamics of parenthood and childhood" (Datan, 1977b, p. 197). I would like to extend this notion to include the social media or society in general as well. That is, a society's role may not always be nurturant; in that case, the principal aspect of the basic contradiction of psychosocial development will be the society rather than individual. Then, social reforms will be the only way to solve the contradiction. Otherwise, the individual's development would be on an unhealthy path. Although Erikson suggests that all societies have their own criteria for judging what is healthy or unhealthy, which is true in general, I also believe there must be a certain universality that is common to human beings. According to the laws of contradictions, both of the health and non-health experiences transform toward one another under the certain conditions, a dialectical model of psychosocial development must concern itself with both. Another appropriate criticism has come from Riegel (1977), who pointed out that Erikson failed to explain why developmental changes occur from stage to stage. Riegel maintained that it is "insufficient to explain the development from within by postulating a 'predetermined' order of enfolding and from without by postulating 'constituting principles'. We need to know the conditions which generate these shifts, their order and their structural complexity" (p. 83). Thus, a dialectical perspective should look for the interactions between the two sides of the basic contradiction. While noticing societal regulations on individual development, one should
not ignore the potential contributions of individuals to the change and development of cultures and societies.

The sequence of the development may not be exactly age-related as Erikson depicted. Dialectically, the development process is the results of continuous movement of internal and external contradictions. During this process, experience plays a vital role in determining the degree of psychosocial maturity. Erikson has responded to this point with his concept of a radius of interactions. Usually, chronological growth is accompanied by accumulation of experiences; thus the stages described by Erikson in terms of age range will fit a broad scope of studies, whether they are in an age-related or experience-based framework. Yet, when a particular sample is under study, it is possible to find that the law of invariant universal stages is not reliable. This has been illustrated by several researchers. Neugarten (1979) argues that adulthood in fact is not usually composed of an invariant sequence of stages that occur at specific chronological ages. The present study has also adopted Viney's (1987) modification of the ordinal position of intimacy and identity. From my perspective of dialectical contradictions I do not view this as two contradictory pieces of information. Rather, the discrepancies existing among the theoretical prediction of Erikson's "fixed" stage sequence and empirical findings of "variant" stages-age relationships are different expressions of one contradiction, the age-experience contradiction. When age manifests itself as the principal aspect, as is mostly the cases with children, one may emphasize that age is a more appropriate criterion to set; on the other hand, when experience is in the dominant position, as is the case for adolescence and beyond, age then may not be the best criterion to demarcate stages. Further, while Erikson's stage has its age-related distinctions, Erikson's concept of age is not merely chronologically orientated. He emphasizes much more the role of experiences in the development of psychosocial maturity. In this research, school grade has been used to represent both the age and experience of Chinese school children. In fact, the concept of age *per se* really means little. Whenever it is used, some extra implications have been inferred, whether they are about physiological readiness or psychological
expectation. The issue is not whether development is age-related or experience-based, rather it is whether the stages have a consistent pattern of development.

### 7.2.3 The Content Analysis Methodology and the Research Strategies

A basic assumption underlying content analysis scale methodology is that what the research participant reports is what he or she is experiencing. Psychologists argue in support that experience is reportable (Harré, 1987) and measurable through content analysis methodology (Viney, 1988), and that this is so even across cultures (Gottschalk & Lolas, 1989).

The application of the content analysis scale methodology in this research, and in the Chinese language and so in the Chinese culture, has proved viable. The outcomes of my evaluation of the translation and interjudge reliabilities were favourable. Information I have provided about validities, however, has had to be limited by the time constraints on this research. Also the evidence which has become available has been somewhat equivocal. On the one hand, the ratings of psychosocial maturity by self and others were generally not associated with the content analysis scales scores. On the other hand, the relationships between content analysis scales and many of the grade differences demonstrated were as found in the Western literature.

The nonsupportive finding could be explained by several possibilities. 1) Content analysis scales were not valid when applied to Chinese sample. This explanation is based of course on the questionable assumption that ratings are reliable and valid. 2) It could not be judged by this study, because either rating procedure were not reliable and valid in the first place, or its validity could not be evaluated. 3) The content analysis scales were valid for psychosocial maturity, but the peer-ratings were not, that is, this criterion was irrelevant. 4) There might be some intervening factors involved so that the criterion validity check was not able to be carried out. 5) Both the scales and ratings were relevant and valid, but their relevance was not meant to be a linear one-to-one correspondence, rather, they assessed psychosocial maturity from different perspectives. This is not an
exhaustive list. My interpretation, however, follows the last account, based on the information about the ratings and content analysis scales I reviewed in chapters 4 and 5, and the evidence of the interrelationships between the scales found here. That some unusual findings have occurred for my analyses for only children with the content analysis scales, compared with other methodologies, strengthens this account.

The supportive finding also can mean at least two things: these scales were valid as assumed from the model, or these scales were not valid and at most showed some systematic error. I would now regard these scales to be valid research tools. The only way to invalidate the relationships found in this research, and so to invalidate the validational evidence would be that these scales were measuring different phenomena from those measures in the Western cultures. If this is so, the argument then would be that the Chinese concept of psychosocial maturity is quite different from that in the West. Given the findings of this study, this seems not to be the case.

Yet, some discrepancies also were found, for example, for the Sociality Scale. According to an Australian study, socioeconomic status is not an influential factor with this scale (Viney, 1981b). Socioeconomic status has here been found to be relevant for both role and type dimensions of the scale. This finding needs replication, though, in the Chinese context. Meanwhile, researchers should be aware of this possible relationship, and take socioeconomic status factors into consideration in the interpretation of the data from the Sociality Scale.

In addition to the scale-specific issues, there is another possible source of error in terms of data validity of the content analysis methodology. Since Chinese people tend to be cautious and conservative, the life experiences these Chinese children in this research shared with the interviewer might be less revealing and personal than what might Western children express. Although, I, as an interviewer, am a Chinese and has had no overt difficulties in sharing with my research participants, this systematic bias (under-exposure
of life experiences), if any, in cross-cultural comparisons using content analysis scales should be taken into consideration in the future studies.

In sum, I consider the application of these content analysis scales, and so, the content analysis methodology in general, to be valuable to research in developmental psychology, even though more validational evidence is needed. Questions of construct validity are not to be answered by a single study (Cronbach, 1970).

Regarding the rating methodology, I consider that it is still useful to complement other methodologies (McCrae & Costa, 1989). Although this research did not find substantial relationships between ratings and the content analysis scales, this cannot be the basis for their rejection. The model on which the ratings was based consists of three general capacities (or dimensions) as the universality and nine specific capacities as the particularity within Western culture. From my dialectical metamodel, some particularity in the Chinese context was expected. Greenberger and Sorensen (1974) also suggested this possibility. In fact, Adams, Shea, and Kacerguis (1978), in their review of the effects of schooling on psychosocial maturity, have listed different specific attributes under these general dimensions. There is a need to explore specifically what particularities are considered to be psychosocial mature by Chinese people, and more relevant, what kind of relationships exist between Chinese people's internal experiences and evaluation through ratings by self and others. These dimensions could be studied further.

Peer-ratings could be considered to be as objective method while the content analysis scales are subjective. These two emphases on methodology have been recognized as the reflection of different theoretical orientations: the objective reality providing explanation, and the subjective reality providing description (Ryff, 1984). However, dialectically I see no conflict here. They should be used to supplement each other. Because human beings function both subjectively and objectively, we need both description and explanation. They provide the unity of opposites. Without description, explanation would not occur; but without explanation, the description would have no
value. In future studies, phenomenological and experience-orientated psychologists and experimental and behaviour-orientated psychologists should work toward the same goals, while the dialectical understanding of these issues could offer them a common territory.

7.3 Some Implications of the Metamodel and Model for Further Research

7.3.1 Theory and Practice

Dialectical approaches take many forms (Wozniak, 1975). The one I have adopted involves the application of one of the dialectical perspectives in one of the existing psychological theories, making a reinterpretation of it in a different context. Although a dialectical perspective has been applied, the basic unit or contradiction being focused on is still the individual, however. Put another way, the level of analysis is still at the individual level in interaction with the contextual influences for each individual. This is a traditional dialectical framework (Shames, 1982). Other more radical stances are available, for example, Tolman (1987, p. 212) maintains that "dialectical materialism is the only metatheory appropriate to any truly scientific practice" (original emphasis).

Not every psychologist will agree with this; but the importance of the metamodel and its power in generating hypotheses, theory interpretation or reinterpretation, the choice of methodologies, and resulting explanation and generalization of the findings is recognized by many. The logic of the relationships between metatheory, theories (whether from integrating old ones or building new ones), and practice becomes more explicit and appropriate within the dialectical framework. In fact, the development of theory itself follows a dialectical cycle of stability-transformation (Gergen, 1988).

Although some other theories are well developed, such as Vygotskian dialectical developmental theory (Bidell, 1988), or relatively newly proposed, such as Pascual-Leone's theory of constructive operators (Pascual-Leone, 1983), Erikson's theory is still worth reexamination. In addition to the specific reformulations of Erikson's work (e.g., Côté & Levine, 1987), the reexamination also helps to understand and incorporate other
theories. For instance, unsatisfied with the contextualists' theories of development, Dowd (1990) has proposed a sociological theory. His theory "holds that development requires both opportunities and desire and that the class structure allocated neither of these 'social goods' equally or randomly across social classes" and further "assumes that all human beings are capable of development since all share a basic set of material and spiritual needs, the ultimate of which is the need for self-realization" (p. 151). Dowd emphasizes the importance of self-realization. To him, self-realization is comprised of two moments: actualization and externalization. I would like to argue that this conceptualization is already implied in Erikson's theory. From the first to the fifth stage, individuals are basically establishing their personal identities with relevant knowledges and skills, while from the sixth stage to the eighth stage the increased capability and competence function themselves in a wider social domains thus more directly affect and contribute to the social changes. The first five stages then are for the actualization of personal development while the final three stages are for the externalization of their personal development, thus completing a dialectical cycle of development from individual-centred to humankind-centred, or in Dowd's term, a development via self-realization from actualization to externalization. This becomes more evident when considering Dowd's claim that "the channeling of the need for self-realization into cooperative ventures serves as a counterbalances to the narcissistic potential that is inherent in self-realizing behaviour in the present age" (p. 155). He emphasizes the act of caregiving using Freud's term, the capacity to love, which is exactly what Erikson has put forward at the seventh stage, the strength of care resulted from a successful resolution of the crisis of generativity versus stagnation.

I do not mean that we do not need new theories and models. Instead, we need more to challenge what have been taken for granted and to broaden our sensitivity to social phenomena and the range of activities to ensure a trend toward transformational progress of theories (Gergen, 1988). I have illustrated, however, that from a proper metamodel some integration of and insights for interpreting the new or existing theories
can be exercised. Ultimately, practice is the only criterion of truth. "No set of assumptions is inherently better or worse than any other set. Alternative assumptions are simply different, leading one along different paths of research and theory. And, ultimately, it is the conceptual richness, new directions of research, and eventual derivative empirical tests that determine the worth of any assumptions about human behaviour" (Altman, Vinsel, & Brown, 1981, p. 157).

In terms of practice, it means more than further studies within academic circles only. Realizing certain limitations to the generalizability of this research, I suggest that some work be done before all those what-should-be-done tasks have been completed. It has been shown that psychosocial development follows a certain route, possibly wavy progress with regression. Also, it seemed that school children experience certain kind of constraints and for the Chinese children there exists a possible status of foreclosure or false identity achievement. This information should be shared with educators, so that some remedies and preventives can be found. Horowitz and O'Brien's (1989) warning is very appropriate at this point:

Children cannot wait to grow up until we know all that we need to know to take effective action in every case. Even though we know our understanding is incomplete and some of the conclusions we now draw may ultimately prove to be wrong or require major modification and qualification, the knowledge base, in many instances, is sufficient at this point to guide useful social policy. . . .The concern is not that our efforts will be less than completely helpful if based on imperfect knowledge. The tragedy occurs when social policy and subsequent legislation and social services ignore the data base and are driven instead by purely political considerations. (p. 444-445).

7.3.2 Methodological Multidimensions

The knowledge of human development is rapidly expanding as well as its methods of study. Both theoretically and empirically, multidimensional orientations are now being used.
7.3.2.1 A Need for Multidimensional Methodologies

Any theory of human development across the life span should have multidimensionality, multidirectionality, and discontinuity (Baltes, 1979). Therefore, the integration of ontological and biocultural studies of human development, on the theoretical side, and the new methodologies, on the methodological side, must be used for a better understanding of the development of psychosocial maturity. Dimensionalization is the first step one should follow in order to get into the business of inference (Hultsch & Hickey, 1978). This view fits within the dialectical framework. The next step is to establish the principles that organize and link the various dimensions, then to find out the specific characteristics of these principles in terms of the sequencing of formal causes which lead to final cause. The final step is to develop statistical statements about the relationship between the principles. To fulfil these tasks, a theoretical pluralism, and so methodological pluralism are necessary (Looft, 1973; Labouvie, 1975; Lerner, 1980; Lerner, Skinner, & Sorell, 1980). Furthermore, any developmental process involves complex contradictions. Many factors, ranging from age-normative, historical-normative, and individual-difference-normative, to nonnormative variables are involved (Pascual-Leone, 1983). Yet, there is no one best method for studying all these variables, thus, the corresponding breadth of methodology is necessary (Hui & Triandis, 1985; Seitz, 1988). Therefore, both theoretically and practically, multiple methods should be employed in the future study of psychosocial maturity development in the Chinese context.

7.3.2.2 Content Analysis Scales and Peer-Ratings in a Broader Context

The content analysis scales have been found promising by this research. However, it is also true that by using them alone, the powers of explanation and prediction are limited, as with any other single methodology presently available. Other methods, such as case study, personality tests either self-report inventory or clinical assessment, must be employed. Life events or social events studies should also be included in comparisons across samples, given that content analysis methodology
provides mainly experience-based measurement. Yet, at least one immediate task could be performed is to translate other content analysis scales, such as the Cognitive Anxiety Scale, the Positive Affect Scale, and the Hope Scale, to be used in the relevant context to aid the power of research. In fact this work is being undertaken by the author.

Peer-ratings still provide valuable information about psychosocial maturity. If the content analysis scales and other experience-related or subjective-orientated methods can be considered as a means of tapping the psycho-aspects of psychosocial maturity, then, ratings by others and other similar expression-related or objective-orientated assessment can be regarded as tools for study of the socio-aspects of psychosocial maturity. No doubt, either aspect alone is not sufficient, even if necessary. The basic contradiction of psycho- and socio-aspects of psychosocial maturity is reflected in its developmental process, thus, it must also be reflected in its study activities by developmental psychologists.

The implications of my comments are that both content analysis scale methodology and rating assessment should be used and understood in a broader context. Moving into a broader context we are facing a huge set of factors. I suggest two ways to cope with this: seeking stronger theoretical orientation (e.g., Stam, Rogers, & Gergen, 1987), which this study provides a beginning; and adopting powerful research strategy, including statistics (e.g., Hui & Triandis, 1985; Lerner et al., 1980; Lovie, 1986), which this study also provides a beginning. The first task to be performed is to carry out some validational studies, and "the hope of the future is being unshackled from the necessity of endless small studies of empirical validity with efforts being directed to the multivariate procedures" (Schoenfeldt, 1984, p. 82).

7.3.3 Research Across Cultures

The facets of cultural influences are numerous and inevitable (Segall, 1986), but "the attempt to relate a whole culture to personality patterns is over-ambitious" (Serpell, 1976, p. 26). Further, there still have much to do with the specific influences before one
moves on to the whole. But I am not saying that the study of the integrated whole influence is not necessary now; rather I emphasize that we should concentrate specific influences of culture on specific areas of development with an integrated orientation.

On the agenda of cross-cultural study into psychosocial maturity, the Chinese should not be left on the waiting list too long, because as such a big nation with such a long-living but different culture and social system, psychologists cannot afford to pay the debt for the delayed understanding. Without this understanding, any psychological studies into the universalities in Western cultures remain incomplete.

Secondly, cross-regional within the culture or indigenous studies are no less important. Psychosocial maturity develops in concrete contexts. The context differences can manifest in the differences not only between different cultures but also between the more immediate environment in which children develop (Rogoff & Morelli, 1989). In these categories, many factors such as schooling, child-rearing practice, environment, and language (dialects) can be studied with a much smaller common denominator thus offering more precise and useful information and enriching the repertoire of the universality, which in turn can stimulate new particularity studies, and so the cycle of our understanding of psychosocial maturity develops as well.

7.3.4 Research Across Time

From the dialectic metamodel perspective the contradiction theme implies that psychosocial maturity is neither stable without change nor changing without stability; it is both. Both change and stability are studied in longitudinal studies, which open a door to the heart of the issue (Mortimer, Finch & Kumka, 1982). One weak point of my research is that it was cross-sectional rather than longitudinal orientated. Longitudinal studies of psychosocial maturity covering the maximum plausible life span in China are feasible and desirable given its social system and collectivist tradition. I suggest that some shortcuts to longitudinal studies (Wohlwill, 1973) be carried out first if longitudinal studies were not applicable at this stage, with the multidimensional orientation.
7.4 An Inconclusive Conclusion

The history of mankind is one of continuous development from the realm of necessity to the realm of freedom. This process is never-ending. . . . In the fields of the struggle of prediction and scientific experiment, mankind makes constant progress and nature undergoes constant change; they never remain at the same level. Therefore, man has constantly to sum up experience and go on discovering, inventing, creating and advancing. Ideas of stagnation, pessimism, inertia and complacency are all wrong. (Mao, 1967, p. 203-204).

This is a study of psychosocial maturity development. The dialectic has been explicitly adopted as the metamodel, and Erikson’s epigenetic psychosocial development stage model has been reexamined and interpreted using Mao's contradiction framework to represent that metamodel. The psycho- and socio- aspects of psychosocial maturity have been considered to be the basic contradiction for this life span developmental course in which the psychosocial maturity level will be manifested through successful resolutions of the relevant principal contradictions. Development is dialectical, featuring both universality and particularity. Universality and particularity have been illustrated through a sample of research participants from the People’s Republic of China as well as one from Australia, using the content analysis scales methodology based on the principle that internal contradiction is the decisive force of the development. Development is also multidimensional. Psychosocial development is only one dimension of the human development, which in turn, is but one fraction of the historical-cultural development. The dialectical perspective ensures the necessity of studying psychosocial development in the appropriate context with relevant contents from an integrated perspective, which, therefore, guards against the isolated, static, biased and mechanical interpretation and generalization of research findings. Development also is restless and endless. The contradiction perspective helps psychologists to be aware of and to experience this at all times and so to guarantee the never-be-enough intellectual investment into the never-be-exhausted psychological development phenomena.
To finish my thesis, but not my intellectual investment in human development, of course, I shall quote Allan Buss (1979a, p. 331):

The individual-society relationship is key idea for a life-span developmental psychology. An adequate conception of the changing or developing individual, in a changing or evolving society, must involve dialectical thinking. What makes the individual-society dialectic a dialectic is that a given level of development on one side of the relationship is dependent upon, while at the same time is a condition for, that same level of development on the other side of the relationship. This fundamental paradox needs further analysis. Hopefully the reader may be one who can push this idea further than I have been able to do.
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Appendix 1

Comparison of CASPM Scales: The Original Version and the Back-Translated Version from Chinese

February, 1987

English > Chinese by  W. Wang
Chinese > English by Jiasheng Zhao

[Note: The original English terms for the titles of 16 subscales were given when doing the back-translation, since they convey specific meanings of which there are no consistent translations in Chinese]
**Trust**

Key Experience: *I am what I am given.*

1. Optimism.
   e.g. Things will work out alright.

2. Faith, for example, in religion, medicine, social institutions, fellowship, one's own financial situation or the future.
   e.g. Dr. X knows how to look after me.

3. See self as able to accept help.
   e.g. It was a great help to have my mother here when the baby was born.

4. Confidence in own body.
   e.g. I'm in good health.

**Mistrust**

Key Experience: *I cannot be what I am given because that may be taken away.*

1. Pessimism.
   e.g. I don't expect much from life.

2. Lack of faith.
   e.g. You can't trust the government these days.

3. Sees self as unable to accept help.
   e.g. I can't bear being fussed over.

4. Lack of confidence in own body.
   e.g. I get tired very easily.

**Trust**

Key Experience: *I am what I am born to be.*

1. Optimism.
   e.g. Things will be settled well.

2. Belief and faith, for example, in religion, medicine, social organs, friendship, personal economic conditions or the future.
   e.g. Doctor X knows how to look after me.

3. To be able to accept help.
   e.g. Mom came and gave me great help when I gave birth to the baby.

4. Sure of one's health.
   e.g. I am quite healthy.

**Mistrust**

Key Experience: *I can't be what I am born to be, because that may be taken away.*

1. Pessimism.
   e.g. I don't expect too much for life.

2. Lack of faith.
   e.g. These days you can't trust the government.

3. Unacceptable of other's help.
   e.g. I can't take in other's concern.

4. Not sure of one's health.
   e.g. I am easy to be tired.
Autonomy

Key Experience: I can be what I want to be.

1. Experiences free choice.
   e.g. It's good to be able to do what I want to do with my time.

2. Pride in independence.
   e.g. I have never had any help in the house and it always looks clean and tidy.

3. Self control without loss of self esteem.
   e.g. I was able to keep my temper, I was pleased about that.

Constraint

Key Experience: I cannot be what I want to be.

1. Experiences only limited choice.
   e.g. The decision has been taken out of my hands.

2. Inability due to external limitatins.
   e.g. I have to do what I am told.

3. Loss of self-control, impotence.
   e.g. I am helpless.

Initiative

Key Experience: I can be what I imagine I shall be.

1. Sees self as self-activated.
   e.g. I usually get myself going pretty quickly.

Autonomy

Key Experience: I can be what I expect to be.

1. Experience of free choice.
   e.g. It's a great pleasure to do what one wants to do in one's own time.

2. To be proud of independent.
   e.g. It's always clean and tidy in my house though I've never asked anyone for help.

   e.g. I can restrain myself, I am rather happy about it.

Constraint

Key Experience: I will not be what I expect to be.

1. Experience of the limit of choice.
   e.g. I can do nothing since the decision has already been made.

2. Inability because of external constraint.
   e.g. I can't help to do what I am asked to do.

3. Loss of self-control, weak and incompetent.
   e.g. I could do nothing.

Initiative

Key Experience: I can be what I imagine I ought to be.

1. Regards oneself as self-motivated.
   e.g. I always keep a quick pace.
2. Self-reliant.
   e.g. I left home at 15 and earned my own wage ever since.

   e.g. I enjoy a challenge.

4. Sees self as able to move into a social group by own initiative.
   e.g. I found it easy to get a new group of friends together when I moved.

Hesitancy
   Key Experience: I don't know if I can be what I imagine I shall be.

1. Sees self as not self activated.
   e.g. I'm not a self-starter.

2. Sees self as dependent.
   e.g. I need to have people around me.

3. Frustration at lack of initiative.
   e.g. Being ill was frustrating, because I couldn't get things done around the house.

4. Sees self as non-intrusive and passive in social groups.
   e.g. I don't like to impose myself on others.

Industry
   Key Experience: I am what I can learn.

2. Self-reliance.
   e.g. I left home at the age of 15, and have made a living all by myself since.

3. Ambition (Enterprising spirit).
   e.g. I enjoy challenges.

4. Regards oneself to be able to join a social group by one's own initiative.
   e.g. I think I can easily make new acquaintances in new places.

Hesitancy
   Key Experience: I don't know whether I can become the man I expected.

1. Non-self-motivated.
   e.g. I am not an active man with consciousness.

2. Regards oneself as a dependent.
   e.g. I need some other's company.

3. Frustration by the lack of initiative.
   e.g. I am frustrated by the illness for I am not able to do the housework.

4. Regards oneself as passive and acquiescent in the community (social group).
   e.g. I don't force others to accept me.

Industry
   Key Experience: I am what I can be (learn).
(Original Version)

1. Mastery by reflection experienced, for example, by meditation, experimenting or planning.
   e.g. I thought about the problem for quite a while before I did anything.
2. Sees self as productive and accomplishing much.
   e.g. I get a lot done.
3. Experience of work completion.
   e.g. I've made a good job of that garden of mine.
4. Enjoyment and pride in work.
   e.g. I love my work.
5. Knows how to be busy, alone or with others.
   e.g. I just put my head down and get on with it.

I nferiority
   Key Experience: I will never be any good.

1. Lack of sense of mastery by reflection.
   e.g. I should have realized that we would need wet weather footwear here.
2. Sees self as unproductive and accomplishing little.
   e.g. I am never going to succeed.
3. Frustration and disappointment about uncompleted work.
   e.g. I've still got more work to do, I'm sorry to say.
4. Sense of inadequacy.
   e.g. I've never been able to read a book right through to the end.

(Back-Translated Version)

1. Sense of mastery through experienced reflection, for example, careful consideration, trial or plan.
   e.g. I thought it over for quite a while before doing it.
2. Regards oneself very efficient and have done a great deal.
   e.g. I've done a lot.
3. To experience the completion of the work.
   e.g. I've done quite a good job in the courtyard.
4. The pleasure and proudness of work.
   e.g. I love my work.
5. Knowing how to be busy working, both alone and with company.
   e.g. I immersed myself in it.

I nferiority
   Key Experience: I will never have a good future.

1. Lack of the sense of mastery by reflection.
   e.g. I should be aware that we need rubber boots here.
2. Regards oneself as useless; has done very little
   e.g. I can never be successful.
3. Frustrated and despaired with the work uncompleted.
   e.g. I am very sorry, I have still a lot to be done.
4. Insufficient.
   e.g. I've never been able to read a book through.
{Original Version}

5. Negative comments about work.
   e.g. My mob doesn't satisfy.

Affinity
   Key Experience: I enjoy myself when I am with others.
1. Sense of fellowship with others with whom one is in frequent contact.
   e.g. we asked our friends for advice.
2. Relationships experienced as spontaneous, warm and reciprocal.
   e.g. It is good to have people who care about you the way you care about them.
3. Sense of closeness to partner and others.
   e.g. Having the baby has brought my husband and me closer.

Isolation
   Key Experience: I don’t enjoy myself when I am with others.
1. Lack of enjoyment of being with others.
   e.g. I never really feel part of that group.
2. Sense of isolation.
   e.g. I am alone for much of the time.
3. Relationships are experienced as stereotyped and formal.
   e.g. That relationship never developed.

{Back-Translated Version}

5. Negative comments about work.
   e.g. I’m not satisfied with my work.

Affinity
   Key Experience: I always enjoy being with others.
1. Friendship with people in frequent contacts.
   e.g. Comments and suggestions from our friends are requested.
2. Natural, warm and mutual consideration.
   e.g. It is a great pleasure to be with those who take great concern of you as you do to them.
3. Intimacy of partners
   e.g. The existence of the child makes my husband more close to me.

Isolation
   Key Experience: I am not happy to be among others I feel I have been forgotten.
1. Lack of the sense of pleasure to be among others.
   e.g. I’ve never thought of that I am a member of the group.
2. Isolation.
   e.g. Most of the time I am alone.
3. All relationships are experienced as restrained and reserved.
   e.g. That relationship has never developed.
Identity

Key Experience: I am myself the same me I was yesterday and will be tomorrow.

1. Sense of self.
   e.g. I have a clearer understanding of the sort of person I am.

2. Sense of personal continuity and sameness.
   e.g. I know I will change; but there is a core that is me.

3. Sense of how one appears to others, and continuity in this.
   e.g. I know that other people find some of my habits irritating.

4. Tolerance of others.
   e.g. The children are not doing quite what we expected, but we know that they have to live their own lives.

Identity Diffusion

Key Experience: I am not sure who I am.

1. Lack of an integrated pattern of living.
   e.g. I seem to be one person when I’m at home and another when I’m with my friends.

2. Lack of occupational identity.
   e.g. I don’t know what I want to do for a living yet.

3. Concern with others’ opinions of one.
   e.g. I hope his friends would like me.

{Back-Translated Version}

Identity

Key Experience: I am my ego (myself), both the yesterday’s and tomorrow’s ego (myself).

1. Self-understanding.
   e.g. I understand myself more clearly and know what kind of person I am.

2. Personal continuity and identity.
   e.g. I know I am changing but there is always a kernel -- myself.

3. The sense of how others take oneself and the continuity of the sense.
   e.g. I know some of my habits are not pleasant to others.

4. Tolerance with others.
   e.g. The children didn’t do exactly as I expected, but I understand they must have their own lives.

Identity Diffusion

Key Experience: I don’t know who I am.

1. Lack of life integrity.
   e.g. When I am among friends, I’m not the person as I am in my family.

2. Lack of professional identity.
   e.g. I don’t know what I have to do to make a living.

3. Concern with others’ attitude towards oneself.
   e.g. I hope his friends will like me.
4. Lack of sense of how one is seen by others, lack of continuity in this.
   e.g. I was surprised when John told me how I came across to him.

5. Lack of tolerance of others when they constitute a threat to the identity of the speaker.
   e.g. Those jerks called me a dole bludger.

Generativity
Key Experience: I am a source of creation and construction.

1. Creativity.
   e.g. I designed this house.

2. Generator of things and ideas.
   e.g. I enjoy gardening.

3. Generator of other people.
   e.g. Being a mother is very important to me.

4. Concern for and guiding the next generation.
   e.g. I was teaching the children to read and write.

5. Participation through leadership.
   e.g. I am the manager of a big department.

6. Altruism.
   e.g. I spent 18 months working as a volunteer in Brazil.

4. Lack of the sense of how others take oneself and the continuity of the sense.
   e.g. I was astonished when John told me his impression upon me.

5. Lack of tolerance of other people when they constitute a threat to one's identity.
   e.g. Those bastards said I was just a dole bludger.

Generativity
Key Experience: I am a source of creation and construction.

1. Creativity.
   e.g. I designed the house.

2. Initiator of things and ideas.
   e.g. I find enjoyable doing gardening jobs.

3. Foster of other people.
   e.g. To be a mother is very important to me.

4. Concern with and instruct the younger generation.
   e.g. Then I was teaching the kids reading and writing.

5. Leadership and participation.
   e.g. I am the manager of a big firm.

6. Altruism.
   e.g. I've worked for 18 months as a volunteer in Brazil.
Stagnation
Key Experience: Nothing good will ever come from me
1. Sense of sluggishness, inertness or dulness.
   e.g. My mind is becoming inactive.
2. Lack of creativity.
   e.g. I'd never think of anything new.
3. Disappointment in relationships.
   e.g. I'm sorry that I've never had a really close relationship with my family.
4. Lack of concern for others.
   e.g. I don't worry about other people -- they can get on without me.

Integrity
Key Experience: I am the life I have chosen to live and I am content with it.
1. Contentment with present life.
   e.g., I feel fulfilled as a person.
2. Understanding of past life, together with its limitations
   e.g., I've done what I had to do with my life.
3. Acceptance of own life as own responsibility.
   e.g., It's up to the person himself, how he lives his life.

(Back-Translated Version)
Stagnation
Key Experience: It's impossible for me to do anything better.
1. Retard, stagnation and lack of vigour.
   e.g. I am getting useless.
2. Lack of creativity.
   e.g. I can never create anything new.
3. Desperation of the relationships.
   e.g. I am very sorry for not having had close and intimate relationship with my family.
4. Lack of concern for others.
   e.g. I care for no one -- they can get along well without me.

Integrity
Key Experience: I am the life which I've chosen to live and I am quite content with it.
1. Contentment with present life.
   e.g., As a human being I feel life is full of values and I am content with it.
2. Understanding of the past life, including its limitations.
   e.g., I've done all I have to in my life
3. Acceptance of and responsible to one's own life.
   e.g., It all depends on oneself to choose a life.
{Original Version}

4. Acceptance of others' life style.
   e.g., Joe likes to throw himself into things; I like to take it steady. Well, that's O.K. for both of us.

5. Sense of comradeship with others in distant times and places.
   e.g., I like to look at the similarities between other cultures and ours.

Despair

Key Experience: I reject my life and those of others too.

1. Despair
   e.g., I get discouraged when I think of what I've done with myself.

2. Lack of understanding and acceptance of own life.
   e.g., I don't know what went wrong with my life.

3. Contempt for self.
   e.g., I've never been much good to my family.

4. Contempt for others.
   e.g., Young people these days don't want to work hard; not like when we were young.

{Back-Translated Version}

4. Acceptance of other people's life style.
   e.g., It doesn't matter that Joe enjoys immersing himself in his business while I enjoy dealing things with stableness.

5. Sense of comradeship with others beyond the limitation of times and distance.
   e.g., I like to consider the similarities between other cultures and ours.

Despair

Key Experience: I deny (refuse) both my life and the lives of others.

1. Despair
   e.g., I am extremely frustrated by what I have done.

2. Refusal of one's life and lack of understanding it.
   e.g., I don't know what I have done wrong in my life.

3. Look down upon oneself.
   e.g., I have not done anything good to my family.

4. Look down upon others.
   e.g., Young people nowadays don't like hard work as we did.
Appendix 2

Comparison of Sociality Scale: The Original English Version and the Back-Translated Version From Chinese

February, 1985

English > Chinese by W. Wang
Chinese > English by some high school English Teachers in China
(Original Version)

Sa  Solidarity

In this type of relationship people are construed as resources. References to one person (people) in a supportive or nurturant relationship with another (others) are scored. They may imply that they are working towards a common commitment or goal or aiding in a mutual attainment, or merely inclusion and integration.

-- Speaker as sole reactor (Sa1)
-- Speaker as sole initiator (Sa2)
-- Solidarity relationships which the speaker experiences with others as either reactor or initiator (Sa3)

Examples:

Sa1  They gave me painkillers.
The group does help me.
The children make my life worth while.
I thought my ankle was broken. The ambulance man rubbed it for a while.

Sa2  I stayed with my mother/when my father died.
I can work well with these people.
(But do not score "I made a lot of good friends", which is coded Sb2).

Sa3  It is up to us/whether we get better. (Both clauses are scored).
We called a taxi driver to take us into the city.
My parents took us for a holiday.
(But do not score "We went with my parents for a holiday", which is scored as Sd3).

(Back-Translated Version)

Solidarity, sign Sa

Taking a man as the recourse of help. A man or some have the supporting or bringing up relationship with another man or some, including those who work together for the same aims; help each other for the purpose or only be a including or integrating relationship.

Sa1 -- The speaker is the only receiver
e.g., 1. They gave me some APC.
2. The group helped me
3. The children made my life more meaningful.
4. I suppose that it is the ankle that has been broken; the saver gave me massage for a while.

Sa2 -- The speaker is the only initiator.
e.g., 1. After my father's death I live with my mother.
2. I get along with those people quite well.
(But "I've made quite a few friends" doesn't belong to it. Should be Sb2).

Sa3 -- The speaker and the other experience the interrelation together, either as a receiver or initiator.
e.g., 1. Whether we could do better, it all depends on ourselves.
2. We called a taxi to the city.
3. My parents took us to spend the holiday.
(But "our parents and we spend the holiday together" should be Sd3).
Sb Intimacy

In this type of relationship people are construed as sources of personal satisfaction. References to one person (people) attracting another (others) are scored. They may imply intimacy, empathy, fellowship, affection, friendliness, sociability or efforts to maintain a close interpersonal relationship.

-- Speaker as sole reactor (Sb1)
-- Speaker as sole initiator (Sb2)
-- Intimate relationships which the speaker experiences with others as either reactor or initiator (Sb3)

Examples:

Sb1  
Someone did want me after all.  
I appreciate the love of my family.  
People were very friendly towards me.

Sb2  
I was going with this boy.  
They are very entertaining people.  
Those children really interest me (But do not score “The problems those children have interest me,” which is coded as Sd2 because of its ambiguity).

Sb3  
We like Joe.  
My parents can’t wait to see us when we go home. (The latter clause would be scored as Sd3).  
Their attitude made us feel good.

Intimacy, sign Sb.

Taking a man as the recourse of satisfaction. A man or some share the attractive relationship with another or some belong to this part. Including intimacy, sympathy, friendship, attention and kindness as trying to keep the intimate social relationship.

Sb1 -- The speaker is the only receiver

e.g.,  
1. Anyway there’s someone who needs me.  
2. I am obliged to the love that my family show to me.  
3. People are quite friendly to me.

Sb2 -- The speaker is the only initiator.

e.g.,  
1. I went (there) with that boy.  
2. They are very interesting persons.  
3. Those children really made me interested. (But “Those children’s questions made me interested” should be Sd2).

Sb3 -- The speaker and the other experience the intimate relationships together, either as a receiver or initiator.

e.g.,  
1. We like Joe.  
2. When we arrived home, our parents came to see us with no hesitation. (The former clause is Sd3)  
3. Their attitude made us quite pleased.
**Sc Influence**

In this type of relationship people are considered as sources of power. References to one person (people) influencing another (others) are scored. They may imply status differences or asymmetrical acts of control or assertion.

-- Speaker as sole reactor (Sc1)
-- Speaker as sole initiator (Sc2)
-- Influential relationships which the speaker experiences with others as either reactor or initiator (Sc3)

**Examples:**

**Sc1**
He told me to go back to work.
She asked me to move over.
How long will the doctor keep me here?

**Sc2**
I asked them/would they not cook day and night.
I had some trouble getting a removalist to come.
I pushed here into the car (This clause would not be scored if its context suggested that it represented a negative or dissociative interaction).

**Sc3**
We had to come home/when we were told. (Both clauses would be scored).
We were able to get the committee to pass the motion.
My boss has us clock in.

**Influence, sign Sc.**

Taking a person as the recourse of power. A person (or some) influence the other, including the difference of position or unequal actions of commands and assertions.

**Sc1 -- The speaker is the only receiver**

e.g.,
1. He asked me to go back and work.
2. She requested me to move to the opposite side.
3. How long will the doctor leave me here?

**Sc2 -- The speaker is the only initiator.**


e.g.,
1. I tell them not to make meal all day long.
2. There is some trouble when I call the porter.
3. I pushed her into the car. (If the context shows the passivity or split, do not code).

**Sc3 -- The speaker and the other experience the influential relationships together, either as a receiver or initiator.**


e.g.,
1. When we were told, we had to go home. (Both should be scaled)
2. We made the committee pass the suggestion.
3. Our leader wants us to register the time of arriving.
Shared Experience

References to one person (people) relating to another (others) but the nature of their shared experience is not clear, i.e., it cannot be coded unambiguously in only one of the three categories above.

-- Speaker as sole reactor (Sd1)
-- Speaker as sole initiator (Sd2)
-- shared relationships which the speaker experiences with others as either reactor or initiator (Sd3)

Examples:

Sd1
He could have married me. (Unelaborated).
She looked up at me.
I was brought up in a church-centered family. (Sa2 or Sc2 only if elaborated).

Sd2
I was going to take my friend along. (Sa2 or Sb2 only if elaborated).
I belong to AA.
I teach handicapped children. (Sa2 or Sc2 only if elaborated).

Sd3
We had very limited musical knowledge.
.../ then it happened to us.
All of us were sleepy, even me. (References to "everybody" are scored if they appear to include the self).
Both my friend and I like to play bowls. ("Friend" is a difficult word to code in this context. We have adopted the policy of coding such a reference as Sd, unless it is qualified, e.g., "old friend", "good friend" or as "girl friend" by a male speaker or as "boy friend" by a female speaker, when it is coded as Sb1).

Shared Experience, sign Sd.

Concerning the social relationship, but the quality of the shared experience is not clear, that is, can't be clearly divided into any of the above three.

Sd1 -- The speaker is the only receiver

e.g.,
1. He might marry me.
2. She looked up at me.
3. I grew up in a churchly family. (If detailed, Sa2 or Sc2 could be applied)

Sd2 -- The speaker is the only initiator.

e.g.,
1. I intended to bring my friend. (If detailed, Sa2 or Sb2 could be applied)
2. I belong to AA.
3. I’m teaching physically disabled children. (If detailed, Sa2 or Sc2 could be applied).

Sd3 -- The speaker and the other experience the shared relationships together, either as a receiver or initiator.

e.g.,
1. Our knowledge about music is so limited.
2. .../ then it happened to us.
3. All of us were rather tired, including me. (If "everyone" includes self, it should be coded).
4. Both my friend and I love to play bowls. ("Friend" if refers to "good friend", "old friend" or "boyfriend" (female speaker) or "girlfriend" (male speaker) could be coded as Sb, otherwise as Sd).
Appendix 3

Comparison of Pawn and Origin Scales: The Original Version and the Back-Translated Version from Chinese

January 1987

English > Chinese by W. Wang
Chinese > English by Jiasheng Zhao
(Original Version)

Origin

1. Self-expresses intention (says that one intended, planned, decided; mentions plans, purposes, goals)
   e.g., I planned the party.
   We decided to have a child.

2. Self-expresses exertion or trying (describes one’s efforts to achieve some stated or implied result)
   e.g., I’m trying to find out.
   It took quite a bit of energy to load the boxes.

3. Self-expresses ability (comments on one’s skill, competence)
   e.g., I became school champion.
   I’m managing very well.

4. Self-describes overcoming or influencing others or the environment.
   e.g., I didn’t let them stop me
   The hill was steep but I managed to climb to the top.

5. Self-perceived as cause or origin.
   e.g., I took control during labor
   I produced the play;

(Back-Translated Version)

Origin

1. Expressing intentions: to explain what one is intending or has decided to do; expressions involved with plans, intentions, and aims.
   e.g., I have planned the gathering.
   We’ve made up our mind to have a baby.

2. Exertions: to express one’s exertion to get certain implicit or explicit results.
   e.g., I’ll try to find it out.
   It is a tough job to load these cases.

3. Showing competence: to explain one’s skills and potential.
   e.g., I’ve won the champion in the campus.
   I did it smoothly.

4. Excellence over others: one excels others or influences the environment.
   e.g., They failed to hold me back.
   I have managed to reach the peak in spite of the steepness.

5. Self-caused (by one’s own efforts): regard oneself as the origin (the doer) and the initiative.
   e.g., I’ve overcome (restrained) the pain of labour.
   I am the playwright.
{Original Version}

Pawn

6. Self-indicates that he or she did not intend an outcome.
   e.g., I did not plan to have this baby
         I was in a car accident;

7. Self-indicates that he or she did not try to bring about an occurrence.
   e.g., I wasn't trying to fix it but, when I bumped it, it started to go.
         I made no effort to look after the orchids, but they bloomed profusely.

8. Self-expresses lack of ability (describes self as powerless, ineffective, incapable, a failure)
   e.g., I couldn't attract a man.
         I just couldn't help it.

9. Self-describes being controlled, forced, prevented by, at the mercy of external forces
   (such as other people, environmental forces, chance)
   e.g., He wouldn't let me take the kiddies.
         I don't want to be locked up in a place like this

10. Self-perceived as a pawn (events are described as unpredictable or uncontrollable)
    e.g., The sickness struck me.
          My car hit one side of the bridge and careened to the other side.

{Back-Translated Version}

Pawn

   e.g., I didn't intend to have this baby.
         A traffic accident occurred to me.

7. Occasionality (by chance): explain one's unintentionion to cause something happen.
   e.g., I was not to fix it, but it turned up working after a tap at it.
         The orchids have come into full bloom without my due care.

8. Inability: regard oneself as incompetent, ineffective and failed in everything one persues.
   e.g., I am not attractive to males.
         I could do nothing about it.

9. Be-dominated: dipict oneself to be dominated, controlled, forced or hindered by
   external forces as other persons, environment and chances.
   e.g., He won't permit me to have the kid.
         I would not like to be confined to this place.

10. As pawn: what happens can not be anticipated nor controlled.
    e.g., I am worn out by illness.
          My car slanted to one side of the bridge after knocking it on the other.
Appendix 4

Examples of Chinese Verbalizations and Their Scoring

我过的生活挺愉快的。/(+1) 因为我做好作业就可以和我们那儿的小伙伴玩。/(+5; sh3) 还有可以和我姐姐一块玩。/(+5; sh3) 我姐姐教我书法和图画。/(+1; sal1) 在学校里和同学们一块玩。/(+5; sd3) 上次有个小朋友把球踢到围墙里去了。/他就去拿。/(+4; o) 我喜欢英语。/(+4; o) 有时放学总和老师一块回家。/(+1; sd3)

我爸爸以前给我买东西的什么。/(+1; sal) 我感到我很喜欢我爸爸。/(+1; sh2) 有时候我爸爸打我。/(-1) 我就很生气。/(-1; p) 有时我帮妈妈做点家务。/(+4; sa2; o) 有时星期天爸爸妈妈不在家。/我就和我的好朋友王叶飞去玩。/(+5; sh3) 在外面老闹窝。/有时在家看电视。/我爸爸叫我。/(sel) 我就跑掉了。/(o/p) 有一次我到千岛湖去玩。/冷得不得了。/我爸爸就给我披了一条毯子。/(+1; sh1) 就进去了。/里面很好看。/五颜六色的灯把东西都照成彩色的了。/在家里和王叶飞打打羽毛球。/(+5; sd3) 踢踢足球。/(sd3) 有时我和哥哥打架。/(-5) 打不过他就逃走了。/(p) 有的礼拜天，爸爸妈妈不在。/哥哥就自己烧了吃。/我有时就只好到外婆家去吃。/(-2; p) 有时自己烧面。/(+2; o) 就烧烂了。/(-4; p) 哥哥骂我了。/(-1; p) 他也没办法。/也只好吃烂面。/我本来想到房顶上去玩。/(+3; o) 爸爸说我人太小。/不让上去。/(-2; sel1; p) 有时电视看到晚了。/爸爸也不让再看下去。/(-2; sel1; p)

作业多的时候做到八九点。/(+4) 以前学习成绩不好。/(-4; p) 老师要说我。/(-1; sel1; p) 我和李平一起玩。/(+5; sd3) 我不好的话。/爸爸妈妈要揍我的。/我不敢皮的。/(-2; p) 这几天我一直都在想春游的事。/(+3; o) 上次我和我的好朋友仪梅玩飞行棋。/(+5; sh3) 我们玩得很高兴。/(+5; sh3)
Appendix 5

The Peer-Rating Form in Chinese
(attached with an English translation of items)
<table>
<thead>
<tr>
<th>项目</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
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<tbody>
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<td>1 2 3 4 5</td>
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<tr>
<td>老师讲课他一听就懂</td>
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<td>他从来不考虑人为什么要活</td>
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<td>他相信这周围好人比坏人多</td>
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<tr>
<td>他富有同情心，能设身处地替人着想</td>
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<tr>
<td>他什么事都有兴趣，喜欢做以前没有做过的事</td>
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<tr>
<td>他学习很主动，喜欢做船模、航模手工等</td>
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<td>他讲话总是没有条理，使人不知道他要说什么</td>
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<tr>
<td>他做事有分寸，对的事情坚持，错的就改正</td>
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<tr>
<td>11 他做任何事都希望比别人做得好</td>
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<td>12 他不喜欢你就说你样样都不好 他喜欢你就说样样都好</td>
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<td>13 他学习不努力 遇到难题就抄别人</td>
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<td>14 他能帮助别人 自己遇到困难也会请人帮助</td>
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<td>15 他没有很好的朋友</td>
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<td>16 他做什么事都要老师或其他人出主意 自己没有主见</td>
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<td>17 他在学校就如同在家里一样 常常任性</td>
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<td>18 他学习目的明确 知道为什么而学</td>
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<td>12</td>
</tr>
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<td>19 他看不起成绩不好的学生或有残疾的人</td>
<td>12</td>
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<td>20 他对集体活动一点也不关心</td>
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<td>30 他和你的关系非常好</td>
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The English Translation of the Peer Rating Items

1. He* is very ambitious and often talks with classmates about what he is going to do in the future.
2. If he is asked to do something, everyone could trust him to do properly.
3. He has no difficulties in understanding the teachers and learn the lessons quickly.
4. He never thinks about the purpose of life.
5. He believes that there are more good people than bad people around.
6. He is both sympathetic and empathetic.
7. He is interested in anything and enjoys doing new things.
8. He is a self-starter and likes craft work such as making model plane and ships.
9. His speech is so rambling that others do not know what he is trying to say.
10. He knows how to do things properly, continuing the right and overcoming the mistakes.
11. He always tries to compete and excel others.
12. If he does not like you, he won't say a good thing about you; if he likes you, he thinks you are perfect.
13. He does not study diligently; whenever difficulties occur, he copies others' work.
14. He helps people in trouble and would also ask for help if he needs it.
15. He has no close friend.
16. He has no original ideas; he always depends on teachers' or others' suggestions.
17. He lacks self control and does not behave properly in school.
18. He has clear goals for his study.
19. He looks down upon disabled or underachieving students.
20. He shows no interest in group activities.
21. He lacks confidence in anything he does.
22. He enjoys doing things for the class in his spare-time.
23. He often talks about the current state affairs and shows great concerns about the reformation.
24. He is willing to work in a team for a common goal.
25. He strongly values the honour and reputation of the group.
26. He is good at organization and coordinating group activities.
27. He finds difficult to adjust a new teacher.
28. He will refuse to interact with a person who has an opinion different from his.
29. He can forgive other person's mistakes but will fight for the principles.
30. He is a very close friend of yours.

* In Chinese, 'He' is used to refer to general third person without distinguishing the gender.
Figure A6.2 CASPM Positive Scale Mean Scores Over Grades
Figure A6.3 CASPM Negative Scale Mean Scores Over Grade
Figure A6.6 CASPM Stage Mean Scores for Grade (Australian Sample)
Figure A6.7 CASPM Ratio Mean Scores for Grade (Australian Sample)
| Rate | SELF11 | SELF12 | SELF13 | SELF14 | SELF15 | SELF16 | SELF17 | SELF18 | SELF19 | SELF20 | SELF21 | SELF22 | SELF23 | SELF24 | SELF25 | SELF26 | SELF27 | SELF28 | SELF29 | SELF30 | SELF31 | SELF32 | SELF33 | SELF34 | SELF35 | SELF36 | SELF37 | SELF38 | SELF39 | SELF40 | SELF41 | SELF42 | SELF43 | SELF44 | SELF45 | SELF46 | SELF47 | SELF48 | SELF49 | SELF50 | SELF51 | SELF52 | SELF53 | SELF54 | SELF55 | SELF56 | SELF57 | SELF58 | SELF59 | SELF60 | SELF61 | SELF62 | SELF63 | SELF64 | SELF65 | SELF66 | SELF67 | SELF68 | SELF69 | SELF70 | SELF71 | SELF72 | SELF73 | SELF74 | SELF75 | SELF76 | SELF77 | SELF78 | SELF79 | SELF80 | SELF81 | SELF82 | SELF83 | SELF84 | SELF85 | SELF86 | SELF87 | SELF88 | SELF89 | SELF90 | SELF91 | SELF92 | SELF93 | SELF94 | SELF95 | SELF96 | SELF97 | SELF98 | SELF99 | SELF100 | SELF101 | SELF102 | SELF103 | SELF104 | SELF105 | SELF106 | SELF107 | SELF108 | SELF109 | SELF110 | SELF111 | SELF112 | SELF113 | SELF114 | SELF115 | SELF116 | SELF117 | SELF118 | SELF119 | SELF120 | SELF121 | SELF122 | SELF123 | SELF124 | SELF125 | SELF126 | SELF127 | SELF128 | SELF129 | SELF130 | SELF131 | SELF132 | SELF133 | SELF134 | SELF135 | SELF136 | SELF137 | SELF138 | SELF139 | SELF140 | SELF141 | SELF142 | SELF143 | SELF144 | SELF145 | SELF146 | SELF147 | SELF148 | SELF149 | SELF150 | SELF151 | SELF152 | SELF153 | SELF154 | SELF155 | SELF156 | SELF157 | SELF158 | SELF159 | SELF160 | SELF161 | SELF162 | SELF163 | SELF164 | SELF165 | SELF166 | SELF167 | SELF168 | SELF169 | SELF170 | SELF171 | SELF172 | SELF173 | SELF174 | SELF175 | SELF176 | SELF177 | SELF178 | SELF179 | SELF180 | SELF181 | SELF182 | SELF183 | SELF184 | SELF185 | SELF186 | SELF187 | SELF188 | SELF189 | SELF190 | SELF191 | SELF192 | SELF193 | SELF194 | SELF195 | SELF196 | SELF197 | SELF198 | SELF199 | SELF200 | SELF201 | SELF202 | SELF203 | SELF204 | SELF205 | SELF206 | SELF207 | SELF208 | SELF209 | SELF210 | SELF211 | SELF212 | SELF213 | SELF214 | SELF215 | SELF216 | SELF217 | SELF218 | SELF219 | SELF220 | SELF221 | SELF222 | SELF223 | SELF224 | SELF225 | SELF226 | SELF227 | SELF228 | SELF229 | SELF230 | SELF231 | SELF232 | SELF233 | SELF234 | SELF235 | SELF236 | SELF237 | SELF238 | SELF239 | SELF240 | SELF241 | SELF242 | SELF243 | SELF244 | SELF245 | SELF246 | SELF247 | SELF248 | SELF249 | SELF250 | SELF251 | SELF252 | SELF253 | SELF254 | SELF255 | SELF256 | SELF257 | SELF258 | SELF259 | SELF260 | SELF261 | SELF262 | SELF263 | SELF264 | SELF265 | SELF266 | SELF267 | SELF268 | SELF269 | SELF270 | SELF271 | SELF272 | SELF273 | SELF274 | SELF275 | SELF276 | SELF277 | SELF278 | SELF279 | SELF280 | SELF281 | SELF282 | SELF283 | SELF284 | SELF285 | SELF286 | SELF287 | SELF288 | SELF289 | SELF290 | SELF291 | SELF292 | SELF293 | SELF294 | SELF295 | SELF296 | SELF297 | SELF298 | SELF299 | SELF300 |
Table A6.2 CORRELATION MATRIX FOR RATINGS OF PEERS AND TEACHERS

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<td>Social involvement</td>
<td>Leadership</td>
<td>Social flexibility</td>
<td>Social tolerance</td>
<td>Social Adequacy</td>
</tr>
</tbody>
</table>

T Total Rating Scores  

CP1, CP2, CP3, CP6 = Rating items corresponding to CASPM measures on stages 1 (Trust), 2 (Autonomy), 3 (Initiative) & 6 (Identity).