

AN ABSTRACT OF THE THESIS OF

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TO INTRAPERSONAL RELATIONS OF ADOLESCENT GIRLS

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The purpose of this study was to investigate the relationship between physiological maturation and the intrapersonal relations of adolescent girls. The Interpersonal Check List provided the measure of self concept and ideal self concept for each subject.

Subjects were 48 early-maturing and 48 late-maturing girls representing the four levels of high school. Included were 18 early-maturing and 16 late-maturing ninth graders; 8 early-maturing and 10 late-maturing tenth graders; 12 early-maturing and 12 late-maturing eleventh graders; and 10 early-maturing and 10 late-maturing twelfth graders.

Four major hypotheses were tested:

- I. There is no difference in the self concept report of early- and late-maturing adolescent girls.
- II. There is no difference in the ideal self concept report of

early- and late-maturing adolescent girls.

III. For the early-maturing adolescent girls, there is no difference between their reported self concept and ideal self concept.

IV. For the late-maturing adolescent girls, there is no difference between their reported self concept and ideal self concept.

Each of the hypotheses was tested at each of the four high school grade levels.

The Mann-Whitney U test was used to analyze the data for hypotheses one and two. The null hypotheses could not be rejected for 15 of the 16 tests involving the two hypotheses; the exception was ninth-grade ideal self on the love dimension. Essentially the conclusions were that no differences existed between the self concept or the ideal self concept of early- and late-maturing adolescent girls.

The Wilcoxon Matched-Pairs Signed-Ranks test was used to test hypotheses three and four. Test results for hypothesis three showed significant differences in two of the eight analyses. Both were connected to the dominance dimension. Significant differences were found for five of the eight analyses used in testing hypothesis four. Four of these were connected to the dominance dimension.

In general it was concluded that the late-maturing girls were much less satisfied with the image they held of themselves, and that

they wished to be someone quite unlike their self at that particular time. Most notable, they expressed a wish to be significantly less dominant than they felt themselves to be.

Since this concern with dominance also appeared in the data for early-maturing girls, it was evident that the dimension of dominance and the concern for balance along this dimension were quite strong throughout this entire adolescent female sample.

Limitations of the study and suggestions for further research were discussed.

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Related to Intrapersonal Relations
of Adolescent Girls

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PHYSIOLOGICAL MATURATION AS A FACTOR
RELATED TO INTRAPERSONAL RELATIONS
OF ADOLESCENT GIRLS

I. INTRODUCTION

Background of the Study

Adolescence, the period between childhood and adulthood, has variously been described as a time of "storm and stress" and a happy time. Since G. Stanley Hall portrayed adolescence as a period of "storm and stress" in his two-volume work, Adolescence, published in 1904, this concept has tended to dominate theory and social comment. However, a contrary view suggests that, although the adolescent period does present a struggle within the adolescent as he attempts to determine his rights and responsibilities in his relationship with adults and with his peer group, the modal pattern, for the most part, is considerably more peaceful and gradual (Douvan and Gold, 1966; Garrison, 1965; Strang, 1957).

Bernard (1958) describes the adolescent of the Twentieth Century as living in a radically changing world. Garrison (1965) and he point to automation, mass production, rapid communication, improved transportation, urbanization, materialism, and conflict in values as factors which have changed society in the United States and have created new problems for the young person. He is no longer economically independent; in fact, his period of dependency is being

prolonged as demands for a longer period of education grow. Rapid biological changes sometimes impose stress, provoking psychological problems. Some adolescents are assuming the responsibilities of marriage while partially or completely dependent upon their parents.

However, although adolescence probably presents no more problems than any other period in human development, there are some problems that are more pressing than they seem to have been earlier (Bernard, 1957). Emancipation from parents, the necessity for living up to peer expectations, adjustment to strengthened sex drives, and planning for education and career are examples of some of the more insistent problems. In addition, the adolescent must acquire an appropriate sex role, develop intellectually, and evolve a set of values (Crow and Crow, 1956).

It has been suggested that one's self concept plays an important part in how adequately one meets these developmental tasks. During this period a discrepancy between one's self concept and ideal self concept may be recognized by the young person. Since self concept begins to take rather definite form in childhood, the experiences of adolescence in most cases merely clarify, elaborate upon, and confirm the concept of self which has already begun to emerge and to crystallize (Engel, 1959).

Erikson (1950) has conceptualized the problem of adolescence as a crisis of identity. That is, the adolescent must find ways to

integrate what he feels he is with what his society allows him to be, at a time when he is not altogether sure what he is or what he is allowed to be. In order to thrive psychologically, the adolescent must integrate self with society in such a way as to present a personality that is essentially the same, whether viewed from within by himself or from without as reflected to him by important others, and is basically respectable to those who matter.

Undoubtedly part of the "storm and stress" idea stems from the rapid physiological changes which mark adolescence. Indeed, the discussion of the changes and their probable significance in terms of the adolescent's adjustment commands considerable space in textbooks dealing with adolescent growth and development (Bernard, 1957; Crow and Crow, 1955; Garrison, 1965; Jersild, 1963; Zachry, 1940). Interestingly enough, however, few research studies dealing with adolescent adjustment have included the physiological changes as a major variable.

Purpose of the Study

The present investigation was designed to move further into the area of early and late maturation of adolescent girls and to extend O'Neill's (1962) study to the examination of self concept and ideal self concept of girls at the four levels of high school.

The purpose of this study was to investigate the relationship

between physiological maturation and adolescent girls' intrapersonal relations as measured by their self concepts and ideal self concepts.

The specific objectives for this study were the following:

1. To determine whether or not differences exist in the manner in which early- and late-maturing girls describe their self concepts at each grade level.
2. To determine whether or not differences exist in the manner in which early- and late-maturing girls describe their ideal self concepts at each grade level.
3. To determine whether early- or late-maturing girls express the greater congruency between self and ideal self descriptions.

In an attempt to meet these objectives, the following hypotheses were tested:

Hypothesis I: There is no difference in the self concept report of early- and late-maturing adolescent girls.

Hypothesis II: There is no difference in the ideal self concept report of early- and late-maturing adolescent girls.

Hypothesis III: For the early-maturing adolescent girls, there is no difference between their reported self concept and ideal self concept.

Hypothesis IV: For the late-maturing adolescent girls, there is no difference between their reported self concept and ideal self

concept.

Each of these hypotheses was tested at each of the four high school levels, i. e., at the ninth, tenth, eleventh and twelfth grades.

II. REVIEW OF THE LITERATURE

An attempt has been made to organize the review of literature under a number of subheadings because of the complexity of the variables of self concept and maturational factors. For purposes of logical development, the self concept is discussed, followed by physiological maturation and its correlation to adolescents, especially the adolescent girls' self concept. This is organized under the subheadings: self concept; development of self concept; congruence of self concept and ideal self concept; factors influencing self concept; measurement of adolescent physiological maturation; and relationship of physiological maturation to adolescent self concept. The reader may wish to proceed directly to the section relating physiological maturation to the self concept.

Self Concept

Within recent years there has been a resurgence of interest in the concept of self. Nearly seven decades ago, William James set the stage for contemporary theory when he suggested the importance of the self in psychological thought (Hall and Lindzey, 1957). Several theories dealing with the formation of personality stress the importance of the view that one comes to take of oneself as a result of life experiences (Cattell, 1950; Murray, 1938; Murphy, 1947; Rogers, 1951; and Sullivan, 1953). Hall and Lindzey point to other

personality theorists awarding an important or central role to the view of self or ego as Adler, Allport, Angyal, Bertocci, Chein, Freud, Hilgaard, Horney, Koffka, Lecky, Lundholm, Maslow, George Herbert Mead, Sarbin, Sherif and Cantril, Stephenson, Symonds, and Snygg and Combs. In general, this view is referred to as the self concept, and under that title it has been an important variable in a large number of empirical studies. But, even a brief overview of these studies reveals little to relate the effect of physiological maturation of adolescents to development of the self concept.

However, Blos (1962) sees the concept of self as becoming an investigative and conceptual tool of increasing moment for the study of adolescence. He says that the extensive studies of defenses during the adolescent period seem to be giving way to an investigation of self in its genetic and pathologic aspects, and the study of psychic organization and psychic restructuring is complementing the concentration on instinctual conflict as the paramount feature of the adolescent process.

In the study of self concept, both in research and theory, two views are advanced: self concept may be considered as conscious (phenomenal) or unconscious (nonphenomenal). Both are important, but more stringent work has been done with the measurement of the conscious concept (Wylie, 1961). Douvan and Gold (1966) specifically mention the lack of instruments to measure unconscious elements of

self, which figure in much theory, but feel that some beginnings have been made in this area of measurement. Therefore, studies of adolescent self concept have focused primarily on the conscious level.

Several definitions of the self concept have arisen in the literature. In defining the conscious self concept, Jersild (1963) says this is the known self, and includes all the ideas and feelings a person has regarding the properties of his body, the qualities of his mind, and his personal characteristics. Included are his beliefs, values, and convictions, embodying the conception he has of his past, his present, and future prospects. Components of the self range from neutral details of self-perception to attitudes that are charged with feeling, such as pride or shame, inferiority, self-esteem or self-reproach. Although the self may include views, which, according to all standards except his own, are incorrect, to him are real. Jersild concerns himself with the self of the individual as known to the individual. Stating this somewhat differently, Carl Rogers, a leading self theorist, explains the concept of self as follows:

The self-concept or self-structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perception of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; and goals and ideals which are perceived as having positive and negative valence (1961, p. 136).

Whenever an individual is evaluating himself, regardless of the

method of evaluation, Brownfain (1952) suggests that he inevitably makes reference to a system of central meaning that he has about himself and his relations to the world about him, which is called his self concept. Since every evaluative statement a person makes about himself may be considered an example of his self concept, from this, certain properties of his self concept may be inferred. Thus every self-evaluative statement reveals self concept.

The conscious self concept, then, appears to refer to a person's perceptions of and feelings about himself which he admits into his awareness.

Apparently an individual has many self concepts. Wrenn (1958) suggests that one has a self concept for every role in which he finds himself. More realistically, he says, there probably is a strong core to this multitude of self concepts so that one can be said to have a fairly consistent hierarchy of selves--such as the perceived self, the self he thinks others believe him to be, and ideal self that he would like to be. Jersild (1963) calls the sum-total of a person's view of what he wishes he were or thinks he ought to be, as distinguished from what he is, the ideal self. This has many facets, including aspirations the individual is vigorously striving to attain, or hopes dimly some day to realize. The adolescent is more or less aware of differences between what he is and what he wishes he might be or thinks he ought to be, or is trying to become. Therefore, the adolescent is becoming

more aware of discrepancies between what he sees himself to be and what he desires to be, which may contribute to the "storm and stress" idea associated with these years.

Development of Self Concept

As an adult, one's concepts of self and of social interpersonal relations are closely related to his personality and perhaps even to his achievement and his general happiness in life (Russell, 1956). Therefore, understanding the process by which self concept develops would seem significant.

Several authors, among them Ames (1952), Anderson (1952), and Jersild (1963), believe that the development of self concept begins early in childhood. However, Jersild also suggests that the view an individual acquires at any one time also influences the nature and course of what he is able to learn. To this extent, the self is self-perpetuating; a person tends to see things or to ignore them in a manner consistent with the kind of person he already is or desires himself to be.

Anderson (1952) considers the first years of life to be the most significant in the development of the self-image, with each succeeding year becoming of lesser importance, until the image is essentially completed before adolescence. She views the self-image as the concept of one's self both as a physical person and as a psychological

person. Every organ or member conceived of as doing a specific job is included in the individual's physical self-image. Organs are given different values, depending upon the conceived functional value of each one. The psychological self-image is formed early in life as a result of the succession of experiences of the child with significant other people in his environment. It is built out of interpersonal experiences for survival. The character structure is determined by the resultant interplay between the child, with his physical and intellectual capacities, and the total personalities, physical and psychological, of those people who are significant to the child.

Investigating the growing sense of self in nursery school children Ames (1952) studied their verbalizations to themselves and to others. This suggested the following development from one month to four years. During the infant's first year he discovers himself physically. The second year he is primarily egocentric, except that his awareness of adults is deepening. Individual activities occupy him at the age of two, and he consolidates his sense of self by obtaining and hoarding possessions. By two-and-one-half years the self is consolidated to the point where it can be strengthened in interpersonal relations. Possessions are no longer needed as a means of affirming and embellishing self at age three. Child-child relations definitely prevail by three-and-one-half years, when the child is beginning to establish himself with his contemporaries, aligning with some and

excluding others. Although the author concluded that the data do not seem adequate for describing the highly complex developmental picture up to four years, she felt that a beginning had been made.

Apparently the child is able to distinguish himself as an individual while still a young infant. At different times he perceives different parts of himself; first being the physical images, then the psychological. When he has consolidated the physical and psychological images of himself into a unified individual, he can strengthen the self by experience in interpersonal relations through social contacts with others.

The development of selfhood continues as the individual grows. Jersild (1952) found that boys and girls from the fourth grade through college most frequently mention social attitudes and relationships in self-description, and that physical characteristics rank second. He felt that "an outstanding characteristic of the results is that most of the categories of self-description prominent at any one age level are also prominent at other levels" (p. 30). This would seem to indicate that at the elementary and secondary levels the self is described and evaluated in interpersonal terms rather than physical ones.

Naturally, the stability of self concept has been questioned. Brownfain (1952), Carlson (1965), Engel (1959), and Piers and Harris (1964) have researched this concern with children from elementary through college years. Piers and Harris found that over a four-month

interval self concept remains as stable among third and sixth graders as in tenth-graders. Carlson's study adds the conclusion that sex apparently is not a factor related to stability of self concept. In his study of a group of students over a six-year period between sixth grade and as high school seniors, the period of adolescent development, median self-esteem scores for boys and girls were identical at the preadolescent and adolescent levels.

Engel (1959) also found that the self concept over a two-year period in adolescence remained relatively stable. Changing the most were those whose self concept was negative at first, while those with positive self concepts maintained them. Those who persisted in a negative self concept gave evidence of significantly more maladjustments than those maintaining positive self concepts. Positive self concept scores increased significantly over the two years.

From these studies, it would appear that the self concept remains relatively stable during the adolescent period, with the most significant changes being of a positive nature; while those persisting in a negative self-evaluation appear to be more maladjusted than those evidencing positive self-evaluations.

Approaching the study of self concept stability with another purpose in mind was Brownfain (1952), who believes that this is a personality dimension serviceable to the work of understanding and predicting behavior. He found that college-age subjects with more stable

self concepts, defined as little difference between their positive and negative self-ratings, have a higher level of self-esteem, are freer of inferiority feelings and nervousness, and are better liked and considered more popular by the group. They also see themselves more as they believe others see them, know more people in the group and are better known by the group which indicates more active social participation, and show less compensatory behavior of a defensive kind. Apparently a stable self concept results in more positive social behavior.

Brownfain concludes, however, that while it is known that the concept of self remains relatively stable, even over extended periods of time in young adults, and while there are a number of theoretical and partially supported statements about the "storm and stress" of certain aspects of adolescent development, the fate of the self concept in adolescence is still a matter for speculation. He also refers to a statement by Lecky that it is generally believed that an individual's concept of himself achieves a rather high degree of organization during the course of development, and comes to resist change, once self-differentiation and self-definition have taken place. Perhaps needing further exploration is the exact time when this occurs.

Another approach to determining how self concept develops is to study the ideal self. Perkins (1958) obtained a significant increase in self-ideal self congruence over a six-month period in a study of

fourth- and sixth-grade children. He also found greater self-ideal self agreement in the older children and among girls than among boys. In this study, change in self-ideal self congruency was interpreted to reflect growth and development of the self concept which seems to increase with age.

Development of the ideal self concept was also investigated by Havighurst, Robinson, and Dorr (1946). From analysis of compositions written by boys and girls from six to eighteen years of age, they offer the following developmental trend: the ideal self commences in childhood as an identification with a parental figure; moves during middle childhood and early adolescence through a stage of romanticism and glamour; culminating in late adolescence as a composite of desirable characteristics which may be symbolized by an attractive visible young adult or an imaginary figure.

Congruence of Self Concept and Ideal Self Concept

As the self concept and the ideal self concept develop, it is likely that discrepancies between the two will arise. The difference between the two has been used as a basis for determining the extent of frustrations and maladjustments. Carl Rogers and his associates hold that a discrepancy between the self concept and the concept of the desired or valued self reflects a sense of self-dissatisfaction (Rogers and Dymond, 1954). Self-ideal self discrepancies in an individual are

a product or outcome of experience indicating to him that his self-organization is unsatisfactory. Low correlations between self concept and ideal self concept, they add, are based on a low level of self-esteem related to a relatively low adjustment level. Leary (1957) explains that a low discrepancy between self and ideal self is indicative of self-acceptance, while a high discrepancy indicates self-rejection.

Although inferiority may be experienced by persons on all levels of life, it is a widespread adolescent phenomena (Garrison, 1965). The growing independence and physical strength of the adolescent make it especially important that the self concept be crystallized; that the child-like concepts be reinterpreted in the light of new autonomy, and that the gap between the ideal and the real self be bridged. The adolescent failing to achieve self-acceptance will find it difficult to cope with his environment. Strang (1964) agrees, adding that any experience interpreted as a threat to self arouses anxiety. The feeling that there is a lack of unity within the personality, or a discrepancy between the self concept and the ideal self concept is likely to be a disorganizing experience that produces emotional depression.

Self-esteem apparently increases as youngsters grow through adolescence. Although the fairly sudden beginning of adolescent changes is unsettling to youngsters, they adapt as they mature (Douvan and Gold, 1966; Engel, 1959). Self-esteem appears to crystallize at adolescence around respectable display of those characteristics which

are most important in self-definition. This depends heavily upon society's prescription of what an adolescent should be, and American society conditions that prescription most heavily according to sex (Douvan and Gold, 1966). They agree that those youngsters who do not measure up may become anxious and show signs of disturbance. Most adolescents, however, learn to measure up; and many, who are unable to qualify, manage to conceal their shortcomings from themselves so that the average level of adolescent self-esteem is comfortably high.

Two studies of self-ideal self agreement at the college level have been reported by Turner and Vanderlippe (1958) and Guerney and Burton (1963). Turner and Vanderlippe found that the student high in self-ideal self congruency is one who participates more in extracurricular activities, has a higher scholastic average, is given higher sociometric ratings by fellow students, and scores higher in adjustment ratings on the two instruments used. Using the Interpersonal Check List, Guerney and Burton investigated self-ideal self discrepancies in college women. These women described their ideal self as highest on both the dominance and the love dimension with the self coming closer to the ideal on the love dimension. Those seeing themselves as high in dominance tended to picture the ideal as greater in dominance; whereas, those seeing themselves as greater in love tended to visualize the ideal as high in both dominance and love. These findings

were interpreted as indicating the more a college woman saw herself as characterized by dominance, the less she tended to be anxious; and the less she saw her typical peer characterized by love, the more she tended to be anxious. From these studies it would seem that the greater the congruence between self concept and ideal self concept at the college level, the better the individual's adjustment and interpersonal success will be.

It follows that how an individual feels about himself is related to how he feels about others. In Stock's (1949) study, feelings toward self were shown to be correlated in various degrees with different aspects of feelings toward others. Attitudes toward individuals in a social relationship correlated more highly with self attitudes than did feelings in the area of family relationships or more impersonal relationships. A close correspondence between self attitudes and the emotions directed toward others, and feelings about the relationships with others was also indicated.

Likewise, Kemp (1965) found that the quality of personal adjustment of the low-problem adolescent bears a closer resemblance to his self-perception than it does to the perception his parents have of him. The best adjusted and least well-adjusted adolescents perceived their parents to be less well adjusted than they themselves; whereas, the medium problem ones perceived their parents as slightly better adjusted than they themselves. How one views himself, then, does seem

to be related to how he feels about others.

Effects of self-ideal self incongruencies seem to appear in adult behavior, also. McDonald (1962) found that parents of emotionally disturbed children lack self-acceptance. Using the Interpersonal Check List to investigate interpersonal relationships, he felt that although it could be argued that greater intrafamilial conflict in families where the child is emotionally disturbed might be the result of a disruptive influence of the child, that it seemed likely that various personal factors found in the parents of these children, including lack of self-acceptance, existed prior to parenthood or marriage, and contributed to the conflict situation. Thus it would seem that a relationship between parental self-acceptance and the incidence of emotionally disturbed children could exist.

Self-acceptance, as determined by congruency of self concept and ideal self concept, is used as an indice of adjustment or maladjustment. Indications are that the more similar the self concept and ideal self concept of the individual, the more successful his interpersonal relations will be because the view one has of himself is related to how he feels about and interacts with others.

Factors Influencing Self Concept

Among the various factors suggested as influencers of self concept are socio-economic status, interaction with peers and parents, and

physical characteristics.

Wylie (1961) reported four studies which attempted to associate socio-economic status with self concept characteristics. She concluded that taken together they did not permit any conclusions about the relationship between socio-economic class and self concept. Statistically insignificant trends of two studies and uncontrolled variables were cited as factors preventing conclusions.

However, Rosenberg (1965) found that girls in the various social classes had strikingly similar self-values while boys differed in values. Boys in higher social classes emphasized intellectual values and being well-respected and looked up to by others; while the lower-class adolescents valued motoric style, that is, good at working with hands, fighting, wrestling; or tough, not afraid to fight. A contrary view is offered by McDonald and Gynther (1965) that socio-economic level had no effect on self and ideal self descriptions.

Bieri and Lobeck (1961) in assessing the effect of social class on the self concepts of 89 Army reserve enlisted personnel by means of the Interpersonal Check List found the upper-class men scored higher on dominance (assertive, aggressive, leadership qualities) than did lower-class men. Moreover, upper class subjects scored higher on dominance than on love (friendly, warm, cooperative characteristics). These studies of adolescents and young adults would seem to indicate that social class differences in self concept may occur, but

not enough evidence exists from which to draw definite conclusions.

Level of an individual's self-esteem depends most heavily upon the evaluation he makes of himself (Douvan and Gold, 1966; Rosenberg, 1965). His own evaluation, in turn, depends mainly upon the evaluation reflected by the people who matter to him, by the standards of his reference groups, and by the effectiveness of his self in helping him reach his goals (Crow and Crow, 1956; Anderson, 1952).

To a marked degree adolescents are dependent upon their peers for self concepts. The adolescent personality is so pliable that the tastes and values of contemporaries become an unquestioned norm which must be followed for group approval and without which the adolescent cannot accept himself (Garrison, 1965). Apparently self-esteem depends upon different components for boys and girls as the peer group area is marked by a crucial difference in the adolescent tasks of boys and girls (Douvan and Gold, 1966). Adolescent girls increase in social orientation and decrease in personal orientation, while boys develop in the opposite direction (Brookover et al., 1962). Interpersonal skill and developing the concept of feminine adulthood relates closely to measures of self-esteem for girls. Popularity becomes proof of feminine worth, a guarantee of future marriageability (Douvan and Gold, 1966; Rosenberg, 1965). Girls are more likely to stress the value of interpersonal harmony and success (likable, easy to get along with; friendly, sociable and pleasing, a person who knows

how to get along with all kinds of people). Tender virtues of kindness and consideration, sympathy, and understanding; the moral virtues, deeply religious, honest and law abiding, and aesthetic appreciation are also more important to girls. Tryon (1939) concurs and in addition reports that at age 15, admiration for lady-like behavior is replaced by approval for good-sportsmanship, extroversion, and activity. In addition, the quality of being fascinating or glamorous to the other sex has become important.

Boys, however, are dominated by needs for achievement and independence. They can establish their sense of value in more varied ways--by direct sexual expression, by independence and autonomy, by asserting ability to achieve in any one of a number of competitive fields (athletics, a career line, intellectual activity, in school affairs, and responsibility on a job). The stronger the sense of self-esteem, the more highly competent and achievement-oriented the boy is (Douvan and Gold, 1966). Rosenberg's (1965) study revealed that boys are more likely to stress motoric values and physical courage; interpersonal control or dominance in their relationship with others; hard-headedness or freedom from naivete; and versatility. In agreement is Tryon's (1939) report that at both 12 and 15 years of age boys emphasized physical skill and daring, but at age 15 there was a new premium on social ease, poise, and physical attractiveness.

Looking at this in another way, McDonald and Gynther (1965)

describe adolescent boys as scoring higher on the dominance dimension of the Interpersonal Check List and girls higher on the love dimension for both Negro and white Southern adolescents. Interestingly, both male and female Negroes described themselves as more dominant than did white boys and girls. Also, there was less discrepancy between ideal and self ratings of: Negroes compared with whites; males compared with females on dominance; and females compared with males on love.

In general, it might be said that adolescent boys and girls evaluate themselves using differing criteria based on peer group expectations. Girls tend to strive for the more loving feminine model possessing interpersonal skill, while boys stress interpersonal control and dominance.

Most personality theorists who are concerned with constructs involving self, accord importance to parent-child interaction in the development of self concept. However, there is a scarcity of studies of parent-child interaction of the antecedent-consequent variety; available studies are primarily of the response-response type (Wylie, 1961).

Data offering evidence of direct and meaningful relationship between parental attitudes and actions, and boys' interpersonal attitudes were reported by Koppitz (1959) in a study of 75 delinquent boys averaging 12 years of age. Although the negative parental attitudes and

personalities tended to have relatively enduring effects on children's negative self concepts and interpersonal attitudes, Koppitz concluded that a modification of these can occur through later experiences.

A democratic level, or style, of parental control produces autonomy in the adolescent. Autocratic or very lenient American parents more often have children who are low in self-confidence and are either dependent or rebellious (Douvan and Gold, 1966).

Since the girl usually is expected to be more responsive to parental direction than the boy, the teen-age girl may find her problem of growing up different from that of the boy, but not easier. The family is likely to be the center or focus of her adolescent rebellion (Crow and Crow, 1956). Apparently there is no difference in extent to which post-menarcheal and premenarcheal girls report the presence of family friction or of revolt against family discipline (Stone and Barker, 1939). Girls are more frequently at odds with their mothers than with their fathers (Liccione, 1955). The greater number of contacts that the mother has with her daughter, and the widespread practice, especially among middle-class families, of leaving the daughter's disciplining and counseling to the mother may account for this. The greatest amount of tension in the mother-daughter relationship existed at 15 years of age. The least amount of father-daughter tension was at age 13, the greatest at 17. This might be a result of the daughter's desire for independence, and the father's

reluctance to recognize her increasing self-reliance.

Parents also affect the adolescent's self concept by the amount of concern shown for him. Extreme parental indifference is associated with lower self-esteem in the child and, in fact, seems to be even more deleterious than punitive parental reactions (Rosenberg, 1965). Parental interest at any level from chastising to praising is associated with higher self-esteem than is parental indifference. The feeling that one is important to a significant other is probably essential to developing a feeling of self-worth.

The self concept apparently is affected to varying degrees by socio-economic status. Interaction with peers and with parents has a definite bearing upon the adolescent's self concept. Another factor, physiological maturation, and its relationship to adolescent self concepts will be reviewed in the following sections.

Measurement of Adolescent Physiological Maturation

If one feature of adolescent development were said to be most important, it would have to be the changes taking place in the young person's body. Of these, changes in sex glands are the most important physiological changes signifying the beginning of adolescence. The hormones from the sex glands bring the reproductive organs to maturity and the individual becomes potentially capable of reproduction (Garrison, 1965). The physical changes have many consequences

as the youngster must adapt himself to changing bodily proportions. As the adolescent begins to resemble an adult in size and build, he faces many new demands. The more grown-up he appears, the more he is expected to act maturely, whether or not he has had time to adjust to his new role. The young person's reactions to physical change may range from pride and pleasant expectations to bewilderment and fear (Jersild, 1963).

The datable time signaling the beginning of adolescence is referred to as puberty; pubescence refers to a period of time during which a constellation of changes is taking place. Among changes taking place are those involving metabolic rate, blood pressure, pulse rate, skeletal growth, voice pitch, and pubic hair (Jersild, 1963). Extensive longitudinal investigations which have resulted in verbal, graphic, and pictorial descriptions of the physiological development of adolescence are those of Greulich et al., (1942) and Shuttleworth (1937, 1938, 1949).

Because individual children reach various levels of physiological development at different chronological ages, developmental age, rather than chronological age, seems more definitive of the child's physiological status. Four systems in use for the purpose of assigning developmental age are as follows: skeletal; dental; morphological (size, height, etc.) or shape; and secondary sex characteristics (Tanner, 1962). The last is useful after puberty has started,

consisting of the application of the ratings for genital, pubic hair, and breast development. Skeletal age, as measured by X-ray appearance of bone ossification, has been by far the most commonly used indicator of physiological maturity. However, its use is limited, as it is less sensitive at some stages of growth, especially during adolescence. Dental maturity has not been sufficiently used for its practical value yet to be assessed; so far as gauging physiological maturity at adolescence is concerned, it is of less value than skeletal or secondary sex character age, since nearly all the teeth have calcified or erupted by the time puberty begins. Morphological age is seen by Tanner as a more subtle and rewarding concept, as it is based on measuring the change of proportion of the body from that of a baby to that of an adult. However, a distinction must be made between differences in proportion due to growth and differences in proportion that distinguish adults; it seems that the chances of finding growth changes independent of adult differences are greater with shape than with size (Tanner, 1962). Therefore, secondary sex characteristics seems most definitive and practical during the adolescent period.

In discussing pubescent changes, Shuttleworth (1938) lists them as occurring in the following sequence for girls: enlargement of the breasts; appearance of straight, pigmented pubic hair; age of maximum growth, appearance of kinky pubic hair; menarche; and growth of axillary hair. In boys the order is: beginning growth of the testes

first pubic hair (straight, pigmented), early voice changes, first ejaculation, kinky pubic hair, age of maximum growth, axillary hair, marked voice changes, and development of the beard.

Although most investigators consider the first menstruation as marking puberty for girls, Stone and Barker (1939) state that menarche can be regarded as a sort of mid-point in the total phase of female adolescent physical development. No single criteria so readily measured can be found for boys.

The most recent data give the average of menarche of American white girls from 1940-1955, as between 12.5 and 13.0 years depending on socio-economic class and geographical location (Tanner, 1962). American data has been obtained chiefly from longitudinal studies.

Sexual maturation seems to be related to living standards (Garrison, 1965). In the highly developed countries of Western civilization, the mean age at menarche has steadily declined during the past century at a rate of approximately four months each decade. Citing a study by Burrell and others involving girls of different races to determine possible genetic influences on the age of menarche, Garrison reports that they found the incidence of menarche was heavily dependent upon living conditions. Girls of the higher economic level matured earlier.

Although there are several systems for assigning developmental age, the use of secondary sex characteristics seems most

definitive and practical during the adolescent period. The first menstruation is considered by most investigators as marking puberty for girls. However, no single criterion so readily measured can be found for boys.

Relationship of Physiological Maturation to Adolescent Self Concept

It has long been recognized that the timing of puberty and of the marked physical changes which herald its onset are subject to wide individual differences. However, it is only recently that attention has been drawn to the differential impact on personal and social adjustment of these individual differences in the rate of physiological maturation. Davidson and Gottlieb (1965) specifically mention that the increasing concern with psychological manifestations has tended to obscure physiological factors which may be of significance for adolescent maturity and adjustment. Jersild (1957) supports this and adds that an adolescent's physical development has a psychological effect on his attitudes regarding himself and on the attitudes which others have toward him. Studies dealing with the factor of physiological maturation as related to adolescent self concept will now be reviewed in the following order: studies dealing with boys only; studies dealing with both boys and girls; and studies dealing with girls only.

Although Jones and Bayley (1950) recognize that the impetus for attainment of independent and mature status is undoubtedly related to

the adolescent's physical change, they offer that the process of growing up is so complex and so interwoven with cultural factors that they have not been able to demonstrate more than a general relationship between physical and psychological phases of development. They studied a group of 32 boys, half of whom were most consistently retarded and half of whom were most consistently accelerated in physical maturity. During a four-and-one-half year period for which they had cumulative skeletal X-rays, beginning at an average of 14 years, they observed that the physically accelerated usually were accepted and treated by adults and other children as more mature. Relatively little need to strive for status was evident. The physically retarded, on the other hand, exhibited many forms of immature behavior which the investigators say might be in part because others tend to treat them as the little boys they appear to be. A fair proportion of these boys gave evidence of needing to counteract their physical disadvantage in some way--usually by greater activity and striving for attention, although in some cases by withdrawal.

Using the Thematic Apperception Test (TAT), Mussen and Jones (1957) also found in their study of 33 boys 17 years of age that the early-maturing boys presented a much more favorable psychological picture during adolescence. More appeared self-confident, independent, and capable of playing an adult role in interpersonal relationships. In contrast, late-maturers were more likely to have

negative self concepts, feelings of inadequacy, strong feelings of being rejected and dominated, prolonged dependency needs, and rebellious attitudes toward parents. However, the two groups did not differ significantly from each other in needs for achievement or personal recognition.

In another study of 34 boys in the Adolescent Growth Study, Mussen and Jones (1958) found high drives for social acceptance and for aggression were more characteristic of the physically retarded than of the physically accelerated. In general, data of the investigation support the findings of earlier studies which showed that, among boys, physical retardation may have adverse effects on personality. On the other hand, physical acceleration may be conducive to better social and psychological development.

Specifically relating changes in self concepts with the rapid physiological development of puberty in boys were Smith and Lebo (1965). Using pubic hair rating as an index of boys' physical maturity, they related physical maturity to conscious and unconscious measures of self concept. Only the "self-concept of social maturity", as indicated by responses on a modified version of the Vineland Social Maturity Scale, showed a significant correlation with pubic hair ratings. They suggest that the data emphasizes the self concept as an important and productive area of investigation in the studies of pubescent youth, and that longitudinal investigations of the relationship

between physical growth and personality development during the pubescent cycle may add valuable interpretative material to psychology of the adolescent.

During adolescence, late-maturing is a handicap for many boys and can rarely be found to offer special advantages. Early-maturing carries both advantages and disadvantages. Frequently, it gives competitive status, but sometimes it also involves handicaps in the necessity for rapid readjustments and in requiring the adolescent to meet adult expectations which are more appropriate to size and appearance than to other aspects of maturity. Does this carry over into adulthood?

Interesting to note are the results of a follow-up study conducted by Jones (1957) of 20 from an original sample of 32 early- and late-maturing boys who were studied again at age 33 to determine the long-term effects of maturation rate upon personality. Although physical differences noted at adolescence had tended to disappear, personality characteristics scored much the same in adulthood as in adolescence.

A relationship between rate of physiological maturation and early marriage for boys is suggested by Chilman (1966) who reports evidence that early-maturing boys are more likely to marry early. Other than going steady early, early physical maturation was the one variable which significantly differentiated the early- and late-marrying males.

On the basis of a self-report measure of rate of physical maturation, Weatherley (1964) categorized college students into groups of early, average, and late maturers, comparing them on a number of personality measures. Results supported the concept that late physical maturation represents a handicap to personality development of boys; whereas, early maturation is no greater asset than is an average rate of maturation. The effects of rate of maturation on personal adjustment were much less profound in girls than in boys; however, the direction of the effects is similar in both sexes. More (1953) explains that the adolescent boys and girls who are very late in physical maturation are at a definite disadvantage in trying to enter into normative peer social relations. They seem lacking in necessary emotional perception which gives meaning to behavior of those around them. Because of this, it is difficult for them to respond to the stimuli present in group action. More concludes that there is a large group of these physically-late persons who show emotional disorganization in a greater degree than do the rest of the group. Also, they are unable to participate with ease in the social world their early-maturing friends have entered, which tends to isolate them. Frisk et al. (1966) agree with More but feel that delayed development is more a problem for boys than girls. They believe that this deviation in development interferes with the establishment of identity.

Both rate and stage of maturation must be regarded as significant

from the standpoint of personality development as a whole for both boys and girls (Frisk, 1966). A disturbance of the process of maturation sometimes renders psychological adaptation more difficult temporarily, at least, during the critical period of puberty. The proportions of early-maturing girls and late-maturing boys who exhibited various psychic problems was particularly high among this group of Finnish adolescents.

Advanced development for boys was regarded as an advantage; while among girls early maturation often led to a crisis in connection with the development of womanhood (Frisk, 1966). Menarche and growing sexual tension caused anxiety and restlessness. Lacking compensatory or social security, it was difficult to integrate the developmental deviations with the ego. The resulting crisis during early puberty diminished the early-maturing girls' capacity for family and school adjustment.

In as much as early maturation tends to be advantageous to boys in the middle period of adolescence, it appears to be a disadvantage to girls. The average girl matures a year or more ahead of the average boy; for a girl to mature earlier than most puts her at a disadvantageous extreme. Usually she is conspicuously large in comparison to other girls and boys her age. Garrison (1965) and More (1953), however, see the early-maturing girl within the normal population as having an advantage over the later-maturing girls in being

able to develop more nearly mature feelings and attitudes. By engaging earlier in more nearly mature forms of social behavior she appears better able to reinforce these attitudes.

Researchers have given little attention to the relationship between body build and temperament, and between time of sexual maturity and later personality. Two of the psychological consequences of the change in physical status are a change in one's body image and a re-evaluation of self in light of the change in physical status, according to Blos (1962). The advent of puberty in girls is seen by More (1953) as a relatively abrupt phenomenon, requiring emotional adjustments of an immediate nature. It would seem that the effect of the adolescent girl's changing body upon the changing self is worthy of study.

O'Neill (1962) apparently was getting at the crux of this problem when he investigated the concomitant changes in physical maturation and self concept of 50 ninth-grade girls. Using a conscious report of self, he compared early- and late-maturing girls on ratings of the self, mother, father, and ideal self. Graphically he shows a wide difference in the self concept and ideal self concept of the late-maturers. In contrast, there is much less difference in the self and ideal self concepts for the early-maturers.

Early-maturing girls have little influence upon the group and seldom attain a high degree of popularity, prestige, or leadership

(Jones and Mussen, 1958). Both classmates (Tryon, 1939) and adult observers (Newman, 1946) saw the early-maturing girls as relatively submissive, listless or indifferent in social situations and lacking in poise. The girls in the slower-maturing classification have been seen as relatively more animated and outgoing. Their eager, animated, peppy, and talkative behavior seems to be acceptable among girls, as those who exhibit it are also described as confident and having leadership abilities (Jones and Mussen, 1958).

Jones and Mussen's (1958) investigation of the relationship between maturational status and self conceptions, motivations, and interpersonal attitudes in a normal public school sample of girls dealt with the problem of psychic changes accompanying physiological departures from the norm. Included in the study were 34 eighteen-year-old girls, constituting approximately 20 percent at each extreme of physical maturity status of the total sample of girls in the Adolescent Growth Study. Sixteen were among the most consistently accelerated; 18 were among the most consistently retarded during the four-year adolescent period. The Thematic Apperception Test (TAT) was used for personality assessment. It was assumed that the findings would substantiate the observational findings concerning early- and late-maturing girls with respect to behavior rating by both classmates and trained observers. These observational findings were in complete accord that the early-maturing girls were relatively more submissive,

listless, indifferent in social situations and lacking in poise; while the late-maturing girls were relatively more outgoing and more assured. The TAT data failed to support these observational findings. In fact, the early-maturing appeared to be somewhat better adjusted than their late-maturing peers.

In discussing the results, the authors point out that particularly with reference to the variable, negative characteristics, some writers report that in many cases thematic fantasies and manifest behavior operate independently and are even negatively related. However, they also point to evidence from literature that for some groups, TAT findings and overt behavior may be congruent, and that their data of boys (Mussen and Jones, 1958) coincides with this.

In analyzing the data of this study, few striking differences between the two groups of girls can be found. The authors suggest that the rate of maturation may affect overt behavior and covert behavior in different--sometimes seemingly contradictory--ways. Also suggested is that the accelerated girl may gain assurance from knowing she is on the way toward the common goal of adolescents, that of becoming an adult. If toward the end of high school she feels she is making satisfactory progress without undue stress, her feeling of self-esteem and feeling of adequacy may be enhanced. This resulting improvement of self concepts may be reflected in the relative infrequency of negative characteristics on the TAT.

Approaching the study of physiological and accompanying changes in the adolescent in another manner are two studies by Stone and Barker (1939, 1937). Comparing 175 premenarcheal and 175 postmenarcheal girls of the same chronological age on socio-economic status, intelligence and personality test scores, they concluded that physical and emotional changes are much more evident with the onset of puberty than are the more specific mental abilities (1937). Postmenarcheal girls were more emotionally mature than premenarcheal girls. Their other investigation of the interests and attitudes of 1000 girls of two large junior high schools of Berkely, California, confirmed their earlier data in indicating that the interests of postmenarcheal girls are more similar to the interests of relatively older girls than are the interests of premenarcheal girls of the same chronological age. These girls were matched with respect to chronological age and social status, but differed in physiological development. They found no noticeable difference in the extent to which the two groups rebelled against or came in conflict with family authority; but their comparisons indicated a growing interest in adult activities, an increased independence, and an increased interest in the opposite sex, as a result of forces associated with menarche (1939).

Reporting findings similar to those of Stone and Barker (1937) concerning the effect of physiological maturation on the emotional maturity of girls, Davidson and Gottlieb (1965) concluded that the

post-menarcheal group was more mature and better developed in intellectual and emotional functioning than the less physically developed premenarcheal group. The post-menarcheal girls appeared to have an ability for a more mature awareness of interpersonal relationships. Apparently the more physically developed girls have a better self concept, which seems to be accompanied by a heightened sensitivity to their environment.

Another effect of developmental maturity is that of a girl's prestige among her classmates. Based on data gathered on 731 girls enrolled in the sixth, seventh, eighth, and ninth grades in a suburban community, Faust (1960) presents the following generalizations concerning the relationship between developmental maturity and prestige. When all the prestige-lending traits of a given grade were considered as a whole, it appeared that prestige surrounded those in the sixth grade who were developmentally "in phase", that is, prepuberal. However, during the three junior high school grades the most mature groups consistently were favored.

This data support Jones and Mussen's (1958) hypothesis that early and late development may mean different things at different times during adolescence. Accelerated development is somewhat detrimental to prestige status before the junior high school years, while it places a girl in a very favorable position throughout the junior high school years. Discontinuity between rates of change in evaluation of

prestige and rate of physical changes during adolescence means that, for girls, accelerated development is not the sustained asset through the adolescent period, that it is for boys. Although level of development is not the single factor in determining a girl's status in a group, it is an important part of a composite of factors creating a girl's reputation during adolescence (Faust, 1960).

Two studies linking girls' physiological maturation and disposition toward marriage age are reported. Moss and Gingles (1959) believe that their data point to two types of girls with an orientation toward early marriage. One type is early maturing and has a comparatively low aspiration level and expectation of marital happiness; the other is emotionally insecure and feels pushed toward marriage as an escape from an unhappy environment. However, Chilman (1966) reported that early- and late-marrying girls had about the same median age of physical maturation based upon recall of menarche. Perhaps, on the basis of these two studies, it could be concluded that a relationship between a girl's rate of maturation and orientation toward marriage does exist; however, a girl's self concept as determined by many factors may have more influence.

A confusing picture of the relationship between physiological maturation and the adolescent girls' self concept emerges from these studies. Although there is general agreement that physiological maturation and self concept are related, the confusion arises over early

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or late maturation as having the greater effect. Observational ratings would seem to indicate that the late-maturing girls would have the better self concept. However, when a projective technique was introduced, the early-maturers appeared to have the advantage. Also suggested was the opinion that the early-maturing girls, who may have been at a disadvantage when entering puberty, improve in self concept as they move through the adolescent period. Other reports emphasize the disadvantage associated with late maturation. One study, which seemed to get at the central issue of self report (O'Neill, 1962), found that the late-maturing girls were least satisfied with their self concepts. These studies used varying techniques and were made at different times during adolescence which also adds to the confusion.

In reviewing the preceding investigations, it would seem, as Smith and Lebo (1965) concluded, the self concept is an important and productive area of investigation in the studies of adolescent youth and that longitudinal investigations of the relationship between physical growth and personality development during pubescence might add valuable interpretative material to adolescent psychology. However, this area does not appear to be receiving much attention. Harms (1966), in writing on adolescence says that of three dozen books on teen-age psychopathology published in America in 1965, only in one was there any mention of the problem of sex maturation and the role of other physical changes in the total health and especially the mental health of adolescent youth.

III. DESIGN

In this study, data were collected from homemaking students in the high school where the investigator was one of the two homemaking teachers. The data included self-report of age at menarche, educational and occupational data for measurement of social class position, and measurement of self concept and ideal self concept. The instrument used to assign social class position was the Two Factor Index of Social Position (Hollingshead, 1957), while the Interpersonal Check List (Leary, 1957) was used as the self concept and ideal self concept measure.

Subjects

The subjects for this study were 96 girls enrolled in the four grade levels of homemaking taught in a four-year high school in a suburban city of 15,522 persons adjoining a major Oregon city of 389,509, whose metropolitan area encompassed a population of 929,200 (Portland State College. C. P. R. C., 1967a, 1967b; Metropolitan Portland. . ., 1967). The high school enrolled approximately 1300 students; slightly less than half of whom were girls. The student body is primarily drawn from this suburban city; but not all students of high school age residing in the city attend this particular school, as there are two other high schools of comparable size in the district which covers approximately 40 square miles. School authorities

describe the school population as coming predominately from the middle socio-economic strata. Subjects were given the option of participating or not participating, although the data were collected during a regular homemaking class, usually on the last day of the school year. Therefore, the final sample does not include a 100 percent sample of the total homemaking program enrollment. It is further limited by the classification of subjects into early-, average-, and late-maturing groups, and then using only the early- and late-maturing groups in the study. A detailed description of the subjects may be found in Chapter IV.

Instruments

Descriptive Data

Descriptive data of the subjects were necessary for a general description and classification into early- and late-maturing groups. Information was obtained on birth date, year in school, date of onset of menstruation, age in years and months at onset of menstruation, father's and mother's occupations, and father's and mother's education. Social position was determined by using Hollingshead's Two Factor Index of Social Position (1957). Hollingshead has assumed (1) that there is a class structure in society, (2) positions within the class structure are determined mainly by two characteristics, and (3) the characteristics symbolic of status may be scaled. The Two

Factor Index is based upon occupation and education. Each occupation and level of education is given a scale score and multiplied by the factor seven for occupation and four for education. These two products are then added to yield an Index of Social Position Score. Scores range from a low of 11 to a high of 77. The Index of Social Position Scores are grouped into social class positions following Hollingshead's suggestion for predicting the social class position of an individual or nuclear family.

<u>Social Class</u>	<u>Range of Computed Scores</u>
I Upper	11-17
II	18-27
III	28-43
IV	44-60
V Lower	61-77

(Hollingshead, 1957, p. 10)

Interpersonal Check List

The Interpersonal Check List (ICL) developed by Leary (1957) was used to measure perception of self and the ideal self or self "as I would like to be." This instrument is included as Appendix A. The check list consists of 128 items, all of which are reviewed by the subject; and, if considered appropriate to the particular rating he is making at the time, i. e., self or ideal self, are selected and marked. These 128 descriptive items are believed to measure 16 personality variables which are combined as pairs to yield eight diagnostic

variables, These pairs are indicated in Table I. The interpersonal behaviors of varying intensities are classified into these eight diagnostic variables or octants on the ICL.

Table I. Diagnostic Variables of the Leary Interpersonal Check List.

AP	Managerial-Autocratic	HI	Modest-Self-Effacing
BC	Competitive-Exploitive	JK	Docile-Dependent
DE	Blunt-Aggressive	LM	Cooperative-Over-Conventional
FG	Skeptical-Distrustful	NO	Responsible-Over-Generous

Scores on each diagnostic variable are summarized by two scores representing a dominance-submission dimension and a love-hate dimension. Scores are computed by adding the number of items checked in each octant and combining them according to formulae to obtain Dominance and Love scores. These continua are central to Leary's multilevel diagnosis of personality. The Love and Dominance scores can then be converted to standard scores and plotted on a circular grid as shown in Figure 1, which gives both a quantitative and qualitative picture of the results.

The interpersonal system measures various "levels" of personality according to the way in which the interpersonal scores are obtained by projective tests (TAT), the Minnesota Multiphasic Personality Inventory (MMPI), or the ICL (Leary, 1957). In the present study, Level II and Level V behavior were studied. Level II, measured by the ICL, refers to the subject's conscious description of

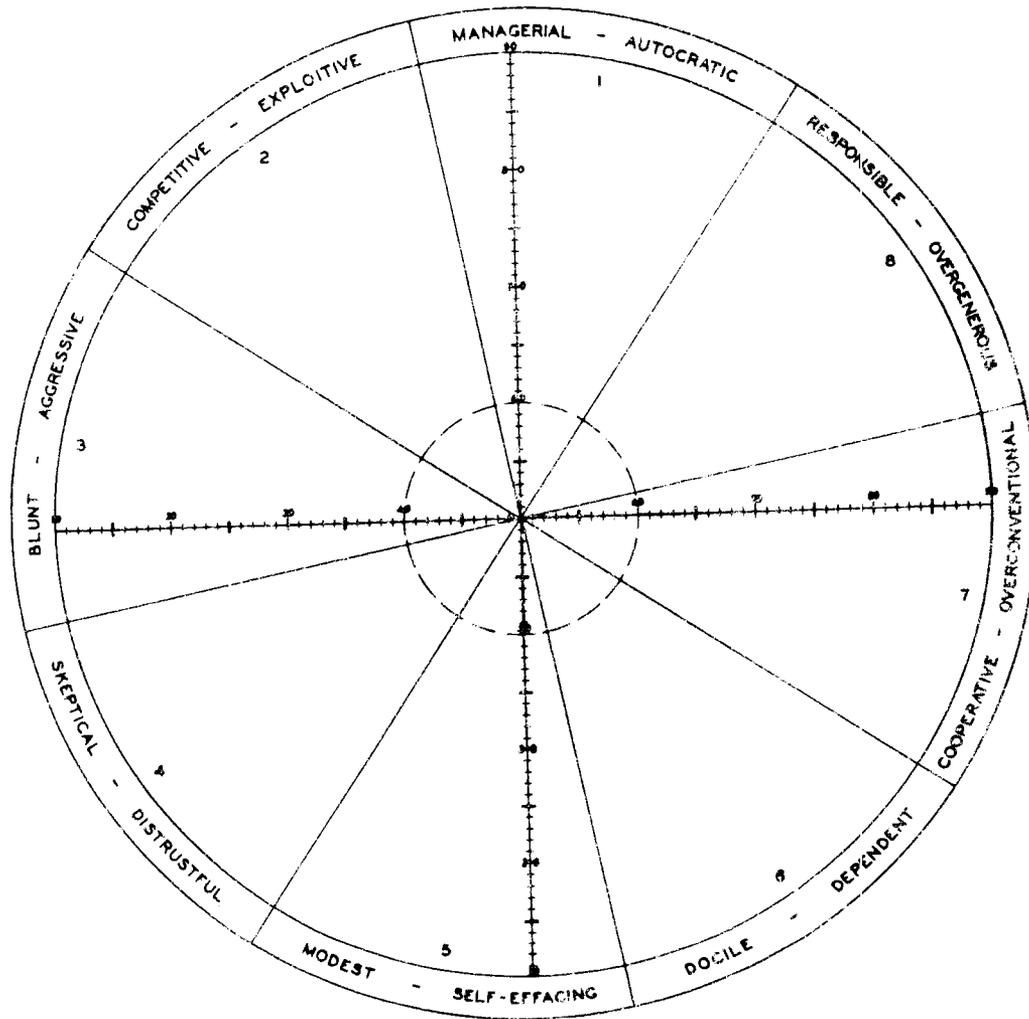


Figure 1. Leary Interpersonal Check List Diagnostic Grid.

himself and others and reflects how the subject chooses to present himself and his view of the world. Level V, also measured by the ICL, is the subject's conscious description of his ideal self and reflects how he wants to represent his ideals to others. Privately, he may have different goals and stress different feelings; that is, his private value system may be in contradiction to his openly reported principles. Leary suggests that perhaps the most important use of the Level V score is obtained by comparing it with other levels. An index of self-acceptance is obtained by the discrepancy between Level V ideal and Level II self. This was used in the present investigation.

Test-retest correlations from .73 to .78 have been found for the ICL (LaForge and Suczek, 1955). A reliability study by Armstrong (1958) indicated that the ICL, regardless of population and rating category, had high internal consistency.

The ICL, one of the more frequently used instruments to assess interpersonal behavior, especially the self concept, has the advantage over some other checklist procedures of rather careful delineation of the personality dimensions it purports to measure (Briar and Bieri, 1963). This advantage lies in the set of eight personality dimensions (octants) which reflect important aspects of personality functioning.

Procedure

Obtaining Cooperation of Subjects

The 155 students, from which the research sample of 96 subjects was drawn, came from 12 class-sections of homemaking--five sections of Homemaking I, three sections of Homemaking II, two sections of Homemaking III, and two sections of Homemaking IV. Permission to conduct the investigation in the homemaking classes was given by the high school principal.

The day before the ICL was to be administered, the plan of the study was explained to the students, and their cooperation was requested by each homemaking teacher in her respective classes. The subjects were also asked to bring a calculation of the month and year in which they began menstruating to the next class meeting. They were encouraged to discuss this with their mothers, especially if they were unsure of the time. Also, the girls were assured that they would be identified only by birth date and date of menarche. This was felt to be necessary as the investigator was one of the homemaking teachers. Also, adolescent girls are hesitant to reveal personal information and ratings of themselves to others. This concern was expressed by some of the girls and is also mentioned by Crow and Crow (1956) as a specific problem in attempts to study adolescents.

They caution:

The adolescents themselves may resent what to them appears to be a form of prying into their affairs. They are sensitive to possible adult criticism of their attitudes, beliefs, or behaviors. Adolescent secretiveness and lack of cooperation with adults whom they do not know well and in whom they do not have confidence often result in the inability of an investigator to obtain accurate or truthful responses from young people who are the subjects of an evaluative study (p. 43).

In addition, girls were assured that participation in the study was voluntary and in no way would affect their class grade, although the ICL would be administered during class time.

Obtaining Menstrual Data

Menstrual data were gathered by self report of the subjects who were asked to indicate as exactly as they or their mothers remembered the onset of the subjects' menstrual cycles. When this was not possible, they were asked to tie menarche to some event or important day; that is, birthday, Easter, beginning of school year, etc.; and if this could not be done, to indicate the month or season when menstruation began. This method was used by Stone and Barker (1939). Recognizing the possibility that some girls might not have begun menstruating, it was requested that those who had not as yet begun menstruating indicate this on their papers. However, there were none who did so.

Tanner (1962) considers the age at menarche as a landmark of development which women frequently recall accurately. Although

errors are introduced by depending upon memory, he considers them larger for older than younger women who are closer to the event. Since adolescent girls are not far removed from the advent of menarche, their recall should be fairly accurate.

Administration of the Instrument

The administration of the Interpersonal Check List took place during the regular homemaking class time. Although a period of 55 minutes was allowed for the checking, this was not needed by most subjects. The ICL was administered during the last week of the school year during June 1967, at the last meeting of the Homemaking IV classes and the next to the last meeting of the other classes.

The ICL was reproduced, since original copies were not available, and the authors have indicated that reproduction for research purposes is permissible. Information needed for description of the subjects was obtained by questions pertaining to parents' educational attainments and occupations; subject's birth date, year in school, date of onset of menstruation, and age in years and months at onset of menstruation. These appeared on the cover page of the ICL.

The directions for checking the ICL, appearing on the cover page, were read orally to each class by the administrator, and time was allowed for questions. In accordance with the directions of the ICL, the subjects were instructed to mark those items which they

considered descriptive of themselves at that time (their self concept) in the first column, reading over all 128 items. Then, in the last column they were to follow the same procedure, but this time to mark the items they considered descriptive of their ideal self (that which they would like to be). However, some unforeseen problems arose during the administration of the ICL, which should be noted. These are included as Appendix B.

IV. SUBJECTS

The girls enrolled in the homemaking classes of a high school located in the suburbs of a major Oregon city were the subjects in this study. These were selected because they represented the four years of high school and were accessible to the investigator who was one of the homemaking teachers in the school. Cooperation was on a voluntary basis.

Although the homemaking department had an enrollment of 247 students, all Caucasian, when the study took place, the final sample of 155 did not include a 100 percent sample of the total enrollment. There were 224 who volunteered for the study, while 23 did not participate. The difference between the number enrolled in the classes and the number who volunteered was affected both by absenteeism on the day of administration and desire not to participate. Of the 224 who participated, 84 were ninth graders, 68 were tenth graders, 46 were eleventh graders, and 30 were twelfth graders. Sixty-nine of these were eliminated from the sample because of inadequate data. Subjects were eliminated from the sample when the date of menarche or age of menarche in years and months was not given; when date of menarche was given but birth date or age at menarche in years and months was not given; when both self and ideal self were not checked on the check list; and when it appeared that the subject had not

completed the check list on the second page. Discussion of possible reasons for unusable check lists appears in Appendix C.

Of the original sample, 56 ninth-grade, 37 tenth-grade, 36 eleventh-grade, and 26 twelfth-grade girls completed the check list and furnished sufficient descriptive data so that they could be included. This was a total of 155 subjects or 69.2 percent of the original sample that was used for final analysis of data. This is reported in Table II.

Table II. The Number of Girls Enrolled in Homemaking Classes, Number Volunteering to Participate in the Study, and the Number of Girls Included in the Final Sample.

Year in school	Registered in class		Volunteering for study		Eliminated from study		Included in final sample	
	N		N	%	N	%	N	%
9	100		84	84	28	33.3	56	66.7
10	65		64	97	27	42.2	37	57.8
11	50		46	92	10	21.74	36	78.26
12	32		30	94	4	13.34	26	86.66
Total	247		224	90.7	69	30.8	155	69.2

The subjects were further compared as to chronological age at onset of menstruation and chronological age when the data were collected. Although the chronological age range at menarche was from 10 years and 3 months to 15 years and 4 months for the total sample, this represents an average of 12 years and 9 months at menarche. It is interesting that there was no more than an 8-year and 3-month spread between the youngest chronological age at menarche and the

oldest age when data were collected which was found at the twelfth-grade level. Therefore, girls were relatively close to the advent of menarche. Menarche occurred over an interval of 4 years and 3 months at the ninth and twelfth grades to 4 years and 9 months in the eleventh grade, while the tenth graders ranged over a period of 4 years and 6 months. This represented a total range of from 10 years and 3 months to 15 years and 4 months for the research sample which was spread over a period of 5 years and 1 month. The average chronological age at menarche for the total sample was 12 years and 9 months which is the same for the ninth and twelfth grade samples. Tenth graders averaged one month less and eleventh graders averaged one month more than the other two grades for average age at menarche. Interestingly, the 155 girls ranged in age from 14 years and 6 months to 18 years and 6 months which is exactly a 4-year spread for the four grade levels. The age ranges at menarche and when the data were collected, as well as the average age at menarche for each grade level and the total sample are reported in Table III.

Table III. Comparison by High School Grade Levels of Chronological Age Range and Average Age at Menarche with Chronological Age When Data Collected. *

Year in school	Sample N	Chronological age range at menarche	Average chronological age at menarche	Chronological age range June 2, 1967
9	56	10-9 to 15-0	12-9	14-6 to 15-7
10	37	10-8 to 14-8	12-8	15-6 $\frac{1}{2}$ to 16-10 $\frac{1}{2}$
11	36	10-7 to 15-4	12-10	16-7 to 18-2
12	26	10-3 to 14-6	12-9	17-5 to 18-6
Total	155	10-3 to 15-4	12-9	14-6 to 18-6

*Chronological age expressed in years and months

For the purposes of this study, it was necessary to divide further the sample by grade levels into early- and late-maturers. In order to do this, it was necessary to establish the average age at which girls in the United States begin menstruating; then to determine what could be considered early and what late maturation. Tanner (1962), after reviewing many studies, concluded that the average age of menarche for American white girls from 1940 to 1955 was between 12.5 and 13.0 years, depending upon socio-economic class and geographical location. This data was principally obtained from longitudinal data. Deming (1957) reports a mean age of 151.6 months (not quite 12 years and 8 months) for his longitudinal study of 24 girls. Also, Nicolson and Hanley (1953) reported an average age at menarche of 12.8 years, or 12 years and $9\frac{1}{2}$ months, for the 91 girls in their sample which they concluded was representative of the total population as reported by other investigators.

On the basis of these three reports, the average age of menarche for white girls in the United States was set as 12.75 years, or 12 years and 9 months. The sample for the present study was considered normal in that the average age for the total group was 12.75, or 12 years and 9 months. The ninth- and twelfth-grade samples' averages of 12 years and 9 months correspond with the national average, while the tenth- and eleventh-grade samples were a month younger and a month older, respectively, than the national average.

Comparisons by each grade level with the national average are shown in Table IV.

Table IV. Comparison of Average Age at Menarche for Research Sample with United States Average Age at Menarche.*

Year in school	Number in sample	Sample average age at menarche	United States average age at menarche**
9	56	12 - 9	12 - 9
10	37	12 - 8	12 - 9
11	36	12 - 10	12 - 9
12	26	12 - 9	12 - 9
Total	155	12 - 9	12 - 9

*Average age expressed in years and months

**Mid-point of average range of 12.5 to 13.0 years as reported by Tanner (1962)

Having established 12 years and 9 months as the average age of menarche in the United States, the sample needed to be further differentiated into early- and late-maturing groups for the purposes of analysis and comparison. The national average of 12 years and 9 months was used for all groups, even though their own average might differ. This was done as it was felt a constant criterion for early and late maturation was essential in order to compare groups at various grade levels. Following Shuttleworth's (1937) example, six months on each side of the average age at menarche was set aside as average maturation. That is, all subjects between 12 years and 4 months and 13 years and 3 months were excluded as being average-maturers. Those preceding, but not including, 12 years and 4 months were

considered early-maturers, while those following, but not including, 13 years and 3 months were classified as late-maturers.

This resulted in the following numbers remaining after the classification: 34 (61%) of the ninth graders; 18 (49%) of the tenth graders; 24 (77%) of the eleventh graders; and 20 (77%) of the twelfth graders; and 96 (62%) of the total sample. Of the ninth-grade sample, 18 were classified as early-maturing while 16 were classified as late-maturing. In the tenth-grade sample, 8 were considered early-maturing and 10 were late-maturing. Twelve early-maturers and 12 late-maturers were found in the eleventh grade, while 10 early- and 10 late-maturers were in the twelfth grade. For the sample combining all years, 48 early- and 48 late-maturing subjects were found. The results of classification of the subjects into early- and late-maturing groups is presented in Table V.

Table V. Comparison by Number and Percent of the Research Sample, Classified Sample, and Early- and Late-Maturing Samples.

Year in School	Total Sample	Sample after Classification		Early-maturers		Late-maturers	
		N	%	N	%	N	%
9	56	34	61	18	32	16	29
10	37	18	49	8	22	10	27
11	36	24	67	12	33	12	33
12	26	20	77	10	38.5	10	38.5
Total	155	96	62	48	31	48	31

Interestingly, an even distribution of the classified samples was

found at the eleventh and twelfth grades and the total sample, where 50 percent of the classified fell into early-maturing and 50 percent were late-maturing. Of the classified sample at the ninth-grade level, 53 percent were early- and 47 percent were late-maturing; whereas, in the tenth grade, 44 percent were early-maturing and 56 percent were late-maturing. Table VI shows this comparison.

Table VI. Comparison of the Early- and Late-Maturing Samples to the Total Classified Sample.

Year in School	Sample after Classification N	Early-Maturers		Late-Maturers	
		N	%	N	%
9	34	18	53	16	47
10	18	8	44	10	56
11	24	12	50	12	50
12	20	10	50	10	50
Total	96	48	50	48	50

The socio-economic description of the subjects was obtained from the occupational and educational information concerning the subjects' parents. This information concerned the head of the household and usually was that of the father. However, if he were not in the home, the mother's occupation and education were used.

A summary of the occupations of the parents based on Hollingshead's scale (1957) is given in Table VII. Parents of early-maturing girls were placed in the following occupational categories: higher executives, proprietors of large concerns, and major

professionals--2; business managers, proprietors of medium-sized businesses, and lesser professionals--7; administrative personnel, small independent businesses, and minor professionals--10; clerical and sales workers, technicians, and owners of little businesses--6; skilled manual employees--14; machine operators and semi-skilled employees--6; unskilled employees--2; and unclassified for lack of information--1.

Table VII. Description of Early- and Late-Maturing Girls by Occupation of Head of House.

Occupational Scale	Early N	Late N
1. Higher executives, proprietors of large concerns, and major professionals	2	3
2. Business managers, proprietors of medium-sized businesses, and lesser professionals	7	4
3. Administrative personnel, small independent businesses, and minor professionals	10	9
4. Clerical and sales workers, technicians, and owners of little businesses	6	12
5. Skilled manual employees	14	10
6. Machine operators and semi-skilled employees	6	7
7. Unskilled employees	2	2
Unclassified for lack of information	1	1
Total	48	48

Late-maturing girls' parents were in the following occupational groups: higher executives, proprietors of large concerns, and major professionals--3; business managers, proprietors of medium-sized businesses, and lesser professionals--4; administrative personnel, small independent businesses and minor professionals--9; clerical

and sales workers, technicians, and owners of little businesses--12; skilled manual employees--10; machine operators and semi-skilled employees--7; unskilled employees--2; and unclassified for lack of information--1.

A summary of the parents' educational attainment based on Hollingshead's scale (1957) appears in Table VIII. Parents of early-maturing girls attained the following educational levels: graduate professional training--3; standard college or university graduation--6; partial college training--7; high school graduation--18; partial high school--6; junior high school--5; less than seven years of school--1; unclassified for lack of information--2.

Table VIII. Description of Early- and Late-Maturing Girls by Education of Head of House.

Educational Scale	Early N	Late N
1. Graduate professional training	3	3
2. Standard college or university graduation	6	5
3. Partial college training	7	4
4. High school graduates	18	20
5. Partial high school	6	4
6. Junior high school	5	5
7. Less than seven years of school	1	1
Unclassified for lack of information	2	6
Total	48	48

Educational attainment of late-maturing girls' parents was as follows: graduate professional training--3; standard college or university graduation--5; partial college training--4; high school

graduates--20; partial high school--4; junior high school--5; less than seven years of school--1; unclassified for lack of information--6.

The occupational and educational scale scores were combined following Hollingshead's (1957) instructions for the Two Factor Index of Social Position. The resulting Index of Social Position Scores were then grouped according to instructions into the following social classes: I, upper; II, upper-middle; III, lower-middle; IV, upper-lower; and V, lower-lower. When either occupation or education was not indicated by the subject, the position was indicated as unclassified.

The social class positions for early-maturing girls at each grade level are indicated in Table IX. Ninth-grade girls were distributed as follows: upper, 11.1 percent; upper-middle, 16.7 percent; lower-middle, 27.8 percent; upper-lower, 38.9 percent; unclassified, 5.5 percent. Tenth graders were distributed evenly among four categories. Upper-middle, lower-middle, upper-lower and unclassified each had 25 percent. Placement in the eleventh grade was: lower-middle, 8.3 percent; upper-lower, 66.7 percent; and lower-lower, 25 percent. Twelfth graders placed in the following manner: lower-middle, 20 percent; upper-lower, 60 percent; and lower-lower, 20 percent.

Distribution of the late-maturing girls by social class position at each grade level is shown in Table X. Ninth graders were distributed as follows: upper-middle, 18.75 percent; lower-middle, 25

Table IX. Distribution of the Early-Maturing Girls by Social Class Position.

Social Position	Year in School							
	Ninth		Tenth		Eleventh		Twelfth	
	N	%	N	%	N	%	N	%
I	2	11.1	0	0	0	0	0	0
II	3	16.7	2	25	0	0	0	0
III	5	27.8	2	25	1	8.3	2	20
IV	7	38.9	2	25	8	66.7	6	60
V	0	0	0	0	3	25	2	20
UC*	1	5.5	2	25	0	0	0	0
Total	18	100	8	100	12	100	10	100

*Unclassified

Table X. Distribution of the Late-Maturing Girls by Social Class Position.

Social Position	Year in School							
	Ninth		Tenth		Eleventh		Twelfth	
	N	%	N	%	N	%	N	%
I	0	0	1	10	0	0	0	0
II	3	18.75	2	20	0	0	0	0
III	4	25	2	20	4	33.3	3	30
IV	4	25	3	30	6	50	7	70
V	1	6.25	1	10	0	0	0	0
UC*	4	25	1	10	2	16.7	0	0
Total	16	100	10	100	12	100	10	100

*Unclassified

percent; upper-lower, 25 percent; lower-lower, 6.25 percent; and unclassified, 25 percent. Placement by tenth graders was: upper, 10 percent; upper-middle, 20 percent; lower-middle, 20 percent; upper-lower, 30 percent; lower-lower, 10 percent; and unclassified, 10 percent. Eleventh graders were distributed as: lower-middle, 33.3 percent; upper-lower, 50 percent; and unclassified, 16.7 percent. Twelfth graders placed in lower-middle, 30 percent and upper-lower, 70 percent.

V. RESULTS

The data for this study came from the Interpersonal Check List (ICL) which provided two sets of responses for each subject. The first time the subjects responded in light of their own self concepts; the second time they responded to the instrument as they desired themselves to be--their ideal self concepts.

The subjects in the study were high school girls enrolled in the four levels of homemaking classes of a suburban metropolitan area high school during June, 1967. There were a total of 96 subjects; 34 ninth graders, 18 tenth graders, 24 eleventh graders, and 20 twelfth graders.

The hypotheses tested dealt with comparisons of the reported self concept and reported ideal self concept of early- and late-maturing girls at each of the four high school grade levels.

In testing hypotheses, scores at each grade level of each maturational group, i. e., early-maturing and late-maturing, were compared rather than the scores of individuals as such.

Hypothesis I: There is no difference in the self concept report of early- and late-maturing adolescent girls.

The standard scores on the love (LOV) and dominance (DOM) dimensions of the ICL were computed from raw scores according to conversion tables accompanying the ICL. These scores for early- and late-maturing girls were then combined and ranked for dominance

and then for love, according to instructions for the use of the Mann-Whitney U test (Siegel, 1956). The values of U were then established according to Siegel's directions. Since the direction of difference was not stated, a two-tailed test for level of significance was used. The results of this test are reported in Table XI.

Table XI. Comparison of the Self Concept Reports of Early- and Late-Maturing Adolescent Girls. *

Year in School	LOV		U-Score	DOM		U-Score
	Median Score			Median Score		
	Early	Late		Early	Late	
9	53 (N=18)	51 (N=16)	130	53 (N=18)	50 (N=16)	97
10	61.5 (N= 8)	56.5 (N=10)	31	55 (N= 8)	57 (N=10)	25
11	53.5 (N=12)	54.5 (N=12)	56	50 (N=12)	48.5 (N=12)	68
12	57 (N=10)	53.5 (N=10)	41	52 (N=10)	51.5 (N=10)	47

*No scores were significant.

The null hypothesis that there is no difference between the self concept ratings of early- and late-maturing girls was accepted since no value of U was at a significant level on either the dominance or love dimension at any of the four grade levels. This says, then, that the early- and late-maturers at each grade level describe themselves essentially the same. This similarity in self concept descriptions of the early- and late-maturing girls at each grade level may be seen visually by referring to Figures 2, 3, 4, and 5.

Hypothesis II: There is no difference in the ideal self concept report of early- and late-maturing adolescent girls.

Following the same procedure as described for the first hypothesis, the values of U were established. These are found in Table XII. The null hypothesis that there is no difference in the ideal self concept ratings of early- and late-maturing girls was accepted for all grade levels on both the love and dominance dimensions, except in two instances--the ninth-grade ideal self concept on the love dimension and the eleventh-grade ideal self concept on the dominance dimension. Rejection of the null hypothesis at the five percent level of significance for the ninth-grade girls on the love dimension results from higher love scores for the late-maturing girls. This signifies that when late-maturers were given the opportunity to express how they would like to present themselves, they indicated that they would like to be more submissive and dependent.

Table XII. Comparison of the Ideal Self Concept Reports of Early- and Late-Maturing Adolescent Girls.

Year in School	LOV		<u>U</u> -Score	DOM		<u>U</u> -Score
	Median Score Early	Late		Median Score Early	Late	
9	52 (N=18)	60 (N=16)	86**	46 (N=18)	40.5 (N=16)	111
10	69 (N= 8)	59 (N=10)	28	40.5 (N= 8)	43.5 (N=10)	32
11	51.5 (N=12)	50.5 (N=12)	60	55.5 (N=12)	33 (N=12)	39*
12	50.5 (N=10)	57 (N=10)	32	42.5 (N=10)	41.5 (N=10)	47

*Significant at 10% level.

**Significant at 5% level.

At the eleventh-grade level on the dominance dimension of the ideal self descriptions, the null hypothesis concerning no difference was rejected at the ten percent level. Although this is usually not considered very significant, it is reported here as Siegel (1956) includes this level in determining levels of significance for the Mann-Whitney U test. This indicates that the eleventh-grade girls of the two maturational groups do not describe their ideal selves in the same manner on the dominance dimension. Rather, as examination of the median scores indicates, the early-maturing girls express a desire to be more dominant than do the late-maturers. This is reflected in Figure 4 which shows that the majority of the early-maturing girls placed in the upper (dominant) half of the grid; whereas, the late-maturing girls represented their ideal self concept in the lower (loving) half.

Hypothesis III: For the early-maturing adolescent girls, there is no difference between their reported self concept and ideal self concept.

The Wilcoxon matched-pairs signed-ranks test (Siegel, 1956) was applied to the standard scores of the early-maturing girls' reported self concepts and ideal self concepts. As was mentioned earlier, each of the four grade levels was examined separately.

In comparing the standard scores of self concept and ideal self concept ratings, eight tests were made; the results of which are presented in Table XIII. On the love versus hate continuum, no

discrepancy among early-maturing girls proved significant, thus indicating satisfaction with themselves. Therefore the null hypothesis regarding no difference between self and ideal self reports for early-maturing girls was accepted for the love dimension.

Table XIII. Wilcoxon T Scores for the Comparison of Differences in the Self Concept and Ideal Self Concept Ratings for Early-Maturing Adolescent Girls.

Year in School	LOV	DOM
9	66.5 (N=18)	37* (N=18)
10	4.5 (N= 8)	7 (N= 8)
11	33.5 (N=11)	33.5 (N=12)
12	12 (N=10)	3** (N=10)

*Significant at 5% level.

**Significant at 1% level.

However, the null hypothesis was accepted in only two instances and rejected in two instances on the dominance versus submission continuum for the early-maturers. At the tenth and eleventh grades, differences did not reach a significant level. Interestingly, differences on the dominance dimension were significant for both the ninth and twelfth graders. For ninth-grade girls this discrepancy was significant at the five percent level, while it was significant at the one percent level for the twelfth-grade early-maturing girls. Both of these reflected a decrease in their dominance scores from self to

ideal self. Examination of Figures 2 and 5 shows that the scores for the ideal self concept move lower on the vertical axis into the lower half of the grid. Describing this shift in Leary's terms, they are moving from a power-oriented self concept to a passive, submissive orientation for their ideal.

In review, of the eight tests for significant differences among early-maturing girls' self and ideal self, only two proved significant. These were on the dominance dimension at the ninth- and twelfth-grade levels.

Hypothesis IV: For the late-maturing adolescent girls, there is no difference between their reported self concept and ideal self concept.

Of the eight Wilcoxon matched-pairs signed-ranks tests (Siegel, 1956) involving the hypothesis, for the late-maturing girls, there is no difference between their reported self concept and ideal self concept, five were at a significant level and allowed rejection of the null hypothesis. Three were not significant. Again, the reader is reminded that a test of the hypothesis was made at each of the four high school grade levels on both the love and the dominance dimensions for the late-maturing group. Table XIV summarizes these results.

Table XIV. Wilcoxon T Scores for the Comparison of Differences in the Self Concept and Ideal Self Concept Ratings for Late-Maturing Adolescent Girls.

Year in School	LOV	DOM
9	27.5* (N=16)	19.5** (N=16)
10	9.5 (N= 9)	0** (N=10)
11	20.5 (N=11)	12* (N=12)
12	35 (N=10)	0** (N= 9)

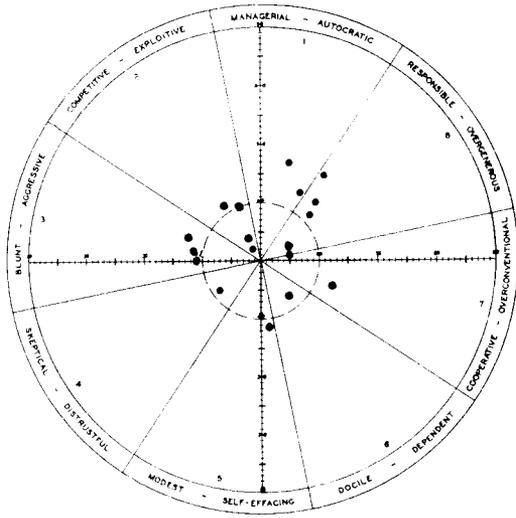
*Significant at 5% level.

**Significant at 1% level.

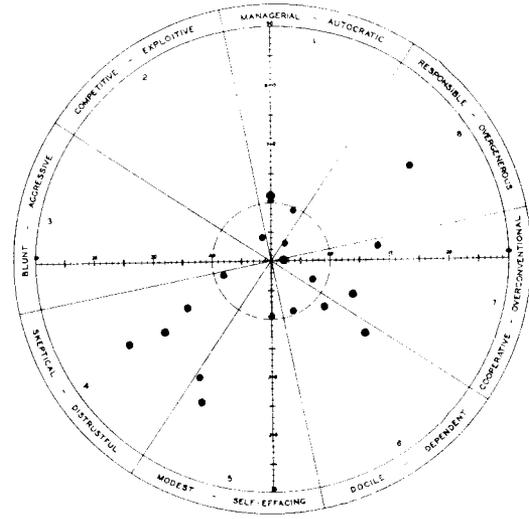
On the love continuum the null hypothesis of no difference was accepted at all grade levels, except one. This was for late-maturing girls in the ninth grade and occurred at the five percent level of significance, reflecting their increase in intensity of love scores for the ideal self concept rating. This increase also is reflected in the movement on the ICL grid, Figure 2, which shows movement from placement in all quadrants for the self concept to a concentration in the lower right (loving, submissive) quadrant for the ideal self concept. In general terms, Leary would describe the shift on love scores in this direction as indicating a rejection of the hostile personality and acceptance of the over-conventional, naive and sweet ideal.

The greatest concentration of significant differences was found on the dominance continuum, where the null hypothesis of no difference

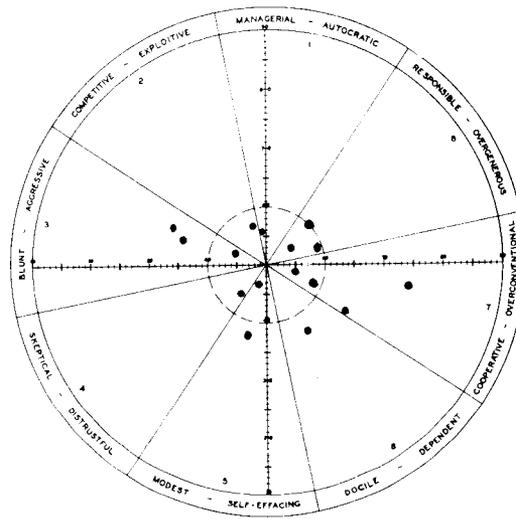
between self concept and ideal self concept reports for the late-maturers was rejected at all grade levels. Significant differences between the self concept and ideal self concept scores occurred at the one percent level for the ninth-, tenth-, and twelfth-grade late-maturing girls; whereas the eleventh-grade late-maturers showed a decrease in dominance significant at the five percent level. These differences reflect a decrease in intensity of dominance scores for the ideal self concept as compared with the self concept rating for all late-maturing girls which places them closer to the submissive end of the dominance-submission, or vertical, axis of the ICL. This change of dominance scores between self concept and ideal self concept is reflected in Figures 2, 3, 4, and 5, which show a move from the upper half of the diagnostic grid to the lower half. As will be recalled, Leary describes this as moving from a power-oriented self concept to a passive, submissive orientation for the ideal.



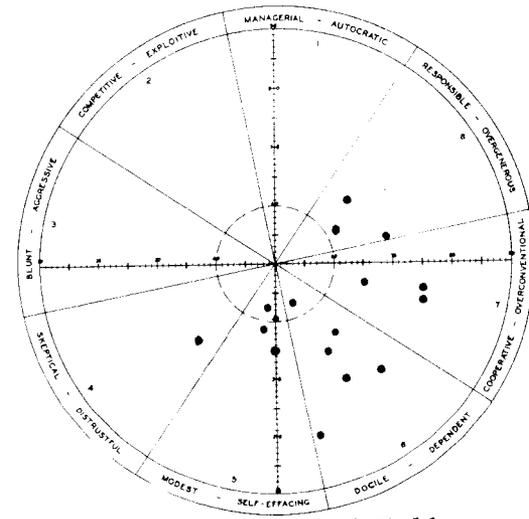
Early Self



Early Ideal Self

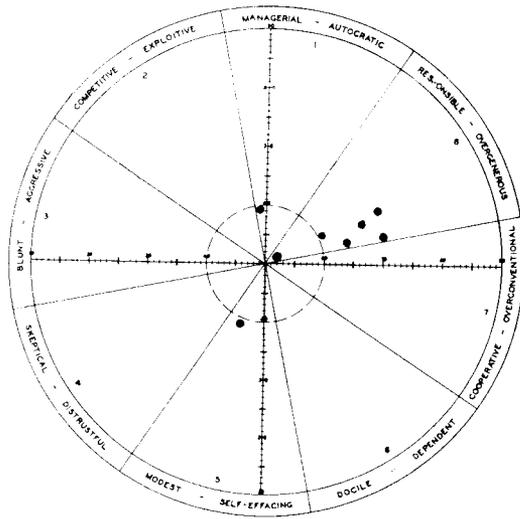


Late Self

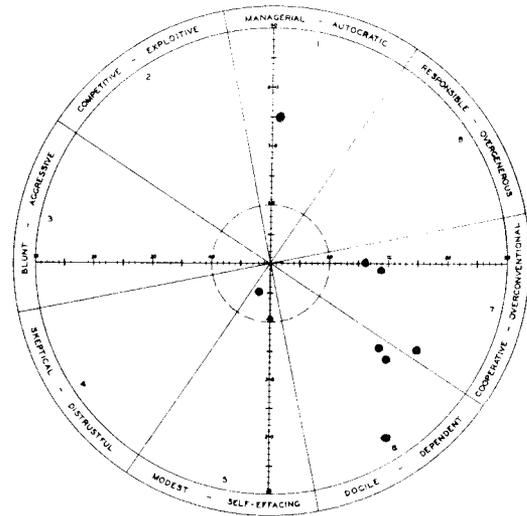


Late Ideal Self

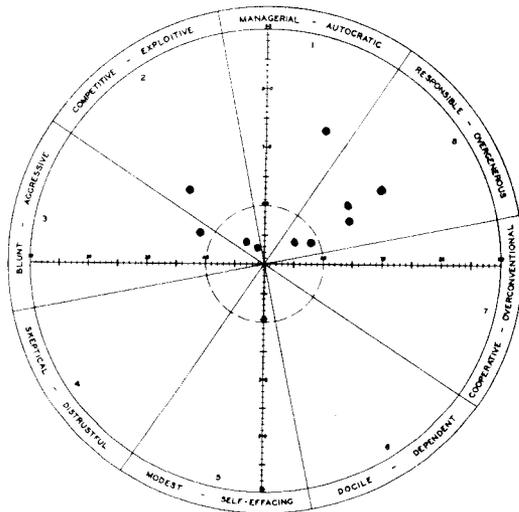
Figure 2. Self Concept and Ideal Self Concept Placements on the Leary Interpersonal Diagnostic Grid of Girls at the Ninth-Grade Level.



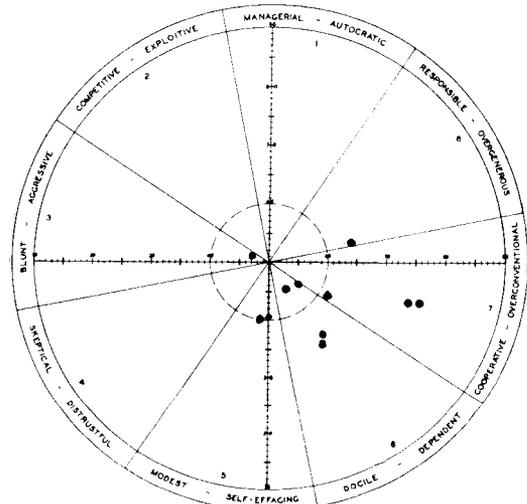
Early Self



Early Ideal Self

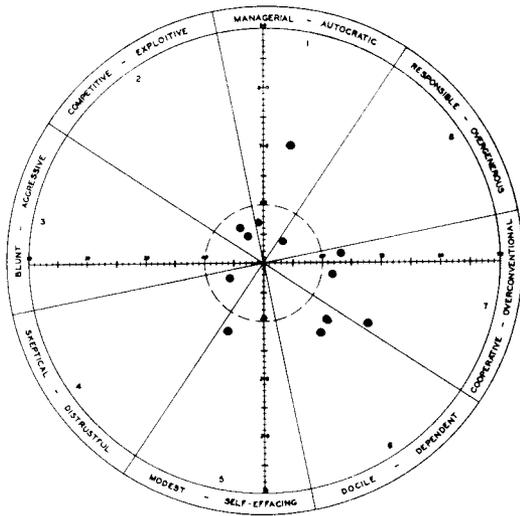


Late Self

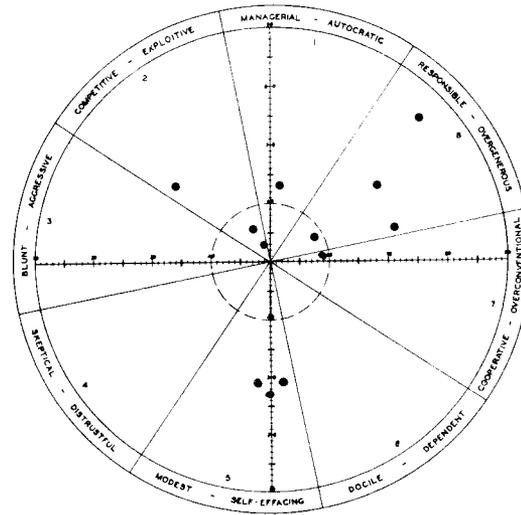


Late Ideal Self

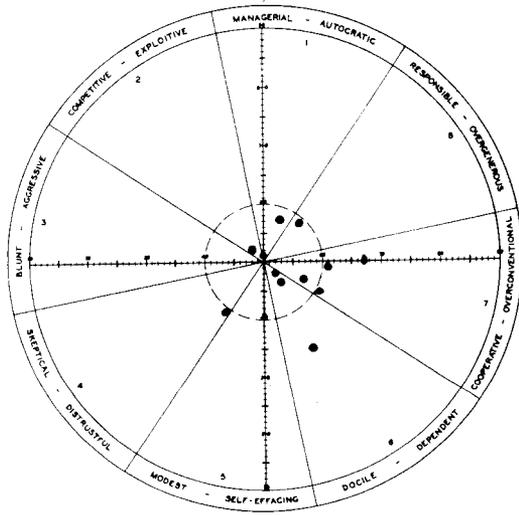
Figure 3. Self Concept and Ideal Self Concept Placements on the Leary Interpersonal Diagnostic Grid of Girls at the Tenth-Grade Level.



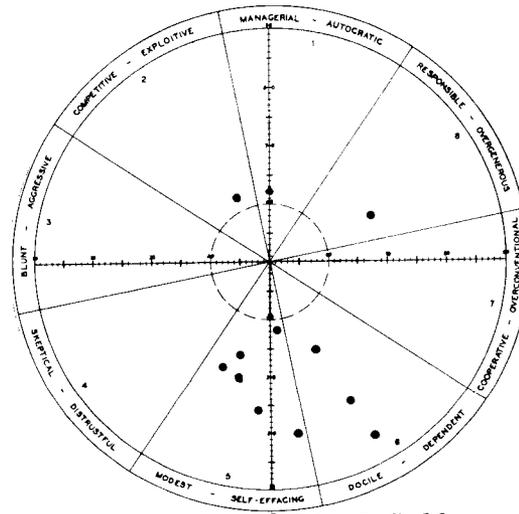
Early Self



Early Ideal Self

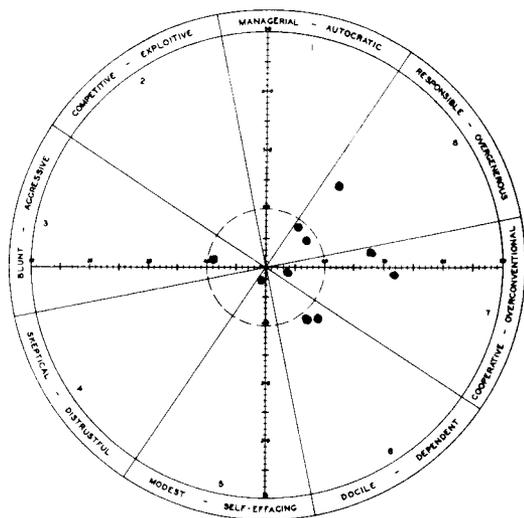


Late Self

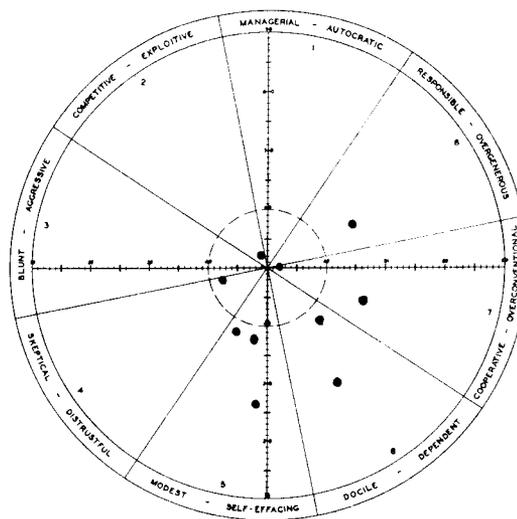


Late Ideal Self

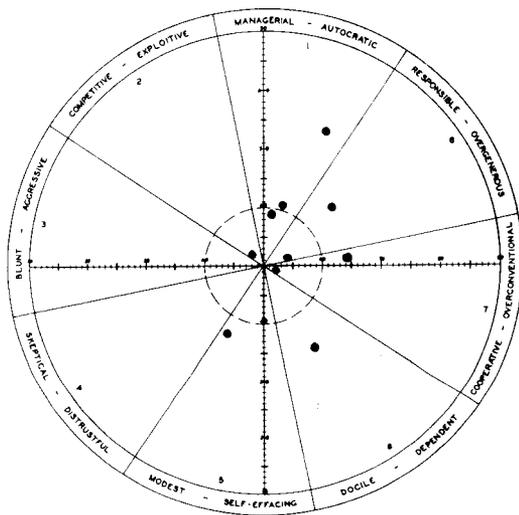
Figure 4. Self Concept and Ideal Self Concept Placements on the Leary Interpersonal Diagnostic Grid of Girls at the Eleventh-Grade Level.



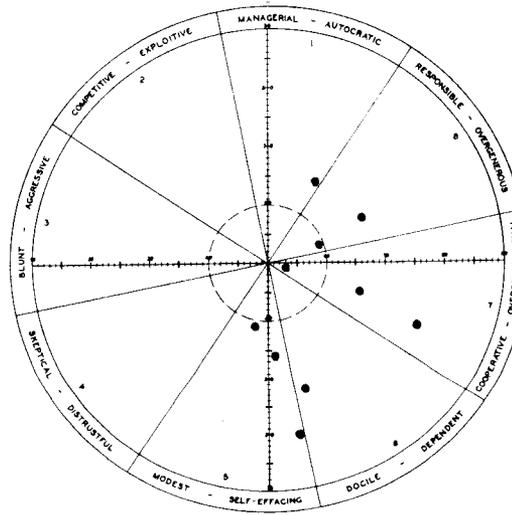
Early Self



Early Ideal Self



Late Self



Late Ideal Self

Figure 5. Self Concept and Ideal Self Concept Placements on the Leary Interpersonal Diagnostic Grid of Girls at the Twelfth-Grade Level.

VI. DISCUSSION AND CONCLUSIONS

Discussion

The main interest of this study was to examine the self concept and ideal self concept of adolescent girls at each of the four high school grade levels within the context of physiological maturation, thus extending O'Neill's (1962) study to include girls at each level of high school. Although he could not support his findings statistically, he graphically showed wide differences between self and ideal self ratings for ninth-grade late-maturing girls.

Subjects of the present study were 48 early-maturing and 48 late-maturing girls representing the four levels of high school. These included: 18 early- and 16 late-maturing ninth graders; 8 early- and 10 late-maturing tenth graders; 12 early- and 12 late-maturing eleventh graders; and 10 early- and 10 late-maturing twelfth graders. In analysis of the data, each grade level was treated separately to allow analysis of differences which might occur at varying times in adolescent development.

It is interesting to note that no significant differences were found for any of the four grade levels on either the dominance or love dimensions on tests of hypothesis one, stating no difference in the self concept ratings of early- and late-maturing adolescent girls. In other words, the early- and late-maturing girls as a group at each

grade level described themselves with the same degree of love and dominance. This is surprising, as reports by Davidson and Gottlieb (1965) and Jones and Mussen (1958) would seem to indicate that the more physically mature girl would possess a better self concept than the late-maturing girl. However, this might be explained on the basis of increased maturity of the late-maturers, since Engel (1952) has demonstrated that self concept improves through the adolescent period. Perhaps the influence of rapid changes associated with menarche has been mediated by increasing maturity as the late-maturers moved farther away from the onset of menarche.

Only one difference was significant on the tests of hypothesis two, dealing with no differences in the ideal self concept ratings of early- and late-maturing adolescent girls. This was at the ninth-grade level on the love continuum. Examination of the standard scores showed that although the ninth-grade girls did not describe their ideal as significantly different from that of the early-maturing girls on the dominance dimension, they expressed their ideal self as higher on the love dimension--more agreeable and friendly.

The question remains as to why the ninth-grade late-maturers should describe their ideal self on the love dimension as significantly different from that of the early-maturers, when they seem to agree on self-description and description of the ideal self on the dominance dimension. Maybe the clue lies in Liccione's (1955) suggestion that

at around 15, a girl is more in conflict with her mother. Conceivably this state of conflict is greater for the late-maturers who have only recently moved into the more adult female world through advent of menarche. Possibly they are more sensitive and unhappy with the lack of love they feel toward others or from others to them, and this results in a desire to be more loving in order to attract others. Furthermore, this might be related to the need of the adolescent to identify with the like-sex parent in order to assume successfully the social role attributed to adults of his sex. Several authors have stressed this need. With this one exception then, the early- and late-maturers described their ideal self in the same manner on both love and dominance dimensions.

Two significant differences were found on tests of hypothesis three--for early-maturing girls, there is no difference between their reported self concept and ideal self concept. These were at the ninth and twelfth grades on the dominance dimension.

Reaching a significant level were five of the eight tests of hypothesis four--for late-maturing girls, there is no difference between their reported self concept and ideal self concept. These were for the ninth grade on the love dimension and for each of the four grade levels on the dominance dimension.

Briefly, the results of testing hypotheses three and four showed that there were more significant discrepancies in late- than early-

maturing groups (five as compared to two); there were more discrepancies at the ninth grade (three), followed by the twelfth grade (two), with the tenth and eleventh grades exhibiting the fewest (one each); there were considerably more significant discrepancies in dominance than in love for both early- and late-maturing groups (six as opposed to one).

The question to be answered concerns what is indicated by these findings. Could it be, as Jones and Mussen (1958) and Engel (1959) suggest, that the self concept improves as individuals progress through adolescence? This would seem to be the case in this study, except that the twelfth-grade girls show almost as much dissatisfaction with themselves as do the ninth graders. Perhaps these girls, who were on the brink of graduating from high school and launching themselves into the adult world, may have been involved in some serious introspective self-analysis which resulted in less self-acceptance. As to why the ninth graders exhibit the most dissatisfaction with themselves, a possible explanation might be that they have just completed a year of transition from the eighth grade to the ninth grade in a four-year high school. Faced with new experiences, they also may have felt the need to look more deeply at who they are and to think about what they would like to be.

The findings that there were more discrepancies between late-maturers than early-maturers coincides with O'Neill's data. This

also lends support to the TAT data of Jones and Mussen's (1958) study and Faust's (1960) study which indicated that the early-maturing girl may be better adjusted than the late-maturing girl. Conceivably the early-maturing girl has a more realistic picture of her self and of her capabilities, which More (1953) seems to imply when she says that they are able to develop more nearly mature feelings and attitudes, and by engaging earlier in more nearly mature forms of social behavior, are better able to reinforce these attitudes. Conversely then, this indicates that these late-maturers are not at all satisfied with the self concept that they now have. Perhaps they are being unrealistic in terms of their aspirations, or possibly their immaturity has caused them to misinterpret the social and emotional forces at work around them.

Carl Rogers and his associates hold that a discrepancy between the self concept and the concept of the desired or valued self reflects a sense of self-dissatisfaction (Rogers and Dymond, 1954). They say that self-ideal self discrepancies in an individual are a product or outcome of experience which indicates to him that his self-organization is unsatisfactory. Low correlation between self and ideal are based on a low level of self-esteem related to a relatively low adjustment level, they conclude. They go on to say that the discrepancy between the placement of a given characteristic on the self scale would yield an indication of self-esteem. It would indicate operationally not only the

way in which the individual perceives himself as possessing the given characteristic, but also the degree to which he values this state. The discrepancies between self and ideal self would yield an index of self-esteem or self-value. Leary (1957) agrees that a low discrepancy between self and ideal self is indicative of self-acceptance; whereas a high discrepancy indicates self-rejection.

Since the early-maturing girls in this study exhibited more self-ideal self congruency than did the late-maturing girls, it would seem that they have a higher level of self-esteem. As a group, at each grade level except the twelfth grade, these early-maturers were more self-accepting than were the late-maturing girls. At the twelfth grade level, both early- and late-maturers show significant discrepancies between self concept and ideal self concept on the dominance dimension at the same high level of significance. These differences were due to significantly lower scores on the dominance dimension for the ideal self rating.

The tenth- and eleventh-grade early-maturing girls would seem to hold themselves in the highest self-esteem and to be the most self-accepting of all grade levels and maturational groupings. Perhaps, as has been indicated by Jones and Mussen (1958), the self concept does improve as the early-maturing girl progresses through adolescence, and as has been suggested earlier, there is no crisis point during the tenth and eleventh grades to upset the self-esteem of these

early-maturing girls.

Interestingly, six of the seven instances where significant differences between self and ideal self descriptions occurred were on the dominance continuum. All grade levels (9, 10, 11, and 12) of the late-maturing girls, and the ninth- and twelfth-grade levels of the early-maturing girls indicated a desire to become less dominant. Perhaps, this indicates a desire to be more like the cultural ideal of Western civilization, which Leary (1957) suggests is: that of the loving, peaceable, brotherly person, who is given the most honored role in the ethical hierarchy. People who display this mode of adjustment with flexibility are popular, well-liked, and agreeable members of any group. Social anxiety is dealt with by friendly, amicable responses. Also, this might be a reflection of a cultural norm which prescribes that the female be submissive and the male be dominant.

Deserving some attention in the face of all this desire to be less dominant are the two groups who were content with the amount of dominance which they felt they possessed. Both the tenth- and eleventh-grade early-maturers showed no significant desire to change their dominance rating. Apparently they have achieved a harmonious balance of self with the world around them.

Conclusions

It may be concluded from the over-all results of this study that

physiological maturation apparently is a factor in the intrapersonal relations of these adolescent girls. This conclusion is based primarily on the results of comparisons of the amount of discrepancy between self concept and ideal self concept ratings. Analyses of the late-maturing girls particularly support this conclusion.

The results of the tests in which the self concepts of the early- and late-maturing girls were compared indicated that no distinction can be made between the two groups on the basis of their self concept reports. Essentially the same conclusions apply to the comparison made between the ideal self concepts of early- and late-maturing girls. Of the eight analyses applied to these data, only one, love--ninth grade, reached significance at the five percent level. It is difficult to attach any degree of importance to such a finding.

Comparisons of the discrepancy between self concept and ideal self concept ratings proved more fruitful. Data from the late-maturing girls evidenced significant differences in five of the eight analyses conducted. Four of these analyses were related to the dominance dimension, and in every instance this significance was related to a decrease in dominance scores on the ideal self concept rating. By contrast, the data from early-maturing girls produced significant differences in only two of the eight analyses conducted. Both of these differences were connected with the dominance dimension.

In view of the higher proportion of significant differences associated with the late-maturing girls, it might be concluded that they were much less satisfied with the image they held of themselves, and further, that they wished to be someone quite unlike their self at that particular time. Most notable, they wished to be significantly less dominant than they felt themselves to be.

Since this concern with dominance also appeared in the data for early-maturing girls, it is tempting to conclude that the dimension of dominance and the concern for a balance along this dimension was quite strong throughout this entire adolescent female sample.

Limitations of the Study

In considering the findings of this study, several limitations should be noted. The small size of the sample at each grade level resulted in even smaller sizes for each maturational grouping. Also, the homogeneity of the sample, that is: all girls were Caucasians; all lived in a suburban city; and all elected homemaking in high school.

Other factors not controlled, but which may have affected the results, are ordinal position in the family, size of family, concurrent academic problems, prestige among peers, and the length of residence in the community or length of enrollment in the present school.

Suggestions for Further Research

Further research into the area of physiological maturation as a factor in the intrapersonal relations of adolescent girls is warranted.

Enlarging the sample size so as to include more subjects at each grade level, and also to include several subgroups, could be rewarding. Subgroups could be selected on such factors as racial, religious, or ethnic group membership. Other factors, such as rural or urban environment, social class, and parents' interpersonal evaluation of the girl and her of them, as well as those introduced in discussion of limitations of the study, could be investigated.

Another approach that should be fruitful would be to conduct a longitudinal study of a large sample, or a subsample drawn from a large group such as mentioned above, to focus on development and congruence of the self concept and ideal self concept of early- and late-maturing girls throughout the adolescent period.

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APPENDICES

The Interpersonal Check List

Name _____ Age _____ Sex _____ Date _____ Testing # _____

Address _____ City _____ Phone _____ Education _____

Occupation _____ Marital Status _____ Referred by _____

Group _____ Other _____

DIRECTIONS: This booklet contains a list of descriptive words and phrases which you will use in describing yourself and members of your family or members of your group. The test administrator will indicate which persons you are to describe. Write their names in the spaces prepared at the top of the inside pages. In front of each item are columns of answer spaces. The first column is for yourself, and there is another column for each of the persons you will describe.

Read the items quickly and fill in the first circle in front of each item you consider to be generally descriptive of yourself at the present time. Leave the answer space blank when an item does not describe you. In the example below, the subject (Column 1) has indicated that Item A is true and item B is false as applied to him.

	Item								
	1	2	3	4	5	6	7	8	
A	●	○	○	○	○	○	○	○	well-behaved
	1	2	3	4	5	6	7	8	
B	○	○	○	○	○	○	○	○	suspicious

After you have gone through the list marking those items which apply to you, return to the beginning and consider the next person you have been asked to describe, marking the second column of answer spaces for every item you consider to be descriptive of him (or her). Proceed in the same way to describe the other persons indicated by the test administrator. Always complete your description of one person before starting the next.

Your first impression is generally the best so work quickly and don't be concerned about duplications, contradictions, or being exact. If you feel much doubt whether an item applies, leave it blank.

APPENDIX B

DIFFICULTIES ENCOUNTERED IN ADMINISTERING
THE INTERPERSONAL CHECK LIST

In administering the Interpersonal Check List to this group of high school girls, some unforeseen difficulties arose which are noted below.

Some of the words or phrases were not in the vocabularies of some of the girls. Therefore the test administrators were asked for the definitions. The most frequently requested interpretation was for the phrase, "generous to a fault." This could be overcome by agreeing upon explanatory words and phrases prior to the test situation and then using that explanation and no other.

The girls wanted to discuss phrases about themselves and their ideal selves with each other. Sometimes this was slightly difficult to control. However, whenever it would be possible, they were assured that they would be given the opportunity to discuss during class the next day.

Some girls expressed difficulty in rating themselves, turning to the administrator or a friend and asking how she saw the girl. This was discouraged.

Hesitancy to rate themselves was expressed by some who said that in doing this they were bragging or sounded conceited. Some girls expressed some doubt as to how to mark when some characteristics were only "sometimes" descriptive. They were told to mark the phrase if it were descriptive half or more of the time.

APPENDIX C

POSSIBLE REASONS FOR INCOMPLETE CHECK LISTS

Many subjects, especially at the tenth-grade level, were eliminated from the study because their checking of the Interpersonal Check List (ICL) was judged unusable based on incompleteness.

Some possible reasons for the incomplete check lists will be discussed. One class of tenth graders did not have the complete class period in which to complete the ICL, as a final test was reviewed during the same period. Some of these girls requested their check lists on the following day so that they could complete them.

Also, the informal opinion of many teachers in the school was that the tenth graders, as a group, appeared to be somewhat deficient in basic skills including reading. If this were so, lack of reading skills or slowness in reading could have been contributing factors to the non-completion of the ICL which is a completely verbal instrument.

Although the original ICL is in a two-page fold-out form, when reproduced by a thermofax process for this study, it was in a two-page stapled form. The combination of thermofaxing and dittoing from the thermofax master resulted in some of the words on the ICL being unclear. To counteract this, the investigator typed and dittoed another sheet with all the words and phrases numbered and located in the same place as on the check list. However, the necessity of directing attention from page to page may have become tiresome, especially if the girls did not read well, and caused some girls to stop. A better reproduction procedure would have been to have re-typed the ICL and mimeographed it.