

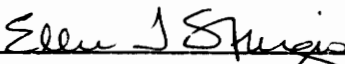
DEVELOPMENTAL CHANGES IN THE FEMALE ADOLESCENT BODY IMAGE

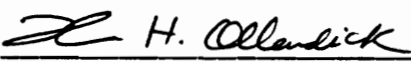
by

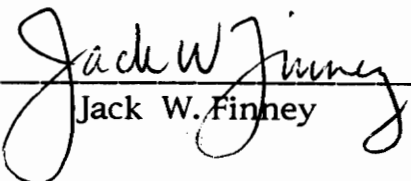
Elizabeth DeHart Freeman

Thesis submitted to the Faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE  
in  
Psychology

APPROVED:

  
\_\_\_\_\_  
Ellie T. Sturgis, Chairman

  
\_\_\_\_\_  
Thomas H. Ollendick

  
\_\_\_\_\_  
Jack W. Finney

November, 1994

Blacksburg, Virginia

C.2

LD  
5655  
V855  
1994  
F744  
C.2

# DEVELOPMENTAL CHANGES IN THE FEMALE ADOLESCENT BODY IMAGE

by

Elizabeth DeHart Freeman

Ellie T. Sturgis, Chairman

Department of Psychology

(Abstract)

The present study investigated hypothesized links between subjects' perceptions of their own physical appearance and other aspects of psychosocial functioning (e.g., general anxiety, social acceptance, athletic competence, and global self-worth) as rated by self, peers, and counselors. In addition, the study attempted to isolate the age at which young females first experience a decline in perceptions of their own physical appearance. To investigate these relationships, 554 females (ages 7-18) attending a summer camp completed the Self-Perception Profile for Children (Harter, 1985) or the Self-Perception Profile for Adolescents (Harter, 1988), a sociometric friendship rating scale, and the Revised Manifest Children's Anxiety Scale (Reynolds and Richmond, 1978). In addition, camp counselors completed the Teacher's Behavior Rating Scale (Harter, 1985, 1988) for each subject.

Results indicated that 45% of the variance in the subjects' ratings of their own physical appearance was accounted for by age, ratings of global self-worth, anxiety, social acceptance as rated by the subjects, and athletic competence as rated by the counselors. The first significant decrease in body image occurred between the ages of 12 and 13.

Although there are several limitations with respect to cross-sectional designs, it may still be useful to conceptualize the possible psychosocial changes that occur during adolescence within a developmental-contextual model. This study does not purport to demonstrate bidirectional interactions and does not allow for a definitive interpretation of the results with respect to developmental patterns; however, the developmental-contextual model is suggested as a possible *framework* for understanding the development of body image, and is in need of further comprehensive investigation. In addition to past research, this study may contribute to speculation about when intervention programs may be useful in order to prevent the development of related psychological disorders.

## Acknowledgments

My largest debt of gratitude is owed to my advisor, Dr. Ellie Sturgis. I have experienced what I will call an "enlightenment" since I began working closely with her. She has instilled in me the confidence and allowed me the freedom to explore my own ideas creatively. Her continued support, encouragement, and enthusiasm have allowed me the opportunity to have a *positive* graduate experience, and for that, I am eternally grateful.

I would also like to thank Dr. Tom Ollendick for his patience and guidance as I entered into this great adventure! Thank you also to Dr. Jack Finney for his support during my graduate career thus far. He encouraged me not to take my sight off of my goal. To my research assistants who crunched data for what seemed to be 24 hours a day, my deepest appreciation. I would also like to thank "The best camp of all" for making this research project possible.

Finally, I would like to thank my family and David for their continued support and unconditional belief in me.

To tack a boat, to sail a zigzag course is not to deny our destination or our destiny - despite how it may appear to those who never dare to take the tiller in their hand. Just the opposite: it's to recognize the obstacles that stand between ourselves and where we want to go, and then to maneuver with patience and fortitude, making the most of each leg of our journey until we reach our landfall.

-Richard Bode

## Table of Contents

Literature Review.....	1
Introduction.....	1
Developmental Models of Body Image.....	3
Body Image.....	8
Specific Underlying Issues.....	16
Summary of Purpose.....	20
Conception of Body Image.....	21
Method.....	21
Subjects.....	21
General Procedure.....	22
Measures.....	23
Hypotheses and Analyses.....	26
Results.....	28
Discussion.....	34
References.....	49
Tables.....	57
Figures.....	69
Appendices.....	74
Curriculum Vita.....	103

## List of Tables

Table 1:	Demographic Characteristics.....	57
Table 2:	Means and Standard Deviations for the Self-Perception Profile Subscales for Each Age Group.....	58
Table 3:	Means and Standard Deviations for the Counselors' Ratings of Subject Variables for Each Age Group.....	61
Table 4:	Means and Standard Deviations for the Peer Ratings and Difference Scores for Each Age Group.....	63
Table 5:	Multivariate Analysis of Variance for the Subjects' Physical Appearance as Assessed by Both Subjects and Counselors.....	64
Table 6:	Analysis of Variance for the Difference Score by Age.....	65
Table 7:	Correlation Matrix Including All Variables.....	66
Table 8:	Simultaneous Regression Analysis for Variables Predicting the Subjects' Ratings of Their Own Physical Appearance....	67
Table 9:	Analysis of Variance for the Subjects' Ratings of Global Self-Worth by Age.....	68

## List of Figures

Figure 1: Subjects' Ratings of Their Own Physical Appearance.....	69
Figure 2: Counselors' Ratings of the Subjects' Physical Appearance...	70
Figure 3: Subjects' and Counselors' Standardized Ratings of the Subjects' Physical Appearance.....	71
Figure 4: Difference Score.....	72
Figure 5: Global Self-Worth.....	73

## List of Appendices

Appendix A: Directions to Camp Counselors.....	74
Appendix B: Instructions to the Child.....	77
Appendix C: Self-Perception Profile for Children.....	79
Appendix D: Teacher's Behavior Rating Scale (for Children).....	84
Appendix E: Instructions to the Teenager.....	87
Appendix F: Self-Perception Profile for Adolescents.....	89
Appendix G: Teacher's Behavior Rating Scale (for Adolescents).....	96
Appendix H: Friendship Rating Scale.....	99
Appendix I: Revised Children's Manifest Anxiety Scale.....	101

## Introduction

It is well known that adolescence is a time of physical, social, and emotional change. As individuals enter into this period of development, there is a marked increase in the importance of physical appearance, as well as a change in the individuals' perceptions of their own physical appearance. Socially, the influence of the adolescent's peer group often becomes more powerful than the influence of his or her parents. During these years, the adolescent struggles with the balance between gaining independence from his or her parents while still needing parental approval and support. Adolescence is also a time of emotional instability. This is partially caused by the many physical changes that occur at this time as well as the shift in social influence described above. Importantly, changes occurring in the adolescent's physical appearance, social relations, and emotional stability are interdependent. The adolescent's body image may reflect the interdependence among these psychosocial domains. The term "body image", first defined by Schilder (1935), differs from the adolescent's objective physical appearance in that it not only consists of how a person perceives him/herself physically, but also how he or she thinks others see him or her (Fallon, 1990).

Most research concerning physical appearance has focused on physical attributes. Possibly the most consistent correlation found during the adolescent years has been between physical appearance and self-esteem (Berkovitz, 1993; Hawkins, Turell, & Jackson, 1983; Lerner, Orlos, & Knapp, 1976). Across the many studies, individuals who are rated higher on physical appearance experience higher levels of self-esteem than

those who are rated relatively lower. In other studies, teachers have also consistently rated children who receive higher scores on physical appearance as more academically competent when compared to their age-matched peers (Adams & Cohen, 1976a; Lerner, Delaney, Hess, Jovanovic, & Eye, 1990). In all, positive characteristics have been attributed to those adolescents who possess the most pleasing physical attributes (Lerner & Korn, 1972; Sorell & Nowak, 1981). These findings support the culturally defined view that "beauty is good" (Jones & Adams, 1982).

Body image and its relation to psychosocial functioning has not been extensively explored. In contrast to physical appearance, body image incorporates the bidirectional interplay between the individual and his or her various psychosocial contexts (e.g., inner-biological, outer-ecological). As such, body image can be integrally related to the young adolescent's physical, social, and emotional development as these factors contribute to the development of self perceptions. The value of studying the more holistic concept of body image is that it takes the individual's *perceptions* of his or her own physical appearance into account. These perceptions are generated from the interplay between the individual and his or her environment.

The purpose of this study is to investigate some of the hypothesized links between females' (ages 7 to 18) perceptions of their own physical appearance and other aspects of psychosocial functioning (general anxiety, social acceptance, athletic competence, and global self-worth) as rated by self, peers and counselors. A second purpose of this study is to isolate the age at which there is a significant decrease in perceptions of

physical appearance. While research suggests that there is a marked decline in body image during adolescence (Berkovitz, 1993; Covey & Feltz, 1991; Rierdan, Koff, & Stubbs, 1988; Rosenbaum, 1993), the age at which this significant decrease occurs is still unclear.

### Developmental Models of Body Image

A life-span perspective of human development, described by Lerner and Jovanovic (1990), may be particularly useful when studying the development of adolescent body image. In this developmental-contextual model, people function not only as products of environmental interactions but also as producers of them. Because of this bidirectional interaction, the perspective provides an ideal framework from which to study the multitude of changes contributing to the development of body image that occur during adolescence. As will be presented later, the development of body image may result from influences of the social context on the adolescent's perception of him/herself and the effects of the adolescent's behavior on the social context. This life-span perspective is composed of two assumptions: embeddedness (Lerner, Skinner, & Sorell, 1980) and dynamic interactionism (Baltes & Reese, 1984; Lerner, 1978; Lerner, 1982; Lerner, 1986).

According to Lerner (1982), individuals are embedded in many contexts. Adolescence involves changes in the inner-biological context (e.g., physical/hormonal changes), the individual-psychological context (e.g., self-perceptions), the physical environmental context (e.g., school, home), and the sociocultural context (e.g., stereotypes). All of these may impact the development of body image. Lerner not only states that

individuals are embedded in many contexts, but that they are *reciprocally* embedded in those contexts. This bidirectional relationship between person and context exemplifies the concept of dynamic interactionism. In this view, individuals are seen as both products and producers of their own development. For example, the physical and behavioral characteristics of an individual elicit differential reactions from the social environment (individual as producer), which in turn feed back to the individual and affect further development (individual as product). Lerner (1982) further suggests that adolescents may contribute to their own development in a manner which involves the goodness of fit between the person and the context. If an individual's characteristics are congruent with the demands of a particular context, the outcome from that interaction should be adaptive due to positive feedback received from the context. For example, if a certain situation (e.g., 8th grade gym class) requires an individual to be of average build or thinner in order to be successful at certain athletic activities and the individual does fit into that category, the individual should receive feedback from the social environment (his/her peers, gym teacher) that elicits a positive developmental outcome (e.g., maintains or heightens self-confidence). The opposite may also be true. If an individual's characteristics are not congruent with the demands of a particular context, alternative developmental outcomes may occur (e.g., low self-esteem).

This goodness of fit between the contextual demands and the person's characteristics involves the verification of the presence of specific cultural demands and the internalization by the individual of the feedback

received from that environment. The first component has been assessed in several studies involving the relation between body type and the existence of physical stereotypes. These studies consider the individual as a producer of his or her own development as determined by the presence or absence of societally determined desirable physical attributes. For example, several studies confirm that positive stereotypes exist for children and adolescents who have an average body build, and that significant negative stereotypes exist for fat or chubby children and adolescents (Lerner & Iwawaki, 1975; Lerner & Korn, 1972; Lerner & Pool, 1972). In one study, Lerner and Korn (1972) used 180 males in 3 age groups (5-6, 14-15, 19-20) to assess the presence of body-build stereotypes. Subjects were instructed to indicate whether items presented to them from a verbal checklist were "good" or "bad." The checklist contained items concerning physical appearance, social competence, and other personal attributes (e.g., brave, nice). Factor analyses were conducted on these items revealing clusters around three factors. Across the age groups, the items rated as "good" loaded on factor 1 (average body build), while the items rated as "bad" loaded predominantly on factor 2 (fat or chubby), with some also loading on factor 3 (thin). This study demonstrated that body build stereotypes exist independent of age.

Other studies show that the type of feedback received by children and adolescents is consistent with culturally driven stereotypes. Sociometric nomination procedures were used to assess peer relations among children. Fat or heavy children received significantly more negative nominations and fewer positive nominations than did their

classmates who had average body builds (Lerner & Gellert, 1969; Lerner & Schroeder, 1971b). Forty-five kindergarten children were shown age-appropriate photographs of individuals which the experimenter had categorized as "chubby", "average", or "thin." One of the tasks involved asking each child to indicate which of the photographs they did *not* want to look like. Results indicated that a significant number of children specifically did not want to look like the "chubby" figure (Lerner & Gellert, 1969).

The concept of goodness of fit also involves the individual's subsequent integration of the feedback received from the social environment. Another group of studies considered this view of the individual as a product of these interactions. They assessed whether psychosocial functioning (e.g., self-esteem, body image) is affected by the stereotype-based feedback concerning physical appearance received by children and adolescents. It was found that 5, 15, and 20 year old males who were fat or chubby had significantly lower body images and self-concepts than their average built peers (Lerner & Korn, 1972). Further, male and female late adolescents who were judged by themselves and others to rate relatively lower on physical appearance (i.e., less attractive), had lower self-esteems than their peers who were judged by themselves and others to rate relatively higher on physical appearance (Lerner, Karabenick, & Stuart, 1973; Lerner, Orlos, & Knapp, 1976). Thus, the feedback received by the individual from his or her environment does effect psychosocial functioning.

These studies show that a mismatch between a person's physical characteristics and the demands of the context concerning physical appearance can affect the developmental changes in concepts such as self-esteem and body image. Body image represents an internal comparison of the perceived demands of the situation and how well an individual feels that he or she measures up to those standards. Favorable psychological adjustment may occur if the individual has received positive feedback in similar situations, which in turn, would affect the perceptions of him/herself. An incongruence between the perceived demands of the situation concerning physical appearance and the individual's perceived physical appearance may result in poor body image and may also have negative implications for other psychological constructs (e.g., low self-esteem).

This model may provide a useful approach to the study of adolescent body image because it addresses the interactions between the individual and his/her social and emotional environment, an environment to which the individual may contribute. The adolescent years are an ideal time in which to study the individual as a producer/product of his or her own development since this is a time of rapid physical change, increased introspection, realignment of family and peer relations, and increased desire to live up to socially determined standards (Dubas & Petersen, 1993; Schonfeld, 1969). Since one of the hallmarks of the adolescent years is that it is a period of change, it provides an ideal time to study the developmental changes in body image and their relation to psychosocial functioning.

## Body Image

Most of the work regarding the importance of physical appearance to the adolescent's social and emotional development has focused on the importance of *other's* perceptions of one's physical attributes (Berkovitz, 1993; Lerner, Kucher, East, Lerner, & Lerner, 1987; Lerner, Delaney, Hess, Jovanovic, & Eye, 1990; Lerner, Lerner, Hess, Schwab, Jovanovic, Talwar, & Kucher, 1991). These studies have examined the relation between one's rated physical appearance by others and the individual's perceptions of social situations, interpersonal interactions, and academic performance. For example, in one study, children rated favorably with regard to physical appearance were rated more academically competent than their age-matched peers who were rated relatively lower on physical appearance (Adams & Cohen, 1976a). A total of 490 elementary school teachers from eight midwestern school districts were asked to assess academic competence and potential for elementary age children based on information received in a folder. The folder included academic background information, information on the home situation, and a photograph of the child, which the experimenters had confidentially coded as rating high (favorable) or low (not favorable) on physical appearance. Results indicated that the child's physical appearance had significant effects on teachers' expectations for his/her academic and educational success. Children who received relatively higher ratings on physical appearance were viewed as being more creative, educationally advanced, intelligent, and were expected to receive higher levels of

educational training than the children who received lower ratings on physical appearance.

Physical appearance was also found to be significantly related to ratings of academic and social competence in two studies which used data from the Pennsylvania Early Adolescent Transitions Study (PEATS). In this longitudinal study, 153 sixth graders from eight semirural elementary schools were measured at three different intervals during the year on 1) a rating of physical appearance judged from photographs of the adolescents by college students, 2) the subject's psychosocial functioning as rated by teachers, peers, and parents, and 3) the subject's own perception of his or her functioning as assessed by the Harter (1983) Self-Perception Profile (SPP) for Children.

Groups of college students rated the physical appearance of each subject based on a photograph (slide) of each adolescent. Peer ratings of the subject's functioning were measured by using a sociometric nomination format indicating how frequently the peer associated the subject with sets of positive and negative personal and social descriptors. The parents completed the Conner's (1970) Behavioral Rating Scale, a behavior problem checklist, in order to assess the subject's behavior in the home. The Teacher's Behavior Rating Scale (Harter, 1983) was completed by each subject's teacher in order to assess the competency of the subject in the following areas: Academic competence, social acceptance, athletic competence, physical appearance, and behavior/conduct. Each student's grade point average (GPA) was also used as a measure of academic competence. The final measure was the SPP which was designed to

measure the subject's competence in the areas mentioned above, with the addition of a measure of global self-worth.

The first study which utilized the PEATS data specifically examined the relation between physical appearance and initial ratings of academic competence by teachers (Lerner, Delaney, Hess, Jovanovic, & Eye, 1990). Results indicated that, at the first time of testing (out of three), both GPA and teacher ratings of academic competence, as assessed by the Harter scale, were significantly related to the subjects' ratings of physical appearance as judged by the college students. Students who received higher ratings on physical appearance also obtained higher ratings of academic competence from their teachers. GPA, another teacher rating of academic performance, was also higher for those students who obtained higher ratings of physical appearance than their age-matched peers who received relatively lower scores on physical appearance.

The second study which used the PEATS data examined the relation between physical appearance, social competence, and self-esteem (Lerner, Lerner, Hess, Schwab, Jovanovic, Talwar, & Kucher, 1991). Results indicated that adolescents who judged themselves as being generally competent were also judged as competent by their peers, parents, and teachers at all three measurement occasions. Subjects who scored relatively higher (more competent) than their peers on each of the subscales also received higher ratings in the same areas from significant others. Importantly, there were significant correlations between the teachers' and students' ratings in all of the categories except physical appearance. In other words, there was a difference between the rating of

physical appearance by the teacher and the individual's rating of his or her own physical appearance. This difference also occurred between the students' ratings of their own physical appearance and the group ratings assigned by the college students. The difference between the subjects' own perceptions of their physical appearance and the rating of physical appearance assigned by a third party indicates that there may be important discrepancies between *others'* perceptions and one's *own* perception of physical appearance.

Pruzinsky and Cash (1990) state that there may not necessarily be a correlation between one's physical appearance and his/her body image. This lack of concordance between physical appearance and body image is illustrated by Phelps, Johnson, Jimenez, Andrea, and Healy (1993). They asked 454 12-18 year olds to indicate on a rating scale, which consisted of drawings of nine different body types, where they would place themselves in regard to their own physical appearance currently (not ideally). Teachers who had no prior experience with the students also completed the figure rating scale for each subject. Both male and female adolescents perceived themselves as significantly heavier than did the adult raters. Again, the discrepancy between subjective ratings of physical appearance as rated by the subjects and the objective measure as rated by the teachers existed.

The discrepancy between one's own ratings of physical appearance and other's ratings of one's physical appearance may be accounted for by the construct of body image. Body image is by definition multidimensional since it involves the culmination of events in several

contexts (Lerner & Jovanovic, 1990; Pruzinsky & Cash, 1990; Rosenbaum, 1993; Schonfeld, 1969). In *The Image and Appearance of the Human Body*, Schilder (1935) states that in addition to the perception of the outside of our own bodies (physical appearance), many inner (e.g., visceral, muscular) and outer (e.g., postural) sensations occur separately and collectively to give us a multidimensional schema, or image, for our bodies. In addition to perceptions of the body (body image), various levels of the physiological context are mentioned above. Internal and external cues are received by the individual which contribute to the image that an individual forms of his or her own body. In other words, within each physiological, psychological or sociocultural context, factors which may contribute to body image may be found at various levels, as evidenced in Schilder's statement above.

Importantly, the way in which we personally perceive and experience our bodies notably relates to how we perceive ourselves (Schonfeld, 1969). This is especially true during this challenging time of change when adolescents are forming their self-concepts. As such, body image has also been related to self-esteem, or self-worth. If, for example, an individual perceives her own body in a negative light, then she will most probably perceive her whole self negatively. A negative body image has been shown to correlate with low self-esteem for both males and females (Hawkins, Turrell, & Jackson, 1983). In this study, undergraduate males and females were given the Texas Social Behavior Inventory (Helmreich, Stapp, & Ervin, 1974) in order to assess self-esteem, and the Negative Self-Image Scale which measures body image. Those subjects who

showed scores indicative of lower self-esteem also showed significantly more concern about their physical appearance than did their age-matched peers who obtained higher self-esteem scores.

Another important aspect of body image is that it is, in part, socially determined. This involves the goodness of fit between the individual's perception of the present cultural standard for a characteristic (physical appearance), the perception of how he or she compares to that standard, and the perceived importance of that standard by society (Fallon, 1990). Cavior and Doeckki (1973) demonstrated that there are cultural criteria for beauty. A group of 5th and 11th grade males and females were rated on their physical appearance, a component of body image, by several judges. Results revealed high interjudge agreement on the ratings, thus supporting the notion that there are indeed societal criteria for beauty.

Notable differences have been found between the two sexes concerning the perceptions of their own physical appearance and how they measure up to societal standards for beauty. According to Bar-Tal & Saxe (1976) and Fallon (1990), physical beauty is a more important factor in the overall evaluation of females than males. Fisher (1973) states that society determines the status of a female, more so than for a male, by her physical appearance. Appearance is significantly related to self-acceptance for both males and females (Adams, 1977), but the relationship differs for both sexes (Lerner, Orlos, & Knapp, 1976). For example, Lerner et al. (1976) found that for females, self-concept was more highly correlated with physical appearance than with physical effectiveness, while the reverse was true for males. Lerner et al. (1991)

found that across all of the age groups (8-11, 12-14, & 15 and above) females were more disturbed about their appearance than males. Additionally, lower confidence in physical appearance correlated with lower levels of self-esteem.

Phelps, Johnston, Jimenez, Wilczenski, Andrea, and Healy (1993) reported significantly higher levels of body dissatisfaction for females than for males in a population consisting of 454 students ages 12 - 18. Each student was asked to identify both their current physical appearance and their ideal physical appearance on a scale which included drawings of nine different body types appropriate to their gender. Body dissatisfaction scores were calculated by subtracting the ideal physical status from the current status, as rated by the students. Results indicated that females were significantly more dissatisfied with their bodies than males.

Berkovitz (1993) conducted a nationwide survey designed to assess the psychosocial functioning of 3000 individuals grades 4-10. Results showed that physical appearance was most important for females in middle school, also the time at which self-esteem showed the greatest decline. It has been well illustrated that not only is adolescence a time of increased concern about physical appearance, but that this concern manifests itself in potentially more damaging ways in terms of self-concept for females than for males.

In its extreme, when an individual's perception of his or her own physical appearance is not congruent with what the individual perceives to be important in that context, a deviation from normal psychological development may occur. There are several links that have been suggested

between negative body image and possible problems in adolescence. The first concerns the relation between negative body image and depression. The presence of depressive symptomology in adolescents has led researchers to look for correlates with the aim of identifying possible risk factors. Rierdan, Koff, and Stubbs (1987) assessed this association in 535 white females from middle class homes in grades 6-9. The short form of the Beck Depression Inventory (Beck & Beck, 1972) was used to assess level of depression, along with three additional scales which together assessed body image and pubertal status. They found that independent of age and pubertal status, moderately to severely depressed girls were significantly unsatisfied with their bodies. In a later study, Rierden, Koff, & Stubbs (1988) confirmed their earlier results. In a sample of 9th grade males and females, depressed adolescents had significantly lower body images than those of their nondepressed peers.

Negative body image, in its extreme, has also been linked to the emergence of eating disorders. Ninety percent of the diagnosed cases of anorexia nervosa (Bemis, 1978) and bulimia (Halmi, Falk, & Schwartz, 1981) are females. Garner, Garfinkel, Schwartz, and Thompson (1980) suggest that this pressure placed on women to be thin is at least in part cultural. They studied the trend over the last 20 years in the measurements of Miss America Pageant contestants and found a significant trend toward a thinner standard. Along with the cultural pressure, a perceptual distortion of how one measures up to that standard may place an individual at risk for developing an eating disorder (Bruch, 1973; Dornbusch, Gross, Duncan, & Ritter, 1987). This perceptual distortion can

be identified by administering a measure of body image to the individual, while also assessing physical appearance by using a third party. The identification of this distortion at its onset may allow for the application of preventative early intervention programs.

#### Specific Underlying Issues

The construct of body image addresses the concept of the individual as both a product and a producer of his or her own development. The individual brings his or her physical attributes into the social context and receives feedback concerning his or her own physical appearance, which is then internalized (as body image). The body image is adjusted appropriately depending on whether the feedback was positive or negative. This adjustment in body image will then in turn affect the cognitions and the behavior of the individual during the next social interaction. In the PEATS study mentioned earlier, Lerner et al. (1991) reported a significant relation between teacher and student ratings of the student's scholastic performance, social acceptance, athletic competence, and behavior/conduct. However, there was *not* a significant relation found between the teacher and student ratings of the student's physical appearance, or between the group (ratings by college students) and student ratings of the student's physical appearance. Body image may account for this discrepancy since it accounts for the individual's own perceptions of his or her physical appearance. One goal of the present study was to examine the possible discrepancy between the subject's own rating of physical appearance and a camp counselor's rating of the subject's physical appearance.

Another goal of this study was to assess the trend of this discrepancy between the two ratings of the subject's physical appearance during adolescence. Cross-sectional and longitudinal studies have attempted to isolate the onset of a significant decrease in body image during the adolescent years, yielding differing results. Simmons and Rosenberg (1975) interviewed 1900 subjects grades 3-12 and found a significant decrease in body image in the 12-14 year old age group as well as in the older age group (15 and above). The separate analysis of 12 vs. 13 vs. 14 year olds might have yielded more specific results as to the initial age of a decrease in body image. Rauste-von Wright (1989) administered the Body Image Satisfaction Questionnaire to 90 subjects at ages 11, 13, 15, and 18 in a longitudinal study. Significant differences were found between all of the ages except the 11 and 13 year olds, with a slight decline throughout the adolescent years; however, the highest body image satisfaction score occurred at age 18. Phelps et al. (1993) found a greater decrease in body image during late adolescence than they did during early adolescence. By using a subscale of the Eating Disorder Inventory-2 (Garner, 1991), body dissatisfaction scores were obtained for 454 12 - 18 year olds. A small, but significant correlation was found for females which was indicative of a positive linear relationship between age and body dissatisfaction from ages 12 to 18.

Davies and Furnham (1986) also reported a decrease in body image during adolescence. A questionnaire designed to assess satisfaction with the body was administered to 182 females ages 11-18. Results showed a significant increase in concern about specific body parts signifying sexual

attractiveness, such as bust, hips, and waist from age 11 - 18. In addition, the overall satisfaction with the subjects' physical appearance declined as well. In other words, the subjects' perceptions of the demands of the social environment changed as they grew older and their perceptions of their ability to meet those demands decreased. One goal of the present study was to cross-sectionally determine the onset of a significant decrease in the perception of one's own physical appearance in a female population and note its trend in adolescence.

Another question concerning perceptions of physical appearance is the identification of the factors that differentially contribute to the development of those perceptions. In studies previously discussed (Lerner et al., 1990; Lerner et al., 1991; Rauste-von Wright, 1989), the relation between physical appearance and several domains of psychosocial functioning was assessed. These studies obtained measures of the subject's own perceptions of his or her psychosocial functioning (social acceptance, athletic competence, behavior/conduct, scholastic competence, self-esteem) as well as teacher ratings of most of those items. Additionally, Rauste-von Wright (1989) obtained a measure of anxiety. There is little information available, however, about the relation of these variables to *self-perceptions* of physical appearance, with the exception of self-esteem (Hawkins, Turell, & Jackson, 1983; Hirsch & DuBois, 1991). A goal of the present study was to identify psychosocial factors that differentially contribute to the development of self-perceptions of physical appearance.

The changes occurring during adolescence within the inner-biological and outer-ecological contexts, which contribute to psychosocial development, have been shown to produce anxiety. The involvement of each of these contexts in the development of body image then inextricably associates body image also with anxiety. In addition to completing the Body Image Satisfaction Questionnaire (BIS) as discussed earlier, the subjects in Rauste-von Wright's (1989) longitudinal study also completed an anxiety measure. At ages 11 and 13, the subjects completed the Jr.-Sr. High School Personality Questionnaire (Cattell & Cattell, 1962) as a measure of anxiety; similarly, when they were 15 and 18 they completed the Sixteen Personality Factor Questionnaire, which provided a measure of anxiety comparable to the earlier measure. A negative correlation was found between the BIS sum score and anxiety, although for females, the strongest correlation was  $-.36, p \leq .01$  which was observed at age 11. The remaining scores were as follows:  $r = -.18$  at age 13,  $r = -.27, p \leq .05$  at age 15, and  $r = -.22$  at age 18.

Cash, Cash, and Butters (1983) also reported findings of a relation between subjects' perceptions of their own physical appearance and anxiety. Fifty-one female introductory psychology students completed the Self-Consciousness Inventory (Buss, 1980) in order to assess social anxiety. Subjects also rated their own physical appearance on a 10-point Likert scale. Results showed a correlation ( $r = -.38, p \leq .01$ ) between self-perceptions of physical appearance and social anxiety. Further, Theron, Nel, and Lubbe (1991) assessed body image by using a subscale of the Tennessee Self-Concept Scale (Fitts, 1965) and measured anxiety using the

Self-Consciousness Scale (Mittal and Balasubramania, 1987) in 267 undergraduates. A significant correlation ( $r = -.38$ ,  $p \leq .05$ ) was found between body image and anxiety.

The onset of a significant self-esteem decrease has been speculated to be close to the age of 12. In a cross-sectional study of 1,917 subjects in grades 3-12, Simmons, Rosenberg, and Rosenberg (1973) assessed global self-esteem on a Guttman Scale. They found that in the 12 - 14 year old age group there was a significant prevalence of low self-esteem which improved as adolescence continued. Rosenberg (1986) found the low point of self-esteem to be between the ages of 12 and 13, with an increase following those years. Several other studies support the notion of an increase in self-esteem from early to late adolescence (McCarthy & Hoge, 1982; O'Malley & Bachman, 1983). By administering the Rosenberg Self-Esteem Scale (Rosenberg, 1965) to 1,852 students ages 12-18 in a short-term longitudinal study, McCarthy and Hoge (1982) found that self-esteem significantly increased from one year to the next. A final goal of the present study was to isolate the age at which a significant decrease in self-worth (self-esteem) first occurs and assess its subsequent trend in adolescence.

#### Summary of Purpose

The purpose of the present study was to examine subjects' ratings of their own physical appearance and their relation to other domains of psychosocial functioning in preadolescent and adolescent females (ages 7-18). First, the developing discrepancy between self- and other's perceptions of one's physical appearance was examined. Second, the age

at which there was a significant decrease in ratings of one's own physical appearance was isolated, and its trend in adolescence was noted. Third, several variables that differentially contribute to the perceptions of physical appearance were identified. Measures included the subjects' perception of their own physical appearance and psychosocial functioning, and the subjects' psychosocial functioning as rated by peers and camp counselors. Fourth, the age at which a significant decrease in self-worth first occurred was identified, and its trend in adolescence was noted.

### Conception of Body Image

Working under the assumptions of a developmental-contextual model of development, the construct of body image incorporates the bidirectional interplay between the individual and his or her various psychosocial contexts (physical, social and emotional). As mentioned previously, the construct of body image pertains to how a person perceives him or herself physically and also how he or she thinks others see him or her (Fallon, 1990). This is not directly tested in this study. We cannot assume to what degree others' presumed perceptions influenced the subjects' own perceptions of their physical appearance.

### Method

#### Subjects

Subjects in this cross-sectional study attended an all female four-week summer camp session in North Carolina. The 554 children and adolescents ranged in age from 7-18, 99% of which were Caucasian and from middle and upper class homes in the Southeastern United States. The remaining percentage consisted of African American and Caucasian

children who were either on a partial or total financial scholarship awarded by the camp. Sixty percent of the campers were returning campers.

The counselors were employed for the summer by the camp. All of the counselors were Caucasian and the majority were recruited from large college campuses in the Southeastern United States. A total of 120 counselors, ranging in age from 17 - 24, lived in the cabins with the subjects. For logistical reasons (counselor time-off schedules, other camping duties), one counselor (instead of two or three) completed the desired measures pertaining to each subject.

#### General procedure

The measures were completed during a one hour session for two consecutive days at camp. The subjects returned to their cabins every day after lunch for a mandatory one hour rest period. During this time, they were instructed to remain on their own beds and to stay quiet. The measurements were taken during this time.

Since some of the measurements depended upon the relationships that the subjects formed during the session, the testing took place on the third weekend of the four week session. The subjects completed the Harter (1985, 1988) Self-Perception Profile on the first day of testing. On the following day, the counselors completed Harter's (1985, 1988) Teacher's Behavior Rating Scale, and the subjects completed the Revised Manifest Children's Anxiety Scale (Reynolds & Richmond, 1978) in addition to the sociometric peer rating inventory.

## Measures

*Subjects' perceptions of their psychosocial functioning.* The Harter (1985) Self-Perception Profile (SPP) for Children and its complementary adolescent form (Harter, 1988) were used to assess the subjects' perceptions of their psychosocial functioning. The scale was developed in order to assess competence and adequacy of psychosocial functioning. For this measure, the subjects were divided into two groups based on their age at camp and their cabin assignment. Generally, subjects ages 7-12 were given the SPP for Children, and subjects ages 13-18 were given the SPP for Adolescents. Because some cabins contained both 12 and 13 year olds, however, a number of 12 year olds completed the SPP for Adolescents. Appropriate analyses were conducted in order to demonstrate that the 12 year olds that completed the SPP for Children or Adolescents did not significantly differ. These analyses are discussed in the results section of the current study.

Scores assessed the subjects' perceptions of their physical appearance (appraising satisfaction with one's appearance), social acceptance (stressing peer popularity), athletic competence (tapping content relevant to sports and outdoor games), and global self-worth (appraising feelings of worth or self-esteem independent of any particular skill domain). The child and adolescent forms of the SPP contained an additional subscale assessing scholastic competence and the adolescent form also contained a job competence scale. The questions relevant to these domains were removed from the SPP before it was administered to the subjects.

In order to measure each domain, six items were used for each subscale. The format used for response is called "structured alternative." With this format, the subject is presented with a choice between two halves of a statement. An item on the Children's SPP may be, for example, "Some kids find it hard to make friends, BUT, other kids find it's pretty easy to make friends." The subject must choose one side of the statement and then decide whether it is "sort of true" or "really true" for her. In scoring, a scale from 1 to 4 is used for each item. A score of 1 indicates low perceived competence or adequacy while a score of 4 indicates high perceived competence or adequacy. A total score for each domain is reached by calculating a mean score across all six items within that subscale.

The internal consistency reliabilities are based on Cronbach's Alpha (Harter, 1985), and are as follows for 3rd, 4th, and 5th graders: Physical appearance (.80), social acceptance (.75), athletic competence (.81), and global self-worth (.78). The reliabilities for 6th and 7th graders are as follows: Physical appearance (.81), social acceptance (.80), athletic competence (.85), and global self-worth (.84). The internal consistency coefficients for 8th, 9th, 10th, and 11th graders (who used the adolescent form of the SPP) are: Physical appearance (.89), social acceptance (.90), athletic competence (.89), and global self-worth (.89).

In order to measure each subject's anxiety level, they completed the Revised Children's Manifest Anxiety Scale (RCMAS) (Reynolds & Richmond, 1978). The scale consists of 37 items which are divided into two domains when scored: anxiety (28 items) and a lie scale (9 items). The items yield

a KR20 reliability estimate of .84. The mean anxiety level for grades 1 through 12 is 13.84 with a SD of 5.79. The lie scale yields a total group mean of 3.56 with a SD of 2.37. The anxiety scale also correlates significantly with the lie scale,  $r(327) = .15$ ;  $p \leq .01$ . The items consist of statements like "I get nervous when things do not go the right way for me." The subject circles "Yes" or "No" indicating whether or not that is true for her.

*Measures of subjects' psychosocial functioning as rated by camp counselors.* The Harter (1985, 1988) Teacher's Behavior Rating Scale (TBRS), which may be used by any adult figure who knows the child, was completed by each subject's live-in camp counselor; therefore, the counselor rated subjects of the same age. The counselor rated the competency or adequacy of the subject in the following domains: Physical appearance, social acceptance, and athletic competence. As mentioned with the SPP, the child and adolescent forms of the TBRS contained an additional subscale assessing scholastic competence and the adolescent form also contained a job competence scale. The questions relevant to those domains were removed from the TBRS before it was given to the counselors for completion. The response format is a structured alternative form which contains 3 items per subscale. It is scored on a 1 to 4 scale; a score of 1 indicating low competence or adequacy in that domain, and a score of 4 indicating high competence or adequacy. A mean score is calculated by averaging the three scores in each subscale. An internal consistency reliability (Cronbach's alphas) for each of the domains was

found to exceed .90 for the 6th grade in the PEATS study (Lerner et al., 1991).

*Measure of subjects' psychosocial functioning as rated by peers.* Each cabin of girls contained 14 or 15 campers of the same age (within twelve months of one another). Within those cabin groups, they were asked to complete a sociometric friendship rating scale. They were asked to indicate how much time they enjoyed spending with each of the other girls in the cabin. The subjects circled one of five ratings on the Likert scale for each cabinmate. The peer ratings were on a 1-5 scale indicating that they enjoyed spending time with that person "none", "a little", "some", "quite a bit", or "a lot." A social acceptance score was obtained by computing a weighted average from the rating scale. The number of nominations that a subject received for each rating category was multiplied by the numerical label given to each category (1-5). The resulting numbers were then summed and divided by the number of subjects in each cabin who had rated them. This final computation yielded the number used as the peer rating of the subject's social acceptance, a higher score indicating greater popularity.

#### Hypotheses and analyses

*Comparison of the difference between self and others' ratings of physical appearance.* It was hypothesized that a discrepancy would be found between the subject's rating of her own physical appearance and the counselor's rating of the subject's physical appearance. It was further hypothesized that the discrepancy between these ratings would increase throughout adolescence. A difference score between the standard scores

of the subjects' ratings of their own physical appearance and the standard scores of the counselors' ratings of the subjects' physical appearance, as measured by the Harter (1985, 1988) Self-Perception Profile (SPP) and the Harter (1985, 1988) Teacher's Behavior Rating Scale (TBRS), was computed. A one-way analysis of variance on the difference score for each age group, and subsequent Newman-Keuls procedures, were used to assess the trend of the difference score in adolescence.

*Age of onset of a significant decrease in subjects' ratings of physical appearance and its trend in adolescence.* It was predicted that the onset of a significant decrease in the subjects' ratings of their own physical appearance would be close to the age of 12 or 13 with a decline continuing throughout adolescence. A one-way analysis of variance on the subjects' ratings of physical appearance for each age group was conducted. The differences among the cell means ( $p \leq .05$ ) were then examined by using Newman-Keuls comparisons. The age at which a significant decrease in the subjects' ratings of their physical appearance first appeared and its trend in adolescence was noted.

*Predictors of subjects' ratings of their own physical appearance.* It was hypothesized that the stronger predictors of the subjects' ratings of their own physical appearance would be age, global self-worth, anxiety, athletic competence as rated by self and counselors, and social acceptance as assessed by self and peers. Simultaneous regression procedures were used to examine how ratings of psychosocial functioning as assessed by self, peers, and counselors contributed to the prediction of the subjects' ratings of their own physical appearance. The mean score for each subject

on the physical appearance subscale of the SPP was used as the dependent variable. The independent variables tested which were reported by the subject are as follows: 1) global self-worth, 2) social acceptance, 3) athletic competence, and 5) anxiety. The independent variables tested which were reported by the counselor are as follows: 1) physical appearance, 2) social acceptance, and 3) athletic competence. The remaining independent variables were age and peer relations as assessed sociometrically by cabin group.

*Age of onset of significant decrease in global self-worth and its trend in adolescence.* The age at which a significant decrease in self-worth was hypothesized to first appear was close to the age of 12 or 13, and self-worth was expected to increase after this specified age. A one-way analysis of variance was conducted on the subjects' ratings of global self-worth for each age group as assessed by the SPP. Newman-Keuls procedures were then used ( $p \leq .05$ ) to examine the differences among the cell means. The age at which a significant decrease in global self-worth appeared and its trend in adolescence were noted.

## Results

### Age groups

For all of the analyses, the subjects were placed in 1 of 7 age groups which were divided as follows: 7-9 year olds, 10 year olds, 11 year olds, 12 year olds, 13 year olds, 14 year olds, and 15-18 year olds (see Table 1). Previous research findings concerning body image and self-esteem determined the division of the age groups. As previously mentioned, some 12 year olds completed the SPP for Adolescents because of specific cabin

assignments. A series of t-tests conducted on those variables measured by both SPPs for the two groups of 12 year olds did not reveal any significant differences. The sample included a total of 554 subjects; however, because of the omission of certain test items on occasion, the analyses were conducted using a listwise deletion of those subjects, thus the degrees of freedom varied among analyses.

### Comparison of the difference between self- and other's ratings of physical appearance and its trend in adolescence

It was hypothesized that a difference between the subjects' ratings of their own physical appearance and the counselors' ratings of the subjects' physical appearance would occur and increase further in adolescence. Before assessing this difference, several statistical operations were necessary. A single factor multivariate analysis of variance (MANOVA; age group: 1-7) was conducted on the subjects' mean physical appearance scores as assessed by both the subjects and counselors. The physical appearance scores were standardized and the Wilks' Lambda criteria was used for the analyses. The mean scores and standard deviations of all the variables measured for the study are presented in Tables 2, 3, and 4 for each age group. An alpha level of .05 was used for all statistical tests. The results of the MANOVA revealed significant effects for physical appearance scores [Wilks' Lambda = .8224,  $F(12, 992) = 8.4882$ ,  $p < .001$ ]. Subsequent univariate analyses revealed age effects for the subjects' ratings of their own physical appearance,  $F(6, 497) = 10.2293$ ,  $p < .001$ , as well as for the counselors' ratings of the subjects' physical appearance,  $F(6, 497) = 6.3813$ ,  $p < .001$  (see Table 5).

Subsequent Neuman-Keuls procedures performed on the subjects' own ratings revealed that the largest significant decrease in the subjects' ratings of their own physical appearance between two consecutive age groups occurred between the ages of 12 and 13 as predicted (see Figure 1). For each of the variables measured by the Harter Self-Perception Profile, a higher score is indicative of a rater's positive feelings concerning that particular variable. In this analysis, for example, a higher rating on physical appearance indicates that the individual viewed her physical appearance more positively. The 7-9 and 10 year old age groups rated themselves significantly higher on physical appearance than all other age groups, but they did not significantly differ from one another. The 11 year olds rated themselves significantly higher on physical appearance than the 13, 14, and 15-18 year old age groups; however, they did not differ significantly from the 12 year olds. The 12 year olds rated themselves significantly higher than the 13 and 15-18 year old age groups on physical appearance, but they did not differ significantly from the 11 or 14 year olds. In addition, the 13 year olds did not differ significantly from the 15-18 year old age group on physical appearance. As predicted, the ratings of the subjects' perceptions of their own physical appearance generally declined throughout adolescence.

Neuman-Keuls procedures performed on the mean scores of the counselors' ratings of the subjects' physical appearance revealed a significant increase from pre-adolescence to adolescence (see Figure 2). A slight decrease in ratings was observed in the 15-18 year old age group although it was not significant. The 7-9 and 10 year old age groups were

found to have significantly lower ratings of physical appearance than the 12, 13, 14, and 15-18 year old age groups. The 11 year olds were rated significantly lower on physical appearance than the 13 and 14 year olds, however, they did not differ significantly from the 12 year olds. The final significant increase in the counselors' ratings of physical appearance was found between the 12 and 14 year olds.

In order to further assess the relation between the subjects' ratings of their own physical appearance and the counselors' ratings of the subjects' physical appearance, a difference score was computed by subtracting the standardized mean scores of the subjects' ratings of themselves from the standardized mean scores of the counselors' ratings. It was hypothesized that a difference in the ratings of the subjects' physical appearance made by both the subjects and counselors would be found. It was further predicted that this difference score would increase throughout adolescence. In other words, the counselors would rate the subjects higher on physical appearance than the subjects would rate themselves (see Figure 3 for comparison of standardized ratings). A one-way ANOVA was performed on the difference score for each age group which revealed a significant age effect,  $F(6, 497) = 16.4807, p < .001$  (see Table 6). Neuman-Keuls procedures revealed a general increase in the difference score from pre-adolescence throughout adolescence as predicted (see Figure 4). Not only did the 7-9 year old age group show a difference score significantly lower than the 11, 12, 13, 14, and 15-18 year old age groups, but those subjects in fact rated themselves higher on physical appearance than the counselors rated them ( $M = -1.0655, SD =$

1.2898), as did the 10 ( $M = -.7573$ ,  $SD = 1.4079$ ), 11 ( $M = -.3192$ ,  $SD = 1.4947$ ), and 12 year olds ( $M = -.0441$ ,  $SD = 1.3472$ ). In other words, the 7-9, 10, 11, and 12 year old age groups rated themselves more favorably in regard to physical appearance than the counselors rated them. As in other findings, the largest significant difference between two consecutive age groups occurred between the 12 and 13 year olds. A significant increase in the difference score was found between the 12 ( $M = -.0441$ ,  $SD = 1.3472$ ) and 13 year olds ( $M = .5416$ ,  $SD = 1.3116$ ). In addition, the 10 year olds showed a difference score significantly lower than the 12, 13, 14, and 15-18 year old age groups. Finally, the 11 and 12 year olds showed a difference score significantly lower than the 13, 14, and 15-18 year old age groups. Although the absolute difference score was larger for the 7-9 and 10 year old age groups, the subjects increasingly rated themselves lower on physical appearance compared to the counselors' ratings as the ages increased, as predicted. In other words, beginning at the age of 13, the counselors rated the subjects more positively with regard to physical appearance than the subjects rated themselves, and this trend continued throughout adolescence.

### Correlational analysis

A correlation matrix involving relevant variables in the study is presented in Table 7. A Bonferroni correction procedure was followed which indicated correlations were only significant if they achieved a  $p$  value of  $<.001$ . Significant and important correlations existed between the subjects' ratings of their own physical appearance and global self-worth ( $r = .61$ ), anxiety ( $r = -.40$ ), and age ( $r = -.31$ ). As expected, the counselors'

ratings of the subjects' physical appearance did not significantly correlate with the subjects' ratings of their own physical appearance ( $r = -.03$ ,  $p < .54$ ) or with global self-worth ( $r = -.03$ ,  $p < .57$ ). The remaining correlations reported in Table 7 are of less theoretical interest.

#### Predictors of the ratings of subject's own physical appearance

It was hypothesized that the stronger predictors of the subjects' ratings of their own physical appearance would be age, global self-worth, anxiety, athletic competence as assessed by self and counselors, and social acceptance as assessed by self and peers. The following independent variables were used in the simultaneous multiple regression analysis: mean scores of the subjects' ratings of their own athletic competence, social acceptance, and global self-worth, a summary score obtained from the anxiety inventory (a higher score indicating increased anxiety), mean scores of the counselors' ratings of the subjects' athletic competence, physical appearance, and social acceptance, and a weighted average derived from the sociometric peer rating inventory (a higher score indicating increased popularity). As hypothesized, the prediction of the subjects' ratings of their own physical appearance was best depicted by a linear combination of global self-worth, anxiety, social acceptance as rated by the subject, athletic competence as rated by the counselor, and age. The resulting regression equation predicted 45.43% of the total variance ( $F(8, 473) = 49.21$ ,  $p < .001$ ) and is depicted in Table 8. On the basis of the  $\beta$  weights obtained for this model, the effect of global self-worth on the subjects' ratings of their own physical appearance was nearly two times larger than the effect of age, and nearly three times larger than the effect

of anxiety on the subjects' ratings of their own physical appearance. In addition, the effect of global self-worth was approximately five times greater than the effect of athletic competence as rated by the counselors and social acceptance as rated by the subjects on the subjects' ratings of their own physical appearance. Each of these independent variables was significant at the  $p < .001$  level. The remaining independent variables did not independently add to the predictive power of the regression. Social acceptance as rated by peers ( $p < .82$ ) and athletic competence as rated by the subject ( $p < .20$ ) were not significant predictors of the subjects' ratings of their own physical appearance, contrary to hypothesized results.

#### Age of onset of a significant decrease in global self-worth and its trend in adolescence

It was hypothesized that the age at which a significant decrease in global self-worth would first occur would be close to the ages of 12 or 13, with an improvement throughout adolescence. A one-way ANOVA conducted on the mean scores of the subjects' ratings of their own global self-worth for each age group revealed significant age effects,  $F(6, 500) = 2.9584$ ,  $p < .01$  (see Table 9). Subsequent Neuman-Keuls procedures indicated a significant decrease of global self-worth between the ages of 11 and 13, as predicted. This decrease was the only significant difference found, therefore, a general trend could not be identified (see Figure 5).

#### Discussion

Specific limitations of the present study are discussed at length at the end of the discussion section. For several reasons, this cross-sectional study does not allow for the definitive interpretation of the results with

respect to developmental patterns; however, discussion involving a developmental-contextual perspective is put forth as a proposed model to explain the changes during adolescence. It is offered as no more than a possible framework to aid in the conceptualization of interactions that *may* occur during adolescence.

### Changes during adolescence

This study purported to identify the age at which the subjects' ratings of their own physical appearance first decreased and note its trend throughout adolescence. In accordance with the findings of previous studies (Davies & Furnham, 1986; Phelps et al., 1993; Rauste-von Wright, 1989; Simmons & Rosenberg, 1975), a general decrease in the subjects' ratings of their own physical appearance occurred throughout adolescence. As predicted, the first significant decline occurred between the ages of 12 and 13. This specific result was consistent with the findings of Davies and Furnham (1986) and Simmons and Rosenberg (1975), yet only indirectly supported by the findings of Phelps et al. (1993). The Phelps study found a significant decrease in perceptions of physical appearance in all of the age groups *except* for the 11 and 13 year olds (11, 13, 15, & 18 age groups). This latter study may have yielded results consistent with Davies and Furnham (1986), Simmons and Rosenberg (1975), and the present study had they obtained measures of the relevant variables at the age of 12 in addition to the ages already examined.

Another significant change was expected to occur in global self-worth during adolescence. A significant decrease in global self-worth was found between the ages of 11 and 13, yielding results that are consistent

with the prediction that a decrease would be seen close to the ages of 12 or 13. The difference between the 11 ( $M = 3.4968$ ,  $SD = .4821$ ) and 12 ( $M = 3.3990$ ,  $SD = .5291$ ) year olds, and the 12 and 13 ( $M = 3.1947$ ,  $SD = .7209$ ) year olds was not significant, although the means decreased from one age to the next. These findings are consistent with those of Simmons, Rosenberg, and Rosenberg (1973) in which they found a significant prevalence of low self-esteem in the 12-14 year old age group.

Contrary to the findings of several previously mentioned studies (McCarthy & Hoge, 1982; O'Malley & Bachman, 1983; Simmons, Rosenberg, & Rosenberg, 1973), a general trend in self-esteem from early to late adolescence was not found. The means of the 7-9 and 10 year old age groups were higher than those of the 14 and 15-18 year old age groups; however, the difference was not large enough to be significant.

#### Differences in ratings of physical appearance across observers

As previously mentioned, the counselors' ratings of the subjects' physical appearance increased throughout adolescence. This may have occurred for several reasons. To begin with, the items from both forms of the TBRS concerning the subject's physical appearance may have elicited certain responses by the counselors due to the wording of the items. For example, one of the items from this subscale states, "This individual is good looking." In general, seven and eight year olds are not typically labeled as "good looking" even when they have a favorable physical appearance. Different descriptive words, such as "cute", may have captured favorable physical appearance in the young subjects better than words that are typically used to describe females after they have

experienced puberty. This may have contributed to the increase in physical appearance scores by the counselor as the subjects experienced puberty. The label "good looking" may have seemed more appropriate as the subjects increased in age and physical maturity.

Another reason this increase in scores may have occurred concerns the characteristics of the counselors. One interpretation of the findings may be that the greater the similarity between the physical characteristics of the subjects and the counselors, the higher the physical appearance rating. In other words, the subjects were rated more favorably the more that they looked like the counselors. The counselors' ratings were presumably influenced by perceived societal demands concerning physical beauty. The physical characteristics that contribute to this perceived societal image are most likely more consistent with those of the counselors and older subjects than with those of the younger subjects. This may be a reason why the older subjects were rated more favorably by the counselors with respect to physical appearance.

An additional concern about the counselors' ratings of the subjects involves the potential relationship between the counselors and the subjects. That is, the counselors *lived* with the subjects that they rated and thus presumably had overall opinions or impressions of each subject before they rated them. The rating by the counselor was therefore confounded with the counselor's previous exposure to the subject. For example, the subject's personality may have colored the counselor's perception for the rating of physical appearance. If a counselor's perception of a subject's personality was favorable, the counselor may

have rated the subject higher on physical appearance than someone who did not have previous exposure to the subject might have rated them. In this study, the logistics of the camping environment constrained the possibility of obtaining a measure for each subject from someone who did not have previous exposure to the subject.

#### Differences between counselor and subject ratings of subject's physical appearance

A difference score between the subjects' and counselors' ratings of the subjects' physical appearance revealed that a difference in the perception of physical appearance exists. Consistent with the findings of Phelps et al. (1993) and Lerner et al. (1991) (although not a specified purpose of that study) a discrepancy was found between the subjects' and counselors' (or teachers' in the previous studies) ratings of the subjects' physical appearance as predicted. An interesting finding which accompanied this discrepancy in the ratings of physical appearance was the changing nature of the difference score between the 7-12 year olds and the 13-18 year olds as was indicated by Neuman-Keuls procedures. As indicated earlier, the 7-9, 10, 11, and 12 year old age groups rated themselves *higher* on physical appearance than the counselors rated the subjects on physical appearance. In other words, these subjects rated themselves more positively with regard to physical appearance than the counselors rated the subjects on physical appearance. The first point at which the subjects began to rate themselves *lower* than the counselors rated them on physical appearance occurred at the age of 13 and the self

rating steadily decreased throughout the remaining adolescent years, as predicted.

For many of the reasons mentioned in the previous section, the counselors' ratings of the subjects cannot be considered "objective" measures. This becomes a limitation of this study when speaking of body image as the potential misperception between a person's *actual* physical appearance ("objective"), and how the person perceives herself physically. That is, both the counselor and subject ratings must be considered subjective ratings of the subject's psychosocial functioning. The differences between the ratings are still relevant and important as long as it is understood that the counselor ratings do not necessarily represent "reality."

The difference in the ratings of the subjects' physical appearance suggests a possible difference in the perceptions of the contextual demands concerning physical appearance and/or a difference in how the subjects measured up to those standards. This study did not include a direct assessment of what the subjects and counselors considered "ideal" physical appearance to be; therefore, a difference in perceived contextual demands can only be suggested as a *possible* explanation for the discrepancy in ratings.

#### Correlational analyses

In the present study, the relation between global self-worth and subjects' ratings of their own physical appearance ( $r = .61, p < .001$ ) was consistent with the findings of Alsaker (1992). It has been well documented that body image and self-worth, or self-esteem, typically

fluctuate in the same direction. Anxiety and these ratings of physical appearance showed a significant negative correlation ( $r = -.40, p < .001$ ) as expected, which exceeded those reported by Cash, Cash, & Butters (1983), Rauste-von Wright (1989), and Theron, Nel, & Lubbe (1991). Correlations between anxiety and body image ranged between  $-.18$  and  $-.38$  for each of these studies. In addition, the counselors' ratings of the subjects' physical appearance did not significantly correlate with the subjects' ratings of their own physical appearance ( $r = -.03, p < .54$ ) or with global self-worth ( $r = -.03, p < .57$ ) as expected. This emphasizes the potential importance of perspective when assessing perceptions of physical appearance and related variables. The counselors' and subjects' ratings on these variables were not expected to correlate significantly because of a probable difference when assessing situational demands.

#### Predictors of the subjects' ratings of their own physical appearance

The identification of several predictors of the subjects' ratings of their own physical appearance yielded hypothesized results. Global self-worth proved to be the strongest predictor in the regression model, with age, anxiety, social acceptance as rated by self, and athletic competence as rated by the counselor also contributing to the model. It is of interest to note here that the regression equation explains 45.43% of the total variance, which means that 55% of the variance is not accounted for in the model. The model is therefore misspecified. Future research efforts may be able to account for more of the total variance by considering the possible contribution of pubertal status to the regression model. Specifically, the onset of puberty may be an important factor which

contributes to the developmental changes in perceptions of physical appearance and related variables (e.g., self-esteem, peer acceptance, anxiety). Alsaker (1992), for example, found that females who begin puberty prematurely show significant negative self-evaluations (e.g., low self-esteem).

When discussing the variance explained by certain variables it is useful to note existing correlations. The subjects' ratings of their own physical appearance correlated moderately with anxiety ( $r = -.40$ ,  $p < .001$ ) but correlated somewhat higher with global self-worth ( $r = .61$ ,  $p < .001$ ). As would be expected, the effect of global self-worth on the subjects' ratings of physical appearance was larger than the effect of anxiety as demonstrated in the model. However, the impact of anxiety was reduced since global self-worth was credited with the common variance shared between global self-worth and anxiety. This multicollinearity between the variables may have caused anxiety to appear to have a smaller effect on the subjects' perceptions of physical appearance than it actually did. Thus, in truth, anxiety may have had a larger effect on perceptions of physical appearance than is evidenced by the regression equation.

It was hypothesized that the sociometric peer rating of social acceptance would be a significant predictor of the subjects' ratings of their own physical appearance. The subject's rating of their own social acceptance did contribute to the regression model; however, its effect on the subjects' ratings of their own physical appearance was proportionally the smallest of the significant predictors. It is possible that a two-stage model could better assess the hypothesized contribution of social

acceptance to the prediction of perceptions of physical appearance *through* a construct such as global self-worth. That is, any possible contribution of social acceptance to the regression model may be better assessed indirectly through a moderator variable such as global self-worth.

#### A Developmental Model

The possible bidirectional relation between the variables in this study may be conceptualized in a developmental-contextual model of development. Within this model, individuals serve as both producers and products of their own development. In other words, certain characteristics of the individual (e.g., possibly physical or behavioral) elicit differential responses from the social environment which in turn feed back to the individual and affect further development (possibly in the form of a psychological construct such as body image). The goodness of fit between the individual's characteristics and her perceived demands of the situation concerning those characteristics may have positive developmental implications if the two are congruent. For example, if the perceived demands of a social situation concerning physical appearance call for average body build and the individual feels that she falls within this range, a positive developmental outcome may occur (e.g., positive body image). When an individual feels good about her physical appearance, this in turn may have a positive affect on her sense of self-worth, or self-esteem. This new level of self-esteem may affect her behavior in subsequent social interactions and the feedback received from that environment may in fact improve her body image further (possibly due to greater confidence when presenting herself in that situation). The opposite may also be true. If an

individual feels that she does not have an average body build and that is the perceived demand of the situation, poor body image may result, which in turn may cause her sense of self-worth to decrease. A sense of lower self-worth may cause the individual to be unusually shy during her next social interchange, which may in turn lead to feedback that she may internalize negatively (e.g., "the other person thought I was ugly and didn't want to talk to me"), which may result in even lower body image. This concept of goodness of fit is offered as a means for the conceptualization of how these variables *may* interact (dynamic interactionism). The regression procedure in the current study captured a snapshot of time and was correlational; therefore the discussion above involving the probable interplay between the individual and her environment is merely offered as a *possibility*. The data and design of the current study do not permit causal or directional relations to be stated as conclusions.

#### Limitations of study

There are several limitations of this study. First, some of the SPP and TBRS subscales were physically removed from the forms before their administration and a calculation to determine the internal consistency of the instruments would reveal whether or not the integrity of the measure was maintained. However, at present the information related to individual items is not available. Therefore, this calculation cannot be performed and the reliability of the altered instruments is unknown.

Second, all of the subject measures were obtained using self-report. A concern when using self-report measures is that bias may be introduced

by the subject when responding to the items. Edwards (1957) demonstrated that measures of personality traits and psychiatric disorders significantly correlate with measures of social desirability. That is, there is a tendency by the subject to present him/herself in the best possible light, or with the most socially desirable characteristics. The implication for the present study, since all of the measures were self-report, is that there is no way to determine whether or not the subjects exaggerated their "positive" qualities without the availability of measures that were not self-report. In addition, it is not possible to determine how much of the covariation between measures resulted from the use of similar methods.

The counselors may have also been biased to give the subjects generally favorable ratings because of the setting of this particular study. That is, the subjects and counselors were both part of a camping environment and could have been influenced by the perceived demand characteristics of the situation (unusually positive atmosphere). For example, the subjects may have wanted to present themselves in a positive way knowing that the administrative staff was conducting the surveys; for the same reason, the counselors may have refrained from providing negative responses. There is some evidence to suggest that the subjects may have responded in a socially desirable manner. The mean scores of the subjects' ratings of their own physical appearance and global self-worth were consistently higher for each age group of subjects in the present study than for the normative sample.

Third, the current study was cross-sectional. The results of this study may suggest a developmental pattern with regard to perceptions of

physical appearance. However, this research design does not afford the definitive interpretation of the results with respect to developmental patterns, mainly because of possible cohort effects. In this study, the 7 year old and 18 year old subjects differed in their developmental histories. That is, they were exposed to different social and emotional backgrounds (e.g., one vs. two parents in the home, exposure to different media programs) which may have led to characteristics that are confounded with the variables being assessed in the current study. There is no evidence that the 7 year olds will mature and respond as the 18 year olds did in the present study when they reach the age of 18, and the reverse is also true. Because of possible cohort effects, the results of the current study may suggest a pattern of development concerning perceptions of physical appearance and related variables; however, longitudinal studies are needed to control for possible cohort effects.

Although a developmental perspective of the psychosocial functioning of adolescents (and particularly body image) was discussed in the current study, it acts as little more than a framework for the conceptualization of *possible* changes occurring in adolescence. Developmental conclusions may not be drawn from cross-sectional studies for the reasons mentioned above; they are not designed to capture developmental trends. The developmental-contextual model discussed in this study is offered as a possible way to conceptualize the changes that take place during adolescence. This study does not purport to demonstrate definitively when and how these changes occur, but simply to

speculate about those changes while acknowledging the constraints of the cross-sectional design.

Fourth, the majority of the subjects in the current study were Caucasian and from middle and upper class homes in the Southeast. As a result, the generalizability of the results is limited. As mentioned previously, the subjects' ratings of their own physical appearance and global self-worth were consistently higher for each age group than those for the normative sample (i.e., children and adolescence from Colorado, 90% of whom were Caucasian and from lower to middle class families). However, the findings concerning the age at which a significant decrease in perceptions of physical appearance and global self-worth may occur are consistent with past research using samples varying in several subject characteristics (Davies and Furnham, 1986; Lerner et al., 1991; Simmons and Rosenberg, 1975), suggesting that the current findings may be *somewhat* generalizable.

### Summary

Even with the previously described limitations, it still may be useful to conceptualize the possible psychosocial changes that occur during adolescence within a developmental-contextual model. Among the key assumptions of this model are that individuals are reciprocally embedded in many contexts (psychological, physical, sociocultural) and that the individual and the context dynamically interact with one another, thereby also *affecting* one another. That is, bidirectional interactions are continually taking place between the person and the context. This study does not purport to demonstrate bidirectional interactions and does not

allow for a definitive interpretation of the results with respect to developmental patterns; however, the developmental-contextual model is suggested as a framework for the development of body image, and is in need of further comprehensive investigation (i.e., involving longitudinal studies with multiple types of measures).

The varied constructs in this study revealed an impressive convergence of the time at which significant changes between two consecutive ages first appeared. The subjects' ratings of their own physical appearance, global self-worth, and the difference score which assessed the discrepancy between the subjects' and the counselors' ratings of the subjects' physical appearance each showed a significant negative change at the age of 13. The subjects' ratings of their own physical appearance and global self-worth decreased, while the subjects rated themselves more poorly on physical appearance than did the counselors (difference score). Prior to the age of 13, the subjects had rated themselves more positively with regard to physical appearance than the counselors rated them on physical appearance.

Age, global self-worth, anxiety, athletic competence as rated by the counselor, and social acceptance as rated by the subject were all significant predictors of the subjects' ratings of their own physical appearance. The subjects' ratings of social acceptance contributed to the regression model, but they had the least effect on the subjects' ratings of their own physical appearance. The peer ratings of social acceptance did not contribute to the regression model as had been expected, perhaps due to a conceptual flaw. Because social acceptance may be more directly

related to global self-worth than to perceptions of physical appearance, a two-stage model may better assess the hypothesized contribution of social acceptance to the prediction of perceptions of physical appearance. This two-stage model suggests that social acceptance may act indirectly *through* a construct such as global self-worth. Additionally, a measure of pubertal status may enhance the total variance accounted for by the regression model.

The notion that adolescence is a difficult time due to changes occurring within social, emotional, and physical contexts is not new. However, this study offers some support to the existing literature which has attempted to specify *when* these changes may occur. It would be desirable to also be able to offer a definite explanation as to *how* or *why* these changes occur, but these explanations are constrained by the design of the study. In addition to past research, this study may contribute to speculation about *when* intervention programs may be useful in order to prevent the development of related psychological disorders (e.g., eating disorders and depression).

## References

- Adams, G. R. (1977). Physical attractiveness research. *Human Development, 20*, 217-239.
- Adams, G. R. & Cohen, A. S. (1976a). An examination of cumulative folder information used by teachers in making differential judgments of children's abilities. *The Alberta Journal of Educational Research, 22*, 216-225.
- Alsaker, F. D. (1992). Pubertal timing, overweight, and psychological adjustment. *Journal of Early Adolescence, 12*, 396-419.
- Bar-Tal, D. & Saxe, L. (1976). Physical attractiveness and its relationship to sex-role stereotyping. *Sex Roles, 2*, 123-133.
- Beck, A. T., & Beck, R. W. (1972). Screening depressed patients in family practice - A rapid technique. *Postgraduate Medicine, 52*, 81-85.
- Bemis, K. M. (1978). Current approaches to the etiology and treatment of anorexia. *Psychological Bulletin, 83*, 593-617.
- Berkovitz, I. H. (1993). Effects of secondary school and college experiences on adolescent female development. In M. Sugar (Ed.), *Female adolescent development*. New York: Brunner/Mazel.
- Bruch, H. (1973). *Eating disorders*. New York: Basic Books.
- Buss, A. H. (1980). *Self-consciousness and social anxiety*. San Francisco: W. H. Freeman.
- Cash, T. F., Cash, D. W., & Butters, J. W. (1983). "Mirror, mirror, on the wall...?": Contrast effects and self-evaluations of physical attractiveness. *Personality and Social Psychology Bulletin, 9*,

351-358.

Cattell, R. B., & Cattell, M. D. L. (1962). *Handbook for the Jr.-Sr. high school personality factor questionnaire (The 16 PF Test)*.

Institute for Personality and Ability Testing, Champaign, IL.

Cavior, N. & Dokecki, P. R. (1975). Physical attractiveness, perceived attitude similarity, and academic achievement as contributors to interpersonal attraction among adolescents. In R. E. Grinder (Ed.), *Studies in adolescence*. New York: Macmillan.

Conners, C. K. (1970). Symptom patterns in hyperkinetic, neurotic, and normal children. *Child Development*, 41, 667-682.

Covey, L. A. & Feltz, D. L. (1991). Physical activity and adolescent female psychological development. *Journal of Youth and Adolescence*, 20, 463-474.

Davies, E. & Furnham, A. (1986). Body satisfaction in adolescent girls. *British Journal of Medical Psychology*, 59, 279-287.

Dornbusch, S. M., Gross, R. T., Duncan, P. D., & Ritter, P. L. (1987). Stanford studies of adolescence using the national health examination survey. In R. M. Lerner & T. T. Foch (Eds.), *Biological-psychosocial interactions in early adolescence*. New Jersey, London: Lawrence Erlbaum Associates.

Dubas, J. S. & Petersen, A. C. (1993). Female pubertal development. In M. Sugar (Ed.), *Female adolescent development*. New York: Brunner/Mazel.

Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. New York: Dryden Press.

- Fallon, A. E. (1990). Culture in the mirror: Sociocultural determinants of body image. In T. F. Cash & T. Pruzinsky (Eds.), *Body Images: Development, deviance, and change*. New York, London: Guilford Press.
- Fisher, S. (1973). *Body consciousness: You are what you feel*. New Jersey: Prentice-Hall.
- Fitts, W. H. (1965). *Manual of the Tennessee Self-Concept Scale*. Nashville, TN: Counselor Recordings and Tests.
- Garner, D. M. (1991). *Eating Disorder Inventory-2*. Odessa, FL: Psychological Assessment Resources, Inc.
- Garner, D. M., Garfinkel, P. E., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness in women. *Psychological Reports*, 47, 483-491.
- Halmi, K. A., Falk, J. R., & Schwartz, E. (1981). Binge-eating and vomiting: A survey of a college population. *Psychological Medicine*, 11, 697-706.
- Harter, S. (1983). *Supplementary description of the Self-Perception Profile for children: Revision of the Perceived Competence Scale for children*. Denver, CO: University of Denver.
- Harter, S. (1985). *Manual for the Self-Perception Profile for Children*. Denver, CO: University of Denver.
- Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents*. Denver, CO: University of Denver.
- Hawkins, R. C., Turell, S., & Jackson, L. J. (1983). Desirable and undesirable masculine and feminine traits in relation to students'

- dieting tendencies and body image dissatisfaction. *Sex Roles*, 9, 705-718.
- Helmreich, R., Stapp, J., & Ervin, C. (1974). The Texas Social Behavior Inventory (TSBI): An objective measure of self-esteem or social competence. *Catalog of Selected Documents in Psychology*, 4, 79.
- Hirsch, B. J. & DuBois, D. L. (1991). Self-esteem in early adolescence: The identification and prediction of contrasting longitudinal trajectories. *Journal of Youth and Adolescence*, 20, 53-72.
- Jones, R. M. & Korn, S. J. (1972). Assessing the importance of physical attractiveness across the life span. *Journal of Social Psychology*, 118, 131-132.
- Lerner, K., Kucher, J. S., East, P. L., Lerner, J. V., Lerner, R. M. (1987). Early adolescents' physical organismic characteristics and psychosocial functioning: Findings from the Pennsylvania Early Adolescent Transition Study (PEATS). In R. M. Lerner & T. T. Foch (Eds.), *Biological-psychosocial interactions in early adolescence*. New Jersey, London: Lawrence Erlbaum Associates.
- Lerner, R. M. (1978). Nature, nurture, and dynamic interactionism. *Human Development*, 21, 1-20.
- Lerner, R. M. (1982). Children and adolescents as producers of their own development. *Developmental Review*, 2, 342-370.
- Lerner, R. M. (1986). *Concepts and theories of human development*. New York: Random House.

- Lerner, R. M., Delaney, M., Hess, L. E., Jovanovic, J., & Eye, A. V. (1990). Early adolescent physical attractiveness and academic competence. *Journal of Early Adolescence, 10*, 4-20.
- Lerner, R. M. & Gellert, E. (1969). Body build identification, preference, and aversion in children. *Developmental Psychology, 1*, 456-462.
- Lerner, R. M. & Iwawaki, S. (1975). Cross-cultural analysis of body behavior relations, II: Factor structure of body build stereotypes of Japanese and American adolescents. *Psychologica, 18*, 83-91.
- Lerner, R. M., Karabenick, S. A., & Stuart, J. L. (1973). Relations among physical attractiveness, body attitudes, and self-concept in male and female college students. *Journal of Psychology, 85*, 119-129.
- Lerner, R. M. & Korn, S. J. (1972). The development of body-build stereotypes in males. *Child Development, 43*, 908-920.
- Lerner, R. M., Lerner, J. V., Hess, L. E., Schwab, J., Jovanovic, J., Talwar, R., & Kucher, J. S. (1991). Physical attractiveness and psychosocial functioning among early adolescents. *Journal of Early Adolescence, 11*, 300-320.
- Lerner, R. M., Orlos, J. B., & Knapp, J. R. (1976). Physical attractiveness, physical effectiveness, and self-concept in late adolescents. *Adolescence, 11*, 313-326.
- Lerner, R. M. & Pool, K. B. (1972). Body build stereotypes: A cross-cultural comparison. *Psychological Reports, 31*, 527-532.
- Lerner, R. M. & Schroeder, C. (1971b). Physique identification, preference, and aversion in kindergarten children. *Developmental*

*Psychology*, 5, 538.

Lerner, R. M. & Skinner, E. A., & Sorell, G. T. (1980). Methodological implications of contextual, dialectic theories of development. *Human Development*, 23, 225-235.

McCarthy, J. D. & Hoge, D. R. (1982). Analysis of age effects in longitudinal studies of adolescent self-esteem. *Developmental Psychology*, 18, 372-379.

Mittal, B. & Balasubramania, S. K. (1987). Testing the dimensionality of the Self-Consciousness Scale. *Journal of Personality Assessment*, 51, 53-68.

O'Malley, P. M. & Bachman, J. G. (1983). Self-esteem: Change and stability between ages 13 and 23. *Developmental Psychology*, 19, 257-268.

Phelps, L., Johnston, L. S., Jimenez, F. L., Andrea, R. K., & Healy, R. W. (1993). Figure preference, body dissatisfaction, and body distortion in adolescence. *Journal of Adolescent Research*, 8, 297-310.

Pruzinsky, T. & Cash, T. F. (1990). Integrative themes in body-image development, deviance, and change. In Cash, T F. & Pruzinsky, T. (Eds.), *Body Images: Development, deviance, and change*. New York, London: Guilford Press.

Rauste-von Wright, M. (1989). Body image satisfaction in adolescent girls and boys: A longitudinal study. *Journal of Youth and Adolescence*, 18, 71-82.

Reynolds, C. R. & Richmond, B. O. (1978). What I think and feel: A

- revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, 6, 271-280.
- Rierdan, J., Koff, E., & Stubbs, M. L. (1987). Depressive symptomology and body image in adolescent girls. *Journal of Early Adolescence*, 7, 205-216.
- Rierdan, J., Koff, E., & Stubbs, M. L. (1988). Gender, depression, and body image in early adolescents. *Journal of Early Adolescence*, 8, 109-117.
- Rosenbaum, M. (1993). The changing body image of the adolescent girl. In M. Sugar (Ed.), *Female adolescent development*. New York: Brunner/Mazel.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1986). Self-concept from middle childhood through adolescence. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self*. New Jersey, London: Lawrence Erlbaum Associates.
- Schilder, P. (1935). *The image and appearance of the human body*. London: Kegan, Paul, Trench, & Truber.
- Schonfeld, W. A. (1969). The body and body image in adolescents. In G. Caplan & S. Lebovici (Eds.), *Adolescence*. New York: Basic Books.
- Simmons, R. G. & Rosenberg, M. (1975). Sex, sex roles and self-image. *Journal of Youth and Adolescence*, 4, 229-258.
- Simmons, R. G., Rosenberg, F., & Rosenberg, M. (1973). Disturbance

in the self-image at adolescence. *American Sociological Review*, 38, 553-568.

Sorell, G. T. & Nowak, C. A. (1981). The role of physical attractiveness as a contributor to individual development. In R. M. Lerner & N. A. Busch-Rossnagel (Eds.), *Individuals as producers of their development: A life-span perspective*. New York: Academic Press.

Spence, J. T. & Helmreich, R. L. (1978). *Masculinity and femininity. Their psychological dimensions, correlates, and antecedents*. Austin: University of Texas Press.

Theron, W. H., Nel, E. M., & Lubbe, A. J. (1991). Relationship between body-image and self-consciousness. *Perceptual and Motor Skills*, 73, 979-983.

Table 1

Demographic Characteristics

Age Group (years)	<u>n</u>
7-9	51
10	70
11	74
12	106
13	102
14	80
15-18	71
Total	554

Table 2

Means and Standard Deviations for the SPP Subscales for Each Age Group

Age Group	Physical Appearance	Global Self-Worth	Social Acceptance	Athletic Competence	Anxiety
7-9					
<u>M</u>	3.278	3.485	3.111	3.022	7.529
(S.D.)	0.621	0.563	0.585	0.643	6.140
10					
<u>M</u>	3.173	3.402	3.149	3.077	7.609
(S.D.)	0.644	0.589	0.631	0.603	5.824
11					
<u>M</u>	3.000	3.497	3.248	2.900	8.014
(S.D.)	0.704	0.482	0.595	0.635	5.025

Table 2 (continued)

Means and Standard Deviations for the SPP Subscales for Each Age Group

Age Group	Physical Appearance	Global Self-Worth	Social Acceptance	Athletic Competence	Anxiety
12					
<u>M</u>	2.858	3.399	3.358	2.987	7.774
(S.D.)	0.750	0.529	0.586	0.745	5.983
13					
<u>M</u>	2.617	3.195	3.236	2.863	7.427
(S.D.)	0.701	0.721	0.593	0.736	6.064
14					
<u>M</u>	2.713	3.299	3.303	2.760	8.125
(S.D.)	0.715	0.559	0.524	0.750	5.225

Table 2 (continued)

Means and Standard Deviations for the SPP Subscales for Each Age Group

Age Group	Physical Appearance	Global Self-Worth	Social Acceptance	Athletic Competence	Anxiety
15-18					
<u>M</u>	2.505	3.216	3.418	2.762	7.460
(S.D.)	0.750	0.616	0.552	0.764	5.447

Table 3

Means and Standard Deviations for the Counselors'

Ratings of Subject Variables for Each Age Group

Age Group	Physical Appearance	Social Acceptance	Athletic Competence
7-9			
<u>M</u>	3.202	3.094	2.943
(S.D.)	0.675	0.684	0.514
10			
<u>M</u>	3.231	3.053	2.935
(S.D.)	0.761	0.875	0.626
11			
<u>M</u>	3.396	3.322	3.129
(S.D.)	0.778	0.764	0.652
12			
<u>M</u>	3.495	3.494	3.254
(S.D.)	0.699	0.653	0.676
13			
<u>M</u>	3.677	3.608	3.358
(S.D.)	0.506	0.628	0.698

Table 3 (continued)

Means and Standard Deviations for the Counselors'

Ratings of Subject Variables for Each Age Group

Age Group	Physical Appearance	Social Acceptance	Athletic Competence
14			
<u>M</u>	3.763	3.600	3.131
(S.D.)	0.413	0.587	0.728
15-18			
<u>M</u>	3.566	3.640	3.331
(S.D.)	0.622	0.566	0.658

Table 4

Means and Standard Deviations for the Peer Ratings and Difference Score for Each Age Group

Variables	Age Groups						
	7-9	10	11	12	13	14	15-18
Friendship Rating							
<u>M</u>	3.521	3.472	3.413	3.716	3.505	3.504	3.938
(S.D.)	0.605	0.759	0.690	0.755	0.746	0.758	0.665
Difference Score							
<u>M</u>	-1.066	-0.757	-0.319	-0.044	0.542	0.563	0.583
(S.D.)	1.290	1.401	1.495	1.347	1.312	1.109	1.082

Note. Difference score = (counselor's rating of subject's physical appearance) - (subject's rating of her own physical appearance). The ratings were standardized prior to obtaining a difference score.

Table 5

Multivariate Analysis of Variance for the Subjects' Physical Appearance as Assessed by Both Subjects and Counselors

Source	Wilks' Lambda	Hypoth. <u>df</u>	Error <u>df</u>	F
Multivariate				
Age	.8224	12	992	8.4882*
Univariate				
Subject Ratings				
Physical Appearance				6.3813*
Counselor Ratings				
Physical Appearance				10.2293*

Note. Univariate F-tests with df (6, 497). The standardized mean scores for the subject and counselor ratings of physical appearance were used for the analyses. \* $p < .001$ .

Table 6

Analysis of Variance for the Difference Score by Age

Source	df	F
Between Groups	6	16.4807*
Within Groups	497	

Note. Difference Score = (counselor's ratings of the subject's physical appearance) - (subject's ratings of her own physical appearance). The ratings were standardized prior to obtaining a difference score.

\* $p < .001$ .

Table 7

Correlation Matrix Including All Variables

Measure	1	2	3	4	5	6	7	8	9
1. AGE	----								
2. SPP-PA	-.308*	----							
3. SPP-GSW	-.139	.605*	----						
4. SPP-SA	.125	.350*	.483*	----					
5. SPP-AC	-.143	.262*	.268*	.316*	----				
6. ANX	.031	-.396*	-.438*	-.418*	-.312*	----			
7. TBRIS-PA	.252*	-.028	-.026	.102	.050	-.038	----		
8. TBRIS-AC	.160*	-.022	.045	.147*	.267*	-.157*	.488*	----	
9. FRND	.070	.088	.099	.270*	.095	-.197*	.237*	.251*	----

Note. SPP = Self-Perception Profile; TBRIS = Teacher's Behavior Rating Scale; PA = physical appearance; GSW = global self-worth; SA = social acceptance; AC = athletic competence; ANX = anxiety; FRND = sociometric friendship rating scale. \*p <.001.

Table 8

Simultaneous Regression Analysis for Variables Predicting the  
Subject's Ratings of Their Own Physical Appearance

Variable	B	SE B	$\beta$
Age	-.1033	.0153	-.2484**
Anxiety (RCMAS)	-.0189	.0052	-.1465**
Global Self-Worth (SPP)	.5596	.0513	.4550**
Social Acceptance (SPP)	.1106	.0539	.0883*
Athletic Competence (SPP)	.0516	.0398	.0500
Physical Appearance (TBRS)	.0790	.0448	.0710
Athletic Competence (TBRS)	-.0973	.0454	-.0884*
Friendship Rating Scale	.0079	.0364	.0080

Note. SPP = Self-Perception Profile; TBRS = Teacher's Behavior Rating Scale; RCMAS = Revised Children's Manifest Anxiety Scale.  $R^2 = .4543$ . \* $p < .05$ . \*\* $p < .001$ .

Table 9

Analysis of Variance for the Subjects' Ratings of  
Global Self-Worth by Age

---

Source	<u>df</u>	<u>F</u>
Between Groups	6	2.9584*
Within Groups	500	

---

Note. \* $p < .01$ .

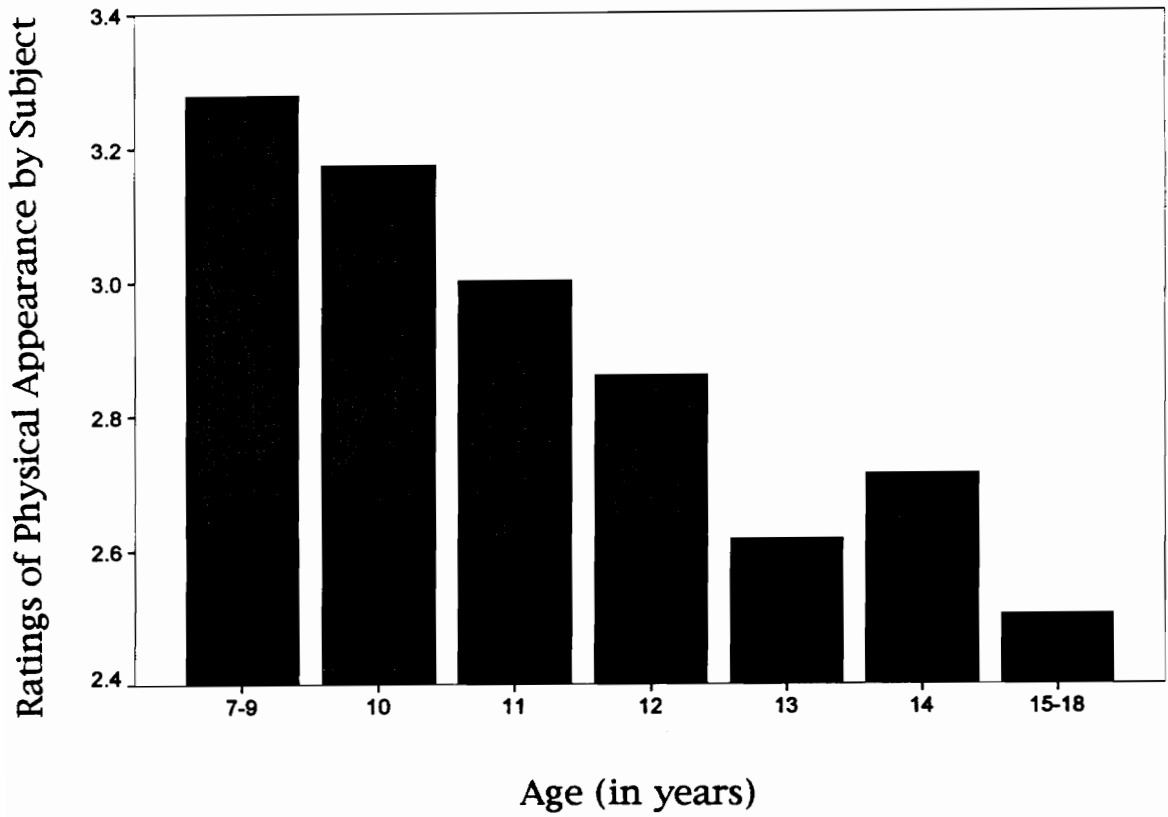
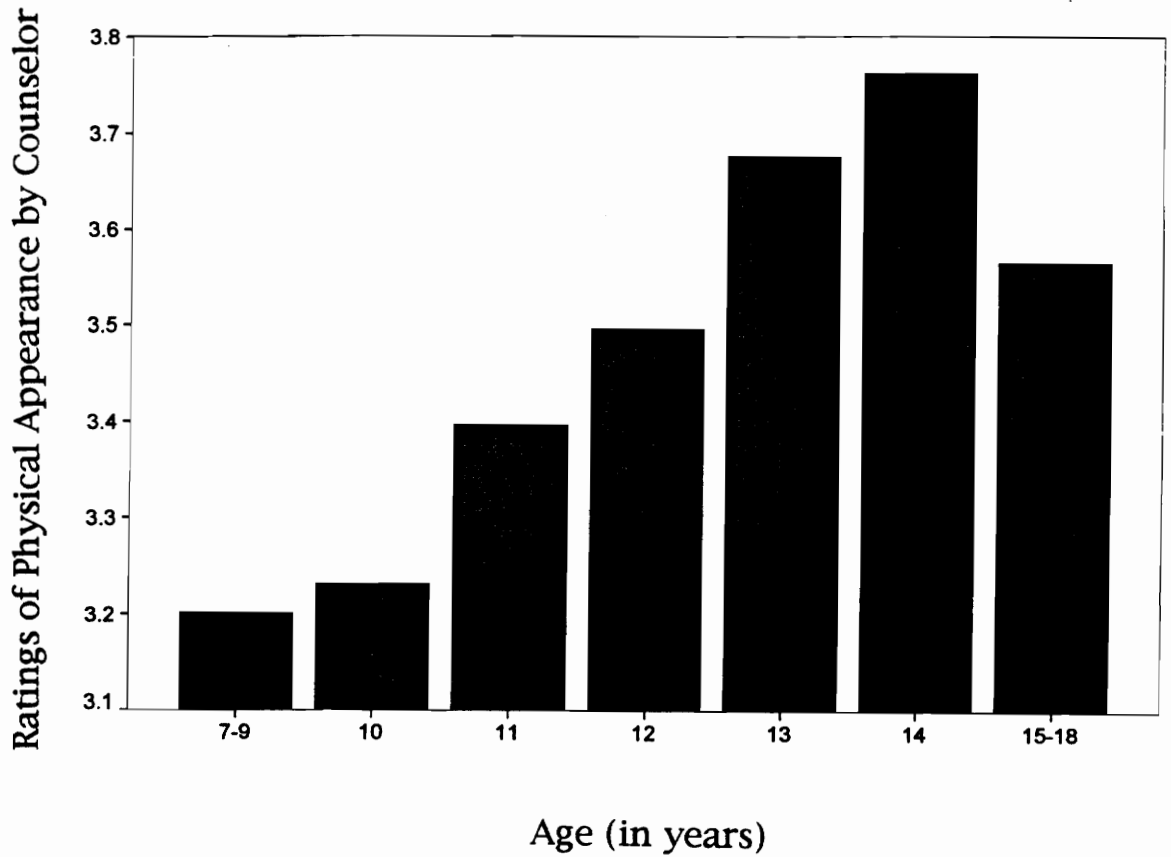
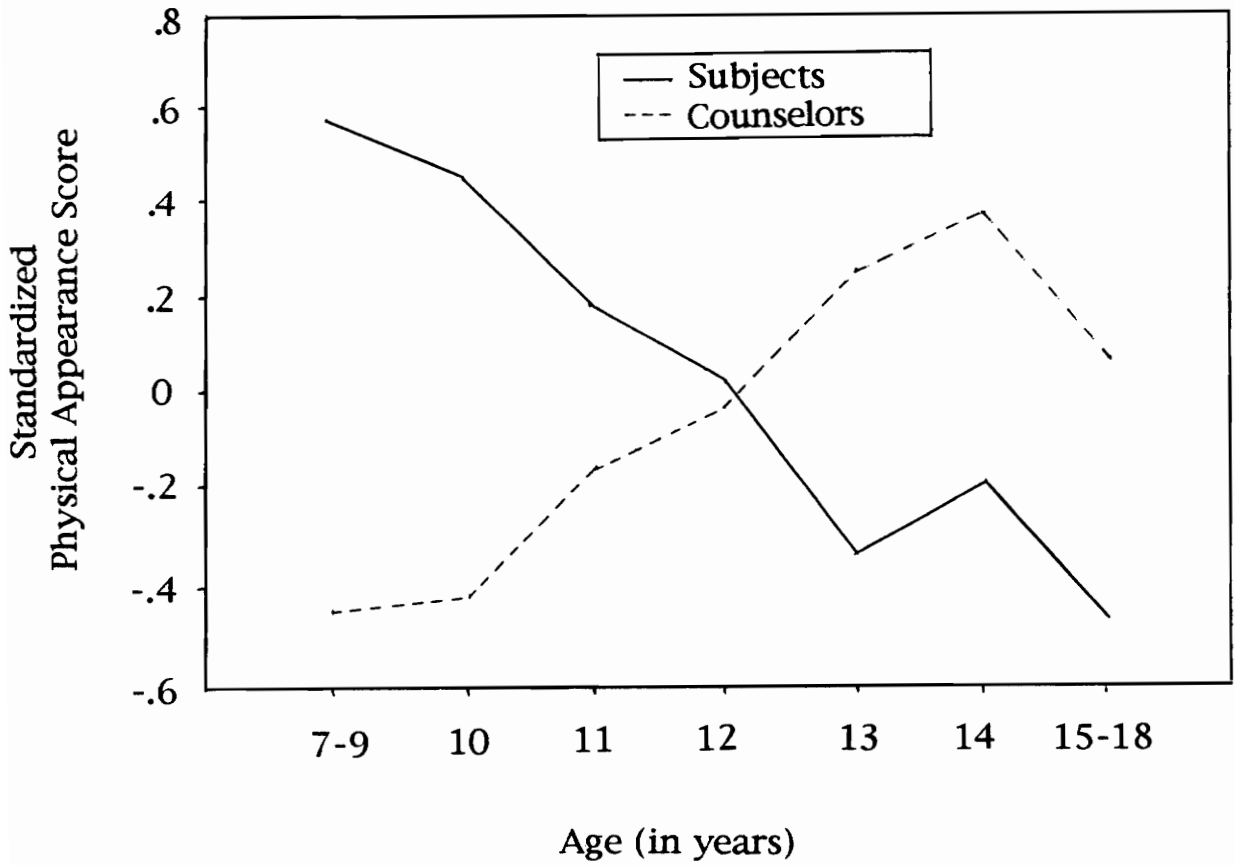


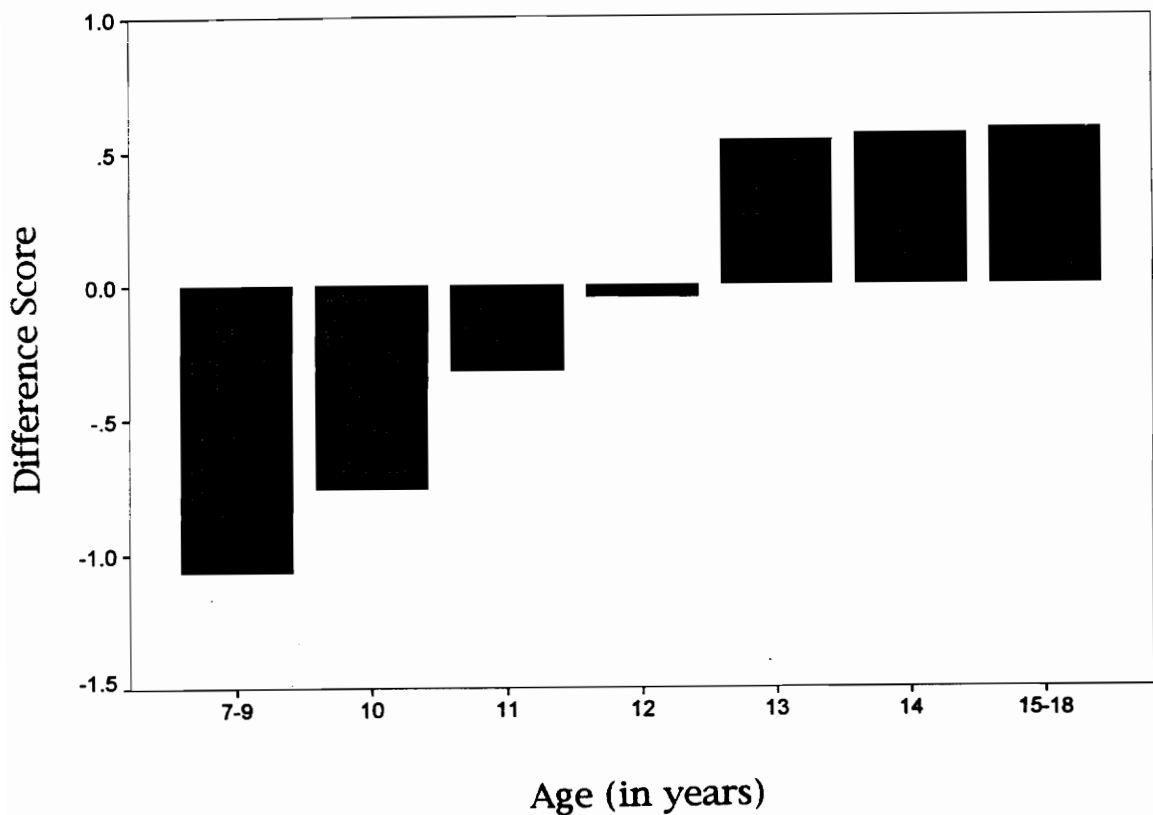
Figure 1. Mean scores for the subjects' ratings of their own physical appearance as assessed by the Self-Perception Profile are provided for each age group.



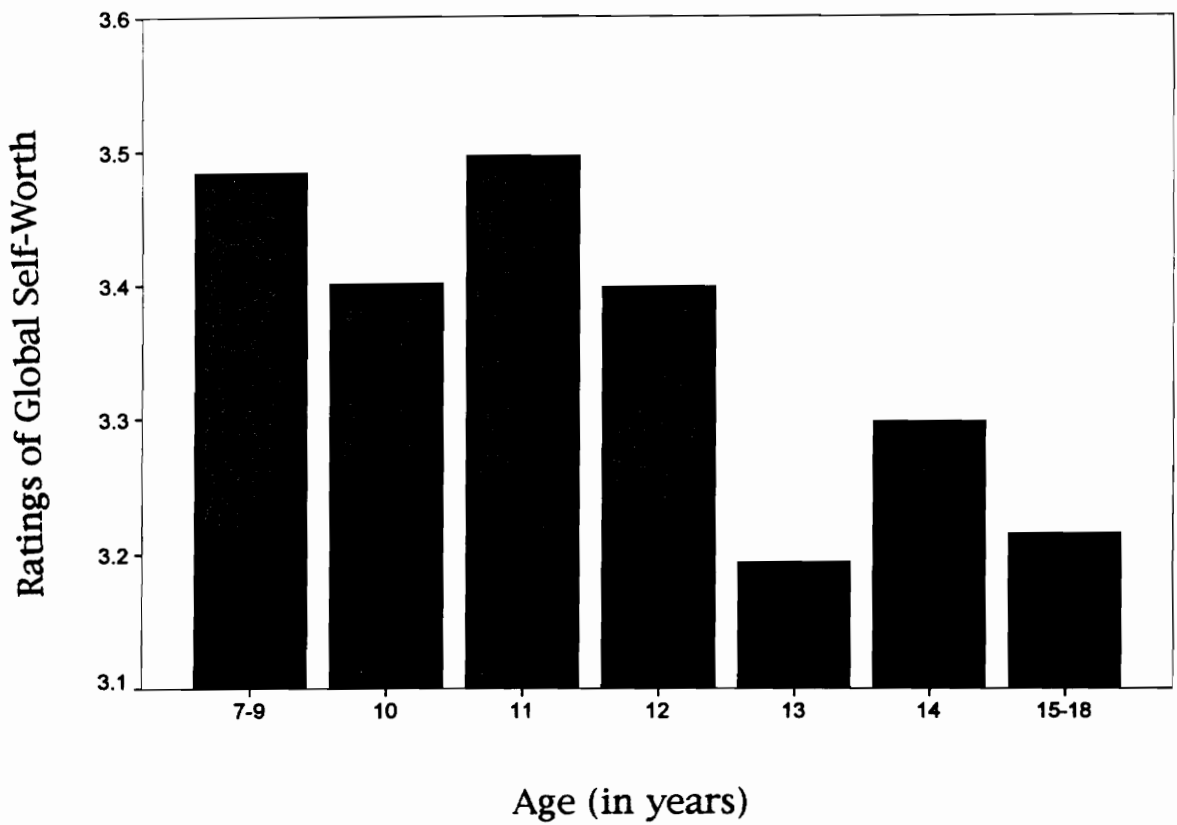
**Figure 2.** Mean scores for the counselors' ratings of the subjects' physical appearance as assessed by the Self-Perception Profile are provided for each age group.



**Figure 3.** Standardized mean scores of the subjects' and counselors' ratings of the subjects' physical appearance.



**Figure 4.** Difference score = (counselor's rating of the subject's physical appearance) - (subject's rating of her own physical appearance). The mean scores of physical appearance were standardized in order to obtain a difference score which is provided for each age group.



**Figure 5.** Mean scores for global self-worth are provided for each age group.

**Appendix A**  
**Directions to Camp Counselors**

Appendix A  
Directions to Camp Counselors

**YEA STAFF!!**

I truly appreciate all of the extra effort it is taking to collect this information!

**EXPLANATION** : This project will not be successful without the **SUPPORT** of the staff! I want to emphasize the importance of collecting accurate information from the campers. These questionnaires are designed to measure different aspects of self esteem. If **ONE** of the questionnaires is not filled out properly then **ALL** of the data for that swim number has to be thrown out. Each piece of information is critical in getting the information we need.

Need All Information	If don't get all information
Questionnaire A	Questionnaire A
+	+
Questionnaire B	Questionnaire B (NO)
+	+
Questionnaire C	Questionnaire C
+	
Questionnaire D	
= RESULT	≠ RESULT

All of the information is **ANONYMOUS**. Swim numbers are used instead of names - the names are of no use to us. We do need to use swim numbers however, because we need to know how old the campers are and we need to be able to compile information for that person (that age).

**PURPOSE** : To assess the qualities of our camping population in order to better our programming for the future.

**PROCEDURE** : It is critical that each camper is on their own bed and there is no talking.

**SATURDAY:** Fill out the PINK sheet **ONLY**  
-CILTS have a different form

**SUNDAY:** Fill out the GREEN and WHITE sheets

**\*\* The "Friendship Scale" is an important piece to this project. The idea is that they do NOT discuss it at all. After it is completed, it can be folded and placed in the envelope on the devotion table - NO ONE WILL SEE IT.**

The information will not be shared with anyone. The folders are sealed after all of the questionnaires have been completed.

**MONDAY: Counselors fill out BLUE sheets  
-CILTS have PURPLE form**

**TUESDAY: Place sealed folder on devotion table after rest period and the SPs will come through cabins and get them.**

**THANK YOU FOR ALL YOU ARE DOING!!**

**\*\*\*A sample of gathered data is below so that you can see that when the data is collected it is completely anonymous.**

## Appendix B

### Instructions to the Child Self-Perception Profile for Children (Harter, 1985)

## Appendix B

### INSTRUCTIONS TO THE CHILD

We have some sentences here and, as you can see from the top of your sheet where it says "What I Am Like," we are interested in what each of you is like, what kind of a person you are like. This is a survey, *not* a test. There are no right or wrong answers. Since kids are very different from one another, each of you will be putting down something different.

First let me explain how these questions work. There is a sample question at the top, marked (a). I'll read it outloud and you follow along with me. (Examiner reads sample question.) This question talks about two kinds of kids, and we want to know which kids are most like *you*.

- (1) So, what I want you to decide first is whether *you* are more like the kids on the left side who would rather play outdoors, or whether you are more like the kids on the right side who would rather watch T.V. Don't mark anything yet, but first decide which kind of kid is *most like you*, and go to that side of the sentence.
- (2) Now, the *second* thing I want you to think about, now that you have decided which kind of kids are most like you, is to decide whether that is only *sort of true for you*, or *really true for you*. If it's only sort of true, then put an X in the box under sort of true; if it's really true for you, then put an X in that box, under really true.
- (3) For each sentence you only check one box. Sometimes it will be on one side of the page, another time it will be on the other side of the page, but you can only check *one box* for each sentence. You *don't* check both sides, just the *one* side most like you.
- (4) OK, that one was just for practice. Now we have some more sentences which I'm going to read out loud. For each one, just check one box, the one that goes with what is true for you, what you are most like.

## Appendix C

### Self-Perception Profile for Children (Harter, 1985)

Appendix C  
Self-Perception Profile for Children

**What I Am Like**

CABIN \_\_\_\_\_ SWIM NUMBER \_\_\_\_\_

SAMPLE SENTENCE

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
(a)	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch TV	<input type="checkbox"/>	<input type="checkbox"/>
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are very <i>good</i> at their school work	BUT	Other kids <i>worry</i> about whether they can do the school work assigned to them	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids find it <i>hard</i> to make friends	BUT	Other kids find it's pretty <i>easy</i> to make friends	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very <i>well</i> at all kinds of sports	BUT	Other kids <i>don't</i> feel that they are very good when it comes to sports	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with the way they look	BUT	Other kids are <i>not</i> happy with the way they look	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids often do <i>not</i> like the way they behave	BUT	Other kids usually <i>like</i> the way they behave	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are often <i>unhappy</i> with themselves	BUT	Other kids are pretty <i>pleased</i> with themselves	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel like they are <i>just</i> as smart as other kids their age	BUT	Other kids aren't so sure and <i>wonder</i> if they are as smart	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have a <i>lot</i> of friends	BUT	Other kids <i>don't</i> have very many friends	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish they could be a lot better at sports	BUT	Other kids feel they are good enough at sports	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with their height and weight	BUT	Other kids wish their height or weight were <i>different</i>	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids usually do the <i>right</i> thing	BUT	Other kids often <i>don't</i> do the right thing	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>don't</i> like the way they are leading their life	BUT	Other kids <i>do</i> like the way they are leading their life	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are pretty <i>slow</i> in finishing their school work	BUT	Other kids can do their school work <i>quickly</i>	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would like to have a lot more friends	BUT	Other kids have as many friends as they want	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids think they could do well at just about any new sports activity they haven't tried before	BUT	Other kids are afraid they might <i>not</i> do well at sports they haven't ever tried	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish their body was <i>different</i>	BUT	Other kids <i>like</i> their body the way it is	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
17.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids usually act the way they know they are supposed to	BUT	Other kids often <i>don't</i> act the way they are supposed to	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with themselves as a person	BUT	Other kids are often <i>not</i> happy with themselves	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids often <i>forget</i> what they learn	BUT	Other kids can remember things <i>easily</i>	<input type="checkbox"/>	<input type="checkbox"/>
20.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are always doing things with <i>a lot</i> of kids	BUT	Other kids usually do things by <i>themselves</i>	<input type="checkbox"/>	<input type="checkbox"/>
21.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel they are <i>better</i> than others their age at sports	BUT	Other kids <i>don't</i> feel they can play as well	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish their physical appearance (how they look) was <i>different</i>	BUT	Other kids <i>like</i> their physical appearance the way it is	<input type="checkbox"/>	<input type="checkbox"/>
23.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids usually get in <i>trouble</i> because of things they do	BUT	Other kids usually <i>don't</i> do things that get them in trouble	<input type="checkbox"/>	<input type="checkbox"/>
24.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>like</i> the kind of person they are	BUT	Other kids often wish they were someone else	<input type="checkbox"/>	<input type="checkbox"/>
25.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at their classwork	BUT	Other kids <i>don't</i> do very well at their classwork	<input type="checkbox"/>	<input type="checkbox"/>
26.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish that more people their age liked them	BUT	Other kids feel that most people their age <i>do</i> like them	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
27.	<input type="checkbox"/>	<input type="checkbox"/>	In games and sports some kids usually <i>watch</i> instead of play	BUT	Other kids usually <i>play</i> rather than just watch	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish something about their face or hair looked <i>different</i>	BUT	Other kids <i>like</i> their face and hair the way they are	<input type="checkbox"/>	<input type="checkbox"/>
29.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do things they know they <i>shouldn't</i> do	BUT	Other kids <i>hardly</i> ever do things they know they shouldn't do	<input type="checkbox"/>	<input type="checkbox"/>
30.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are very <i>happy</i> being the way they are	BUT	Other kids wish they were <i>different</i>	<input type="checkbox"/>	<input type="checkbox"/>
31.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have <i>trouble</i> figuring out the answers in school	BUT	Other kids almost <i>always</i> can figure out the answers	<input type="checkbox"/>	<input type="checkbox"/>
32.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>popular</i> with others their age	BUT	Other kids are <i>not</i> very popular	<input type="checkbox"/>	<input type="checkbox"/>
33.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>don't</i> do well at new outdoor games	BUT	Other kids are <i>good</i> at new games right away	<input type="checkbox"/>	<input type="checkbox"/>
34.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids think that they are good looking	BUT	Other kids think that they are not very good looking	<input type="checkbox"/>	<input type="checkbox"/>
35.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids behave themselves very well	BUT	Other kids often find it hard to behave themselves	<input type="checkbox"/>	<input type="checkbox"/>
36.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>not</i> happy with the way they do a lot of things	BUT	Other kids think the way they do things is <i>fine</i>	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix D

### Teacher's Behavior Rating Scale (Parallels the Self-Perception Profile for Children) (Harter, 1985)

\*The measure provided has been manipulated.  
See Harter (1985) for the complete measure.

Appendix D  
 Teacher's Behavior Rating Scale  
 (Parallels the Self-Perception Profile for Children)

**COUNSELOR'S BEHAVIOR RATING SCALE**

CABIN\_\_\_\_\_ CAMPER'S SWIM NUMBER\_\_\_\_\_

For each child, please indicate what you feel to be her actual competence on each question, in your opinion. First decide what kind of child she is like, the one described on the left or right, and then indicate whether this is just sort of true or really true for that individual. Thus, for each item, check *one* of four boxes.

	Really True for me	Sort of True for me		Really True for me	Sort of True for me		
1.	<input type="checkbox"/>	<input type="checkbox"/>	This child finds it hard to make friends	OR	For this child it's pretty easy	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	This child does really well at all kinds of sports	OR	This child isn't very good when it comes to sports	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	This child is good-looking	OR	This child is not very good-looking	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	This child is usually well-behaved	OR	This child is often not well-behaved	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	This child has a lot of friends	OR	This child doesn't have many friends	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	This child is better than others her age at sports	OR	This child can't play as well	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	This child has a nice physical appearance	OR	This child doesn't have such a nice physical appearance	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	This child usually acts appropriately	OR	This child would be better if she acted differently	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
9.	<input type="checkbox"/>	<input type="checkbox"/>	This child is popular with others her age	OR	This child is not very popular	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	This child doesn't do well at new outdoor games	OR	This child is good at new games right away	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	This child isn't very good looking	OR	This child is pretty good-looking	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/>	This child often gets in trouble because of things she does	OR	This child usually doesn't do things that get her in trouble	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix E

### Instructions to the Teenager Self-Perception Profile for Adolescents (Harter, 1988)

## Appendix E

### INSTRUCTIONS TO THE TEENAGER

We have some sentences here and, as you can see from the top of your sheet where it says "What I Am Like," we are interested in what each of you is like, what kind of a person you are like. This is a survey, not a test. There are no right or wrong answers. Since teenagers are very different from one another, each of you will be putting down something different.

First let me explain how these questions work. There is a sample question at the top, marked (a). I'll read it outloud and you follow along with me. (Examiner reads sample question.) This question talks about two kinds of teenagers, and we want to know which teenagers are most like you.

- (1) So, what I want you to decide first is whether you are more like the teenager on the left side who would rather go to the movies or whether you are more like the teenager on the right side who would rather go to a sports event. Don't mark anything yet, but first decide which kind of teenager is most like you, and go to that side of the sentence.
- (2) Now, the second thing I want you to think about, now that you have decided which kind of teenager is most like you, is to decide whether that is only *sort of true* for you, or *really true* for you. If it's only sort of true, then put an X in the box under sort of true; if it's really true for you, then put an X in that box, under really true.
- (3) For each sentence you only check one box. Sometimes it will be on one side of the page, another time it will be on the other side of the page, but you can only check one box for each sentence. You don't check both sides, just the one side most like you.
- (4) OK, that one was just for practice. Continue with these sentences on your own. For each one, just check one box, the one that is most true for you, what you are most like.

## Appendix F

### Self-Perception Profile for Adolescents (Harter, 1988)

\*The measure provided has been manipulated.  
See Harter (1988) for the complete measure.

Appendix F  
Self-Perception Profile for Adolescents

## What I Am Like

CABIN \_\_\_\_\_ SWIM NUMBER \_\_\_\_\_

### SAMPLE SENTENCE

	Really True for me	Sort of True for me		Really True for me	Sort of True for me		
(a)	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers like to go to movies in their spare time	BUT	Other teenagers would rather go to sports events	<input type="checkbox"/>	<input type="checkbox"/>
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are just as smart as others their age	BUT	Other teenagers aren't so sure and wonder if they are as smart	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers find it hard to make friends	BUT	For other teenagers it's pretty easy	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers do very well at all kinds of sports	BUT	Other teenagers don't feel that they are very good when it comes to sports	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are <i>not</i> happy with the way they look	BUT	Other teenagers <i>are</i> happy with the way they look	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that if they are romantically interested in someone, that person will like them back	BUT	Other teenagers worry that when they like someone romantically, that person <i>won't</i> like them back	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers usually do the right thing	BUT	Other teenagers often don't do what they know is right	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are able to make really close friends	BUT	Other teenagers find it hard to make really close friends	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are often disappointed with themselves	BUT	Other teenagers are pretty pleased with themselves	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are pretty slow in finishing their school work	BUT	Other teenagers can do their school work more quickly	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers have a lot of friends	BUT	Other teenagers don't have very many friends	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers think they could do well at just about any new athletic activity	BUT	Other teenagers are afraid they might not do well at a new athletic activity	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers wish their body was different	BUT	Other teenagers like their body the way it is	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are <i>not</i> dating the people they are really attracted to	BUT	Other teenagers <i>are</i> dating those people they are attracted to	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers often get in trouble for the things they do	BUT	Other teenagers usually <i>don't</i> do things that get them in trouble	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
15.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers do have a close friend they can share secrets with	BUT	Other teenagers do not have a really close friend they can share secrets with	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers don't like the way they are leading their life	BUT	Other teenagers do like the way they are leading their life	<input type="checkbox"/>	<input type="checkbox"/>
17.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers do very well at their classwork	BUT	Other teenagers don't do very well at their classwork	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are very hard to like	BUT	Other teenagers are really easy to like	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are better than others their age at sports	BUT	Other teenagers don't feel they can play as well	<input type="checkbox"/>	<input type="checkbox"/>
20.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers wish their physical appearance was different	BUT	Other teenagers like their physical appearance the way it is	<input type="checkbox"/>	<input type="checkbox"/>
21.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that people their age will be romantically attracted to them	BUT	Other teenagers worry about whether people their age will be attracted to them	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel really good about the way they act	BUT	Other teenagers <i>don't</i> feel that good about the way they often act	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
23.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers wish they had a really close friend to share things with	BUT	Other teenagers <i>do</i> have a close friend to share things with	<input type="checkbox"/>	<input type="checkbox"/>
24.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are happy with themselves most of the time	BUT	Other teenagers are often not happy with themselves	<input type="checkbox"/>	<input type="checkbox"/>
25.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers have trouble figuring out the answers in school	BUT	Other teenagers almost always can figure out the answers	<input type="checkbox"/>	<input type="checkbox"/>
26.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are popular with others their age	BUT	Other teenagers are not very popular	<input type="checkbox"/>	<input type="checkbox"/>
27.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers don't do well at new outdoor games	BUT	Other teenagers are good at new games right away	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers think that they are good looking	BUT	Other teenagers think that they are not very good looking	<input type="checkbox"/>	<input type="checkbox"/>
29.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are fun and interesting on a date	BUT	Other teenagers wonder about how fun and interesting they are on a date	<input type="checkbox"/>	<input type="checkbox"/>
30.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers do things they know they shouldn't do	BUT	Other teenagers hardly ever do things they know they shouldn't do	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
31.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers find it hard to make friends they can really trust	BUT	Other teenagers are able to make close friends they can really trust	<input type="checkbox"/>	<input type="checkbox"/>
32.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers like the kind of person they are	BUT	Other teenagers often wish they were someone else	<input type="checkbox"/>	<input type="checkbox"/>
33.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are pretty intelligent	BUT	Other teenagers question whether they are intelligent	<input type="checkbox"/>	<input type="checkbox"/>
34.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are socially accepted	BUT	Other teenagers wished that more people their age accepted them	<input type="checkbox"/>	<input type="checkbox"/>
35.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers do not feel that they are very athletic	BUT	Other teenagers feel that they are very athletic	<input type="checkbox"/>	<input type="checkbox"/>
36.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers really like their looks	BUT	Other teenagers wish they looked different	<input type="checkbox"/>	<input type="checkbox"/>
37.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers usually <i>don't</i> go out with the people they would really like to date	BUT	Other teenagers <i>do</i> go out with the people they really want to date	<input type="checkbox"/>	<input type="checkbox"/>
38.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers usually act the way they know they are supposed to	BUT	Other teenagers often don't act the way they are supposed to	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
39.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers <i>don't</i> have a friend that is close enough to share really personal thoughts with	BUT	Other teenagers do have a close friend that they can share personal thoughts and feelings with	<input type="checkbox"/>	<input type="checkbox"/>
40.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are very happy being the way they are	BUT	Other teenagers wish they were different	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix G

### Teacher's Behavior Rating Scale (Parallels the Self-Perception Profile for Adolescents) (Harter, 1988)

\*The measure provided has been manipulated.  
See Harter (1988) for the complete measure.

Appendix G  
 Teacher's Behavior Rating Scale  
 (Parallels the Self-Perception Profile for Adolescents)

**COUNSELOR'S RATING SCALE OF THE CAMPER**

CABIN\_\_\_\_\_ CAMPER'S SWIM NUMBER\_\_\_\_\_

For each camper, please indicate what you feel she is actually like, in your opinion. First decide whether you feel the individual is more like the teenagers described on the left or the right side of each statement. Then, for that side only, indicate whether that statement is really true, or just sort of true, for that individual. (If you feel that you do not have enough information to make a judgment on a given question, just leave that item blank.)

	Really True for me	Sort of True for me			Really True for me	Sort of True for me	
1.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is intelligent	OR	This individual is not that intelligent	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	This individual does not have a lot of friends	OR	This individual does have a lot of friends	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is good at sports	OR	This individual is not that good at sports	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	This individual has a nice physical appearance	OR	This individual does not have such a nice physical appearance	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	This individual often doesn't do the right thing	OR	This individual usually does do the right thing	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is able to make close friends	OR	This individual finds it hard to make really close friends	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is popular	OR	This individual is not that popular	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for me	Sort of True for me			Really True for me	Sort of True for me
8.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is not that athletic	OR	This individual is athletic	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	This individual is good-looking	OR	This individual is not that good- looking	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	This individual usually acts the way she is supposed to	OR	This individual often doesn't act the way she is supposed to	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	This individual doesn't have a close friend she can really trust	OR	This individual does have a close friend she can really trust	<input type="checkbox"/>

Appendix H  
Friendship Rating Scale

## Appendix H

CABIN \_\_\_\_\_  
 SWIM NUMBER \_\_\_\_\_

### FRIENDSHIP RATING SCALE

**DIRECTIONS:** For each of the campers listed below, circle the number which best describes "How much you enjoying being with this person." Circle "1" if you do not enjoy being with the person, "2" if you like being with the person a little, "3" if you like being with the person some, "4" if you enjoy being with the person quite a bit, and "5" if you enjoy being with this person a lot.

SWIM NUMBER	NONE	A LITTLE	SOME	QUITE A BIT	A LOT
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

## Appendix I

### Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978)

Appendix I  
Revised Children's Manifest Anxiety Scale

WHAT I THINK AND FEEL

CABIN\_\_\_\_\_ SWIM NUMBER \_\_\_\_\_

Directions: Read each question carefully. Put a circle around the word YES if you think it is true about you. Put a circle around the word NO if you think it is not true about you.

- |     |    |     |   |
|-----|----|-----|---|
| YES | NO | 1.  | I have trouble making up my mind.                         |
| YES | NO | 2.  | I get nervous when things do not go the right way for me. |
| YES | NO | 3.  | Others seem to do things easier than I can.               |
| YES | NO | 4.  | I like everyone I know.                                   |
| YES | NO | 5.  | Often I have trouble getting my breath.                   |
| YES | NO | 6.  | I worry a lot of the time.                                |
| YES | NO | 7.  | I am afraid of a lot of things.                           |
| YES | NO | 8.  | I am always kind.   |
| YES | NO | 9.  | I get mad easily.   |
| YES | NO | 10. | I worry about what my parents will say to me.             |
| YES | NO | 11. | I feel that others do not like the way I do things.       |
| YES | NO | 12. | I always have good manners.                               |
| YES | NO | 13. | It is hard for me to get to sleep at night.               |
| YES | NO | 14. | I worry about what other people think about me.           |
| YES | NO | 15. | I feel alone even when there are people with me.          |
| YES | NO | 16. | I am always good.   |
| YES | NO | 17. | Often I feel sick in my stomach.                          |
| YES | NO | 18. | My feelings get hurt easily.                              |
| YES | NO | 19. | My hands feel sweaty.                                     |
| YES | NO | 20. | I am always nice to everyone.                             |
| YES | NO | 21. | I am tired a lot.   |
| YES | NO | 22. | I worry about what is going to happen.                    |
| YES | NO | 23. | Other children are happier than I.                        |
| YES | NO | 24. | I tell the truth every single time.                       |
| YES | NO | 25. | I have bad dreams.  |
| YES | NO | 26. | My feelings get hurt easily.                              |
| YES | NO | 27. | I feel someone will tell me I do things the wrong way.    |
| YES | NO | 28. | I never get angry.  |
| YES | NO | 29. | I wake up scared some of the time.                        |
| YES | NO | 30. | I worry when I go to bed at night.                        |
| YES | NO | 31. | It is hard for me to keep my mind on my school work.      |
| YES | NO | 32. | I never say things I shouldn't.                           |
| YES | NO | 33. | I wiggle in my seat a lot.                                |
| YES | NO | 34. | I am nervous.   |
| YES | NO | 35. | A lot of people are against me.                           |
| YES | NO | 36. | I never lie.  |
| YES | NO | 37. | I often worry about something bad happening to me.        |

## CURRICULUM VITA

Elizabeth DeHart Freeman

### Home Address

618 DeHart Street  
Blacksburg, VA 24060  
(703) 953-3013

### Personal Information

Date of Birth: 02/27/68  
Place of Birth: Durham, NC  
Spouse: David Lewis Freeman

### Education

Sea Education Association  
Sponsored by Boston University  
Location: Woods Hole, MA  
Field of study: Oceanography and marine science  
Spring semester, 1989

Randolph-Macon Woman's College  
Location: Lynchburg, VA  
Major: Biology  
Minor: Psychology  
Bachelor of Science, 1990

Virginia Polytechnic Institute and State University  
Location: Blacksburg, VA  
Major: Developmental Psychology  
Master of Science, 1994

Masters Thesis Title: Developmental Changes in the Female Adolescent Body Image.

## Presentations

DeHart, E. L. & Zeskind, P. S. (1993, April). Developmental onset of changes in body image and self-esteem in adolescent females. Paper presented at the Conference on Human Development in Pittsburg, PA.

Freeman, E. D. & Sturgis, E. T. (1995, March). Developmental changes in the female adolescent body image. Abstract submitted to the Society of Behavioral Medicine in San Diego, CA.

## Manuscripts in Preparation

Freeman, E. D. & Sturgis, E. T. Developmental changes in the female adolescent body image.

## Teaching

08/92-12/92: Instructor for Introductory Psychology Laboratory (PSYC 2004):

Two sections consisting of 40 students each

Overall Student Rating: 3.9/4.0

01/93-05/93: Instructor for Introductory Psychology Laboratory (PSCY 2004):

Two sections consisting of 40 students each

Overall Student Rating: 3.6/4.0

08/93-12/93: Instructor for Introductory Psychology Laboratory (PSYC 2004):

Two sections consisting of 40 students each

Overall Student Rating: 3.6/4.0

01/94-05/94: Lecture TA for Introductory Psychology (PSYC 2004):

Two sections consisting of 500 students each

01/94-05/94: Academic Tutor

Office of Academic Enrichment

Courses: Research Methods and Introductory Psychology

08/94-12/94: Lecture TA for Advanced Developmental Psychology (PSYC 4034):  
One section consisting of 60 students

### **Professional Experience and Employment**

08/94-10/94: Raft Hotline Volunteer Training.  
Completed 30 hours of training.

Summer 1993: Director of Camper Services, Camp Seafarer (YMCA).  
Trained, supervised, and evaluated Administrative Staff members.  
Provided counseling for 1120 campers.  
Supervisor: Cille Griffith, M.Ed.

Summer 1992: Administrative Staff, Head Counselor, Camp Seafarer.  
Supervised 280 thirteen year old campers.  
Trained, supervised, and evaluated 30 staff members.  
Supervisor: Judy Bright, M.S.

10/91-05/92: Adolescent Inpatient Program, Marshall I. Pickens  
Psychiatric Hospital.  
Location: Greenville, SC  
Teacher's Aide for grades 3-12.  
Administered and scored various psychological and educational tests.  
Supervisor: Carol Stubbs, Ph.D.

Summer 1991: Administrative Staff, Head Counselor, Camp Seafarer.  
Supervisor: Judy Bright, M.S.

Summer 1988 & 1989: Administrative Staff, Camp Seafarer.  
Trained, supervised, and evaluated 36 sailing staff members.  
Implemented sailing program for 1120 campers.  
Supervisor: Judy Bright, M.S.

### **Graduate Core Courses**

Biological Bases of Behavior/Developmental  
Statistics for Social Sciences I  
Statistics for Social Sciences II

Social/Personality  
Learning/Cognition  
Research Methods

## Developmental Psychology Courses

Developmental Psychobiology  
Social Development

## Clinical Psychology Courses

Personality Assessment  
Intellectual Assessment (In progress)  
Psychopathology (In progress)

## Awards

Randolph-Macon Woman's College:  
Excellence in Writing Award, 1988-1989  
Excellence in Writing Award, 1989-1990

*Elizabeth DeHart Freeman*