## LIBRARY Michigan State University

PLACE IN RETURN BOX to remove this checkout from your record. TO AVOID FINES return on or before date due.

DATE DUE	DATE DUE	DATE DUE
C1.19 180	FEB 2 1 2002	
NOV U 2 1995		
FER 3		
IU <del>N D C 2000 - 1</del>		
- 1 N N N N N N N N N N N N N N N N N N		
JUL 2 8 2990		

MSU is An Affirmative Action/Equal Opportunity Institution

# PROXIMITY OF CLOTHING TO SELF: ITS RELATIONSHIP TO SELF-PERCEPTION, CLOTHING DEPRIVATION AND GENDER AMONG ADOLESCENTS

Ву

Jongnam Lee

## **A DISSERTATION**

Submitted to

Michigan State University in partial fulfillment of the requirements for the degree of

**DOCTOR OF PHILOSOPHY** 

Department of Family and Child Ecology

1997

### **ABSTRACT**

# PROXIMITY OF CLOTHING TO SELF: ITS RELATIONSHIP TO SELF-PERCEPTION, CLOTHING DEPRIVATION AND GENDER AMONG ADOLESCENTS

By

#### Jongnam Lee

This research was an exploration of a theoretical model for proximity of clothing to self (PCS) in relation to self-perception, clothing deprivation and gender among adolescents. The first objective was to investigate the relationships of the multidimensional concept, PCS, to self-esteem, multidimensional self-concept, and gender. The second objective was to explore the relationships of PCS, family economic situation and gender to clothing deprivation, and the associations of clothing deprivation with self-esteem and self-concept.

One hundred eighty seven female and male high school students completed written questionnaires consisting of items related to PCS, self-perception, clothing deprivation, family background, and demographic information. The data were collected by the use of various measurements: the PCS Scale developed by this researcher and the project director of the Michigan Agricultural Extension Station project in which this study was nested, Harter's Self-perception Profile for Adolescents and Francis' clothing deprivation scale.

The findings were:

- 1. Only the *physical appearance* domain of self-concept significantly and negatively predicted the *clothing in relation to body image and body cathexis* dimension of PCS while controlling for other domains of self-perception and gender. Other domains of self-perception did not have significant effects on any dimensions of PCS.
- 2. While controlling the effect of the domains of self-perception, the female mean score was significantly higher than the male mean score in the clothing in relation to self-esteem—affective process dominant dimension and in the clothing in relation to body image and body cathexis dimension of PCS.
- 3. Family economic stress was the most important predictor in explaining the variation of participants' scores on the *inability to buy* factor of clothing deprivation, followed by family socioeconomic status.
- 4. The combined clothing in relation to self-esteem—evaluative and affective process dominant dimension of PCS was the most important variable in explaining clothing deprivation relative to peers.
- 5. Males tended to feel more clothing-deprived in comparison to their peers than females.
- 6. The social acceptance domain of self-concept was moderately and negatively related to clothing deprivation relative to peers.

A model within the human ecological perspective was proposed, and implications and recommendations for future studies were suggested.

Copyright by Jongnam Lee 1997

## DEDICATION

To my mother, Chung Won Suhr, who taught me to value education, who gave me her endless love, encouragement and support, and who cared for my children so that I could complete this work.

### **ACKNOWLEDGMENTS**

Many individuals contributed to the accomplishment of my goal. Without their support, this dissertation might never have been completed.

I would like to extend my sincere and heartful appreciation to Dr. Suzanne Sontag, my dissertation advisor and chairperson of my doctoral guidance committee, for her total support, intellectual inspiration and stimulation, sharp critique and helpful advice, generosity, and patience. I also thank each of the remaining committee members, Dr. Jean Schlater, Dr. Robert Griffore and Dr. Betsy Becker, for their valuable input throughout this undertaking.

I especially thank my dear friend Christine Leonard who has provided a comfortable home for me and treated me as a member of her family. She has had the patience to listen to my problems, both academic and personal, throughout the period of my graduate work. Whenever I lost my confidence and was in sad moods, she let me lean on her shoulder and tried to cheer me up.

I extend warm and heartful thanks to all my family members who have been patient and supportive, especially to my parents, Keun Bai Lee and Chung Won Suhr, and my mother-in-law, Bun Seok Lee. I truly thank my husband, Byung Kyu Sohn, who has never complained about my absence but always

encouraged me to put all my efforts toward completion of this work, and my children, Egon and Hyogon, who have been healthy and behaved themselves while living with their grandparents.

I wish to express my appreciation to the high school students who participated in this study, the principals and the teachers for their cooperation.

Finally, thanks to my friends who provided loving support, advice and encouragement.

# **TABLE OF CONTENTS**

LIST	OF TABLES	Page xi
LIST	OF FIGURES	xiv
СНА	PTER	
I.	INTRODUCTION	1
	Purpose of the Study Objectives Theoretical Perspective	6 6
	Theoretical Definitions  Conceptual Model for Proximity of Clothing to Self (PCS)  in Relation to Self-concept, Self-esteem and  Clothing Deprivation	
	Possible Relation between PCS and Self-perception Possible Relation of Clothing Deprivation	
	to PCS and Other Concepts	
	Hypotheses and Exploratory Research Questions	33
	Theoretical Assumptions	
II.	REVIEW OF LITERATURE	39
	Studies in the Relation of Clothing to Self-concept	
	Studies in the Relation of Clothing to  Body Image and Body Cathexis	
	Studies in Proximity of Clothing to Self	

		Page
III.	METHODOLOGY	74
	Pretest	75
	Participants	
	Procedures of Sampling and Data Collection	
	Measures	
	PCS Scale Development Procedure	
	Measurement of Variables	
	Statistical Analysis	
	· · · · · · · · · · · · · · · · · · ·	
	Assessing Reliability	
	Assessing Construct Validity	
	Treatment of Missing Data	
	Descriptive Statistics	
	Univariate and Multivariate Multiple Regression	
	Limitations	108
IV.	RESEARCH FINDINGS	111
	Fuel valies of the Date	
	Evaluation of the Data	
	Reliability	
	Descriptive Data for the Variables	
	Participants' Characteristics	
	Proximity of Clothing to Self (PCS)	
	Clothing Deprivation, Self-concept and Self-esteem	
	Results of Hypotheses Testing	
	Checking Assumptions for the Regression Model	
	Results of Overall Multivariate and Univariate Tests	130
	Results of Exploratory Analysis	145
	Assessing Assumptions and Multicollinearity Among	
	the Independent Variables	147
	Exploring the Association among Clothing Deprivation,	
	PCS, Family Economic Situation and Gender	149
	Exploring the Association between Clothing Deprivation	
	and the Social Acceptance Domain of Self-concept	
	or Self-esteem	156
V.	SUMMARY, IMPLICATIONS AND RECOMMENDATIONS	
₹.		
	Summary of Research Design and Data Analysis	
	Discussion of the Findings	
	Research Objective 1	
	Research Objective 2	
	Research Objective 3	180

		Page
	ImplicationsRecommendations	
APPENI	DICES	
A.	Letter and Consent Form for the Principals	199
B.	Letter and Consent Form for the Parents/Guardians	. 202
C.	Instructions for Teachers	204
D.	Questionnaire Used in this Study	208
E.	Results of Reliability Analysis for Items on Each Dimension of PCS	221
F.	Pearson Correlation Matrices	227
G.	Multiple Regression Tables for the Prediction of Clothing Deprivation by PCS, Family Economic Stress, Family Socioeconomic Status and Gender	. 231
REFERI	ENCES	233

## LIST OF TABLES

Table	F	Page
1.	Theoretical Definitions and Indicators of the Concepts	11
2.	Definitions of Indicators, Corresponding Items in the Questionnaire and Range of Scores on the Indicators	87
3.	Reliability of the Scales for Measuring the Variables	113
4.	Characteristics of the Participants	116
<b>5</b> .	Education and Occupation of the Participants' Parents	118
6.	Means and Standard Deviations of the Participants' Mean Scores on Each Subscale of PCS	119
7.	Ranks of Means on the Subscales of PCS with Two Samples by Gender	121
8.	Effect Sizes of Means between Female Group and Male Group from Two Different Samples and Schmerbauch Study	123
9.	Means and Standard Deviations of Participants' Mean Scores on Subscales of Clothing Deprivation and Self-perception	127
10.	Assessing for Multicollinearity: Correlation, $R^2$ and Tolerance (1- $R^2$ ) When Regressing Each Independent Variable on the Other Independent Variables	130
11.	Results of the Multivariate Test of Significance	131
12.	Results of the Univariate Test of Significance on the Six Dependent Variables of PCS	131
13.	Results of Multiple Regression on Each Dependent Variable of PCS	133
14.	Results of Multiple Regression on Dimension 5 and Dimension 6 with Selected Predictors	141

able		Page
15.	Zero-order Correlation Coefficients among the Independent Variables and $R^2$ - Values and Tolerance (1 - $R^2$ ) when Regressing Each Independent Variable on the Other Independent Variables	148
16.	Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender, and PCS	151
17.	Reliability and Pearson Product Moment Correlation Coefficient among Two Factors of Clothing Deprivation, Social Acceptance and Self-worth	158
18.	Partial Correlation Coefficients and Corrected Correlation Coefficients among Clothing Deprivation, Social Acceptance and Self-worth	158
19.	Summary of Predictions and the Results of Hythothesis Tests for Establishing Construct Validity	.182
20.	Summary of Predictions and the Results of Hypothesis Tests for Gender Differences	185
E-1.	Results of the Reliability Analysis on the Clothing in Relation to Self as Structure Dimension of PCS	.221
E <b>-2</b> .	Results of the Reliability Analysis on the Clothing in Relation to Self as Process—Communication of Self to Others Dimension of PCS	222
E-3.	Results of the Reliability Analysis on the Clothing in Relation to Self as Process—Response to Judgments of Others Dimension of PCS	223
E <b>-4</b> .	Results of the Reliability Analysis on the Clothing in Relation to Self-esteem—Evaluative Process Dominant Dimension of PCS	224
E <b>-5</b> .	Results of the Reliability Analysis on the Clothing in Relation to Self-esteem—Affective Process Dominant Dimension of PCS	225

able		Page
E-6.	Results of the Reliability Analysis on the Clothing in Relation to Body Image and Body Cathexis Dimension of PCS	226
F-1.	Key to Variable Abbreviation in Pearson Correlation Matrices:  Table F-2 to Table F-4	227
F-2.	Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-worth, Six Dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Total Participants	. 228
F-3.	Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-worth, Six Dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Female Participants	229
F-4.	Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-worth, Six Dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Male Participants	230
G-1.	Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender and the Six Dimensions of PCS	.231
G-2.	Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender and the Dimensions of PCS Excluding Dimension 6 or the Combination of Dimension 4 and 5	232
		ZUZ

# **LIST OF FIGURES**

Figure	Page
A hypothesized model of relationships among self-concept,     self-esteem and proximity of clothing to self	20
An exploratory model of relationships among clothing depriva PCS, family economic stress, family socioeconomic stress and gender	·
An exploratory model of relationships among clothing depriva social acceptance and self-esteem	•
4. A summary model for established and proposed relationships among proximity of clothing to self, self-concept, self-esteen clothing deprivation among adolescents within the human experspective	cological

#### CHAPTER I

## INTRODUCTION

The value adolescents place on clothing and their behavior related to clothing are of growing concern to school teachers, administrators, and parents. Some administrators in schools attempt to regulate students' school attire through dress codes or uniforms, which is thought to provide a safer educational environment than individual attire. Others oppose the idea because it conflicts with the concept of personal freedom of expression. It is well known that clothing is much more than a material environment for physical protection. For adolescents, clothing is an expression of individuality, a symbol of one's membership in adolescent groups and also a tool for taking different identities. Why is clothing so meaningful in adolescence?

During adolescence, along with biological and cognitive changes, redefinition of one's role and status in society brings about an identity crisis which is characterized by vagueness, confusion, and discontinuity of the self (Steinberg, 1985). In a period of such uncertainty, strong approval from and a feeling of belonging to significant others may be very important to adolescents (Jensen, 1985). Compared to younger children, adolescents differentiate more between themselves and their environment, and their conceptions about

themselves are better organized and integrated. Their cognitive abilities make them more self-conscious and preoccupied with the opinions of significant others (Steinberg, 1985).

Adolescents experience transitions in significant others from their parents or siblings to their peers. As a result, peer groups play an increasingly prominent role, and approval from the peer group becomes a major concern in the lives of adolescents. It is generally realized that conformity to preferred styles of clothing, attitudes, and actions established in the adolescent subculture is a significant marker to belonging and to obtaining peer acceptance (Smucker, 1969; Smucker & Creekmore, 1972; Steinberg, 1985). Therefore, adolescents may become more conscious about and interested in their clothing than younger children.

Individuals subjectively assess conditions of their lives and the environments in which they live and have feelings of satisfaction or dissatisfaction according to their subjective evaluations of the totality of life (Sontag, 1978). As the nearest environment, clothing is considered as an indicator of the quality of life (Eicher, 1981; Rettig, 1981; Slocum, 1981; Sontag, 1978). Clothing may contribute to a sense of well-being or quality of life more than any other designed objects surrounding individuals because the individuals see themselves wearing their clothing and engage in activities related to clothing every day.

Individuals may have a sense of quality of life when "[their] basic needs are met and [their] values are realized" (Bubolz & Sontag, 1993, p. 437).

According to Maslow's hierarchical needs, clothing is a basic need, along with food and shelter. However, Pedersen (1989) has suggested that clothing is better viewed as a satisfier of physical and psychological needs than a need itself. There is evidence that higher-order needs, such as belonging and self-esteem, can be satisfied through clothing (e.g., Callis, 1982; Kelly & Eicher, 1970; Kwon, 1991; Littrell & Eicher, 1973; Smucker & Creekmore, 1972).

As mentioned above, clothing is significant for adolescents in obtaining approval from peer groups and in participation in social interaction among peers, which if successful, in turn, leads to positive self-concept and high self-esteem. Because of developmental characteristics in the adolescent period, clothing may be more important at this time of life than at any other period. The perceived quality of life of adolescents may be more impacted by the affective evaluation of their clothing than that of any other age group.

The extent of influence of clothing on perceived quality of life varies among individuals. Sontag (1978) found that individuals' psychological closeness of clothing to self affected the relation between the affective evaluation of clothing and the quality of life. In her study, the more a person felt psychologically close to clothing, the more his or her quality of life tended to be affected by his or her feelings about clothing. This suggests that if individuals feel or think that clothing is not relevant to how they perceive themselves, their

perceived quality of life may not be greatly influenced by satisfaction or dissatisfaction with qualitative or quantitative conditions of their clothing (Slocum, 1981).

In educating and parenting, adults need to understand adolescents' different patterns of clothing behavior and realize the different needs for clothing in terms of its psychological closeness to self. If an adolescent with high psychological closeness of clothing feels deprived in clothing or loses his or her freedom of clothing choice, he or she may perceive his or her quality of life as low. In addition, clothing-deprived feelings and lack of freedom in clothing choice may affect the development of self-perception in negative ways.

School dress codes or uniforms may not alleviate the clothing problems which occur among adolescents due to the great value placed on clothing.

Rather than expecting radical changes in adolescents' clothing behavior due to regulations, adults should anticipate gradual changes in their clothing behavior brought about through changes in their psychological states with respect to clothing. A change in one component within the human ecosystem leads to a change in the other components. One's behavior can be modified or altered by mutual changes in one's psychological, physical or cultural environments.

An individual's psychological closeness of clothing to self may be changed by modifying cognitive or environmental factors which relate to the development of that attribute, which eventually lead to changes in the individual's clothing behavior. Preliminary to any study of change, it is first

necessary to explore the relationships of psychological closeness of clothing to self to individual-organismic, individual-behavioral and contextual characteristics. As a contribution to the exploration of these relationships, this study attempts to clarify the relationships among proximity of clothing to self, self-concept, self-esteem, clothing deprivation, gender and family economic situation of adolescents.

## Purpose of the Study

The purpose of this research is to develop a model that explains and predicts the relationships among self-concept, self-esteem, proximity of clothing to self, clothing deprivation, family economic situation and gender. Since the 1960s, many researchers have investigated the relation of clothing to self-concept or to self-esteem. Although scholars in the area of sociology and clothing believe that clothing behavior and attitudes toward clothing are associated with self-esteem or self-concept, the relationships have not been strongly supported by empirical evidence (e.g., Baggs, 1988; Humphrey, Klaasen, & Creekmore, 1971; Joyner, 1993; Shim, Kotsiopulos & Knoll, 1990; Theberge and Kernaleguen, 1979).

The attribute of proximity of clothing to self may mediate the relationship between clothing and self-concept or self-esteem. When a person does not feel psychologically close to clothing, his or her self-concept or self-esteem may not be affected by what he or she wears. If researchers investigate the relationships

among these variables without consideration of this factor, these relationships may be underestimated.

## Objectives

The objectives of the research are:

- 1. To determine whether self-esteem and multidimensional self-concept are significantly related to the multidimensional concept, proximity of clothing to self (hereafter, occasionally cited as PCS), and whether there is a gender difference in PCS among adolescents.
- 2. To explore the relationships of PCS, family economic situation and gender to clothing deprivation and the associations of clothing deprivation with self-esteem and self-concept among adolescents.
- 3. To develop a partial theoretical framework to evaluate and establish the construct validity of PCS measurement.

## **Theoretical Perspective**

The human ecological perspective is applied to this study. Pedersen (1984) recommended a human ecological approach for clothing and textiles professionals as "a means to enable professionals to aid families by using clothing in making adjustments to their changing environment" (p. 22). Williams (1985) and Buckley (1988) also realized the benefits of the human ecological perspective for textiles and clothing areas. Buckley claimed that "the ultimate

purpose for our research, teaching, and service is to facilitate the enhancement of the well-being of individuals and households" (p. 23). Human ecology theory provides researchers and family professionals tools to explore and understand dynamic human life in a holistic and integrative way (Bubolz, Eicher, & Sontag, 1979: Buckley, 1988; Hook & Paolucci, 1970; Westney, 1993).

One of the important concepts is integration, "a process of making whole by bringing diverse and separate elements or units together through coordination and mutual adjustment" (Bubolz, 1994, p. 7). The definition of integration connotes interdependence and mutually-sustaining transactions between parts within a holistic entity. An individual continuously interacts with, and is affected by, and affects other human beings or non-living objects in his or her environment. Hence, any phenomenon happening around an individual needs to be analyzed and be understood from a holistic viewpoint. Within the human ecological perspective, it is critical to consider interrelation and interdependence between the individual and the environment (Bubolz & Sontag, 1993; Kilsdonk, 1983).

Human ecology theory can focus on the individual as a unit<sup>1</sup> and three interrelated environments in which the individual is nested. Bubolz and Sontag

<sup>&</sup>lt;sup>1</sup> Generally, within the human ecological perspective, a group of individual human organisms is regarded as a unit, such as a family, an organization or a community rather than an individual. However, this researcher asserts that an individual can be viewed as the unit of ecological analysis because the individual is a living system which is self-regulating and requires matter-energy and information while interacting with his or her environments (Bubolz & Sontag, 1993).

(1993) classified the total environment into three distinct parts: natural physical-biological environment, social-cultural environment and human built environment. The natural physical-biological environment refers to physical and biological matters which are untouched by human beings. The social-cultural environment includes other human beings, abstract cultural constructions (i.e., language, laws, values) and social and economic institutions. The human built environment contains components that are transformed and altered by human beings.

In human ecology theory, it is critical that human beings and their multiple environments are not isolated from each other but are viewed as interdependent and interrelated. A human's behavior is not only affected and constrained by the environment but also changes, develops and modifies the environment for survival, satisfaction of needs and attainment of goals. Bubolz and Sontag (1993) further realized the occurrence of what could be interpreted as chain reactions as well as mutual interactions within the human ecosystem. Any part in the ecosystem can initiate an action or change of other parts and, in turn, be changed by the altered parts.

Interactions between human beings and their environments stimulate psychological expansion into the environments through the process of imposing meaning on them (Sontag & Bubolz, 1996, see, e.g., Farm as an environment and province of meaning). Through continuous transactions between an individual and the physical objects of his or her nearest environment in everyday

life, some objects become salient and central to the individual. When an individual judges that some objects reflect, are congruent with, or enhance a salient aspect of self, the individual may perceive them as important and meaningful in his or her life, and extend the self to them through emotional investment. Individuals differ in the degree of their emotional investment in and attach themselves to different physical objects in their environment. In turn, individuals differ in the extent to which they perceive objects as psychologically close to themselves (Levin 1992). The proximity of an object to self may be developed while an individual purposely selects and includes an object in his or her environment for adopting an identity or enhancing self-concept. Also it may evolve while the individual is positioned in a certain environment regardless of his or her intention and continuously interacts with an object in the environment.

Deficiencies in the meaningful objects in a person's near environment may bring about a low perceived quality of life. Quality of life is a matter of the satisfactory fulfillment, objectively and subjectively, of a person's physical and psychological needs within the environment (Bubolz & Sontag, 1993). Available resources are necessary to meet these needs for a satisfactory quality of life. Financial resources, reflected by family income or socioeconomic status, are critical to families' decision-making about consumption (Rettig, 1981). Families make decisions about allocating their income for consumption according to their values and the needs and goals of each family member. However, families with low income or low socioeconomic status have limitations on their acquisition. In

turn, the limitation of resources in a family may evoke deprived feelings about certain objects which are meaningful to family members, creating a low perceived quality of life.

### **Theoretical Definitions**

Prior to presenting the specific conceptual model for this study, it is necessary for the reader to understand the theoretical definitions of the multidimensional concepts tested in this study. The theoretical definitions of concepts relevant to this study are found below and summarized in Table 1.

Also, listed in Table 1 are the indicators of the concepts used in this study which will be discussed further into this chapter.

<u>Self-perception.</u> An individual's perception of his or her thoughts and feelings about himself or herself as an object. It comprises self-concept and self-esteem.

Self-concept. An organized knowledge of the actual self derived from the sum of all experiences with and interpretations of his or her environment; a collection of beliefs about the kind of person he or she is (Hamacheck, 1987; Marsh & Shavelson, 1985). Some aspects of self-concept are relatively consistent through time and situation, while others are changeable (Markus & Kunda, 1986). Self-concept regulates behaviors. Elements of self-concept are perceptions of one's characteristics, abilities, values, ideas, beliefs, and perception of oneself in relation to others and environments (Burns, 1979). It is

Table 1 - Theoretical Definitions and Indicators of the Concepts

Concepts	Theoretical Definition	Indicator
Self-perception	An individual's perception of his or her thoughts and feelings about himself or herself as an object. It comprises self-concept and self-esteem.	
Self-concept	Organized knowledge of the actual self derived from the sum of all experiences with and interpretations of his or her environment; a collection of beliefs about the kind of person he or she is.	A person's score on four of the nine specific domains (scholastic competence, social acceptance, physical appearance, and romantic appeal) of the Harter's Self-Perception Profile for Adolescents (Harter, 1988).
Self-esteem	A positive or negative feeling about the global self constructed out of our evaluations of the things we do, of who we are, and of what we achieve in terms of our private assessments of the goodness, worthiness, and/or significance of those (Hamachek, 1987).	A person's score on global self-worth domain of the Harter's Self-Perception Profile for Adolescents.
Proximity of Clothing to Self	Psychological closeness of clothing to the self which consists of multiple dimensions including clothing in relation to: 1) self as structure; 2) self as process—communication of self to others; 3) self as process—response to judgments of others; 4) self-esteem—evaluative process dominant; 5) self-esteem—affective process dominant; and 6) body image and body cathexis (Sontag & Lee, 1994).	A person's score on each dimension of the Proximity of Clothing to Self Scale. Each dimension is operationalized as the extent to which respondents think each statement is true of them, on a 6-point Likert-type scale.

The score on Nakao and Treas (1994) socioeconomic Self-Perception Profile for Adolescents (Harter, 1988). A person's score on four of the nine specific domains about decreased income and increased demands on (scholastic competence, social acceptance, physical index based on a father's or a mother's occupation. The sum of a person's responses on the questions appearance, and romantic appeal) of the Harter's Indicator family income (Francis, 1990). The combination of decreased income and increased income and/or occupational prestige. Members in a feeling of not having enough clothing to be satisfied population generally based upon educational level, group are assumed to share similar characteristics, behaviors, values and resources (Roosa, 1980). Discontent with clothing in relation to peers; the An abstraction of hierarchical structure in the Theoretical Definition demands on family income (Francis, 1990). (Francis, 1990). Socioeconomic Concepts Deprivation Economic Clothing Stress Status Family

Table 1 - (cont'd).

multifaceted and hierarchically organized and has both descriptive and evaluative dimensions (Marsh & Shavelson, 1985).

<u>Self-esteem</u>. A positive or negative feeling about the global self "constructed out of our evaluations of the things we do, of who we are, and of what we achieve in terms of our private assessments of the goodness, worthiness, and/or significance of those things" (Hamachek, 1987, p.14; Marsh, 1993).

Clothing. Any material object which is put on or attached to the human's body or part of the body or other objects which cover the human body for aesthetic or functional purposes. It includes items of apparel, accessories and cosmetics. Apparel includes underwear, outerwear, and footwear. Cosmetics include make-up, body scents, and lotion. Because cosmetics do not change the body, but just add to the body, they are regarded as clothing. However, this definition excludes any body modification which is a temporary or permanent change of the body itself (for example, hair styling, tattoos, tanning, and plastic surgery).

Proximity of Clothing to Self. "The psychological closeness of clothing to the self" (Sontag, 1978; Sontag & Schlater, 1982) which consists of multiple dimensions including clothing in relation to: 1) self as structure; 2) self as process—communication of self to others; 3) self as process—response to judgments of others; 4) self-esteem—evaluative process dominant; 5) self-esteem—affective process dominant; and 6) body image and body cathexis.

Definitions of the dimensions of PCS redefined by Sontag and Lee (1994) are applied to this study and are as follows:

Dimension 1: Clothing in Relation to Self as Structure. Clothing is one aspect of the self as an organized picture existing in awareness. Clothing, as a component of the material self, contributes to a sense of unity with the person and constitutes part of the person's identity. Clothing reflects or expresses one's identity, personality, traits, self-regard, values, attitudes, beliefs, or moods. The person strives for consistency between clothing and self-image. Pictures of the self from the past may exist in memory.

Dimension 2: Clothing in Relation to Self as Process—Communication of Self to Others. Clothing communicates information about one's identity (personal, interpersonal, or group), values, attitudes, moods, and self-regard to others and facilitates the enactment of social roles. The person consciously selects or chooses clothing to convey messages about the self to others or to experiment with different identities.

Dimension 3: Clothing in Relation to Self as Process—Response to Judgments of Others. The person imagines how the self appears to others through clothing. The person may respond affectively, cognitively, or behaviorally to an actual or imagined judgment of the self by others.

Subsequently, the judgment may affect self-validation.

Dimension 4: Clothing in Relation to Self-esteem—Evaluative Process

Dominant. Clothing affects one's evaluation of self-worth, self-regard, or self-

respect, generally expressed in terms of cognitive evaluation or affective evaluation. Specifically, clothing can positively or negatively affect one's sense of personal and interpersonal competence including personal efficacy, mastery of the environment, usefulness, social adequacy, and desirability. Through one's appearance in or use of clothing, the person engages in cognitive or affective evaluation of self, implicitly or explicitly in comparison with a personal or social standard. A person's evaluation of his or her clothing can affect his or her global self-esteem or, more specifically, confidence in his or her abilities, qualities, personal features, or performances. Conversely, a person's self-evaluation or self-judgment can affect his or her attitudes or behaviors toward clothing.

Dimension 5: Clothing in Relation to Self-esteem—Affective Process

Dominant. Clothing evokes a generalized emotional response or affect directed toward the self. This may take the form of positive or negative affect related to self-love, self-acceptance, or self-cathexis (i.e., satisfaction) and may have behavioral consequences. While the affective process results from implicit evaluation with respect to some ideal or standard for the material self, the emphasis is on the general or global feeling expressive of self-esteem. One's self-esteem also may affect one's feelings about or behavior toward clothing. Finally, the care that one gives to clothing reflects or affects care for or pride in oneself. This dimension does not refer to mood nor to all emotions, but only to those emotions that are directed toward the self.

Dimension 6: Clothing in Relation to Body Image and Body Cathexis.

Clothing creates, modifies, or affects body image or body cathexis and may affect self-feelings. In turn, body image or body cathexis may affect clothing behavior. Body image or body cathexis may affect satisfaction with clothing and self-esteem. Clothing may enhance or reflect body satisfaction or compensate for body dissatisfaction.

The definition of each PCS dimension connotes the notion of reciprocal process. From the above definition of PCS, one can acknowledge that not only cognition and feelings of a person influence the person's selection and use of clothing, but also clothing changes or affects the person's psychological states.

<u>Clothing Deprivation</u>. "Discontent with clothing in relation to peers, the feeling of not having enough clothing to be satisfied (Francis, 1990, p. 2)." The notion of "enough" refers both to the quality and quantity of clothing which a person possesses.

Socioeconomic Status. An abstraction of hierarchical structure in the population generally based upon educational level, income and/or occupational prestige. Members in a group are assumed to share similar characteristics, behaviors, values and resources (Roosa, 1980).

<u>Family Economic Stress.</u> "The combination of decreased income and increased demands on [family] income" (Francis, 1990, p.1).

Conceptual Model for Proximity of Clothing to Self (PCS) in Relation to Self-concept, Self-esteem and Clothing Deprivation

Theorists have recognized the importance of environment surrounding a person in developing self-concept. The self is a product and a producer of environment (Bubolz & Sontag, 1993; Lerner, 1986). At an early age, children conceive themselves in relation to others significant to them such as parents and peers (Thomas, 1992). As they grow, they establish a complex and integrated sense of the self through a broad range of interactions with the natural physical-biological environment, human-built environment, and social-cultural environment (Bubolz & Sontag, 1993; Thomas, 1992). Appraisals from others of their actions and attributions play a significant role in developing their conceptions of themselves (Burns, 1979).

During interactions with significant others, children have opportunities to learn rules, beliefs, standards and values of society. The social meanings are internalized and influence how children see themselves, and interpret and react to their social-cultural and physical environment (Thomas, 1992). Self-concept is established and validated by a continuous learning process, a loop of trial and error.

Clothing is the nearest material environment of human beings and may be regarded as a part of the self (James, 1890; Kaiser, 1997; Roach & Eicher, 1973). From birth, most people cover their bodies with certain types of clothing and engage in everyday activities in relation to clothing (Kaiser, 1997).

Whenever they select daily clothing, or buy clothing in stores, or receive appraisals from others toward their clothing, they become conscious of clothing and themselves.

Individuals selectively use external objects within their environment for defining the self. But all external objects are not equally meaningful to individuals (Bubolz & Sontag, 1993). In interacting with the surrounding environment, an individual commits to various roles within social structures. As a result, the individual establishes various identities which are consistent with the roles. According to the values, beliefs or goals of the individual, the identities are hierarchically organized in the cognitive structure of the individual. Each identity is linked to a specific domain of self-concept. An individual may pursue one domain of self-concept and that domain of self-concept becomes more salient and important to the person than other domains of self-concept (Hormuth, 1990). The person selects and uses objects or behaviors to strive toward or to maintain the salient domain of the self, or to present desired images of the self to others (Levin, 1992).

If individuals judge that clothing represents, matches, or enhances their salient domain of self, they may value clothing more than other objects as part of the self. They may perceive clothing as central and salient to the self and, in turn, clothing becomes important in their lives, and the self psychologically becomes linked to clothing. The centrality of and psychological linkage of the person to clothing is what is meant by the psychological closeness or proximity

of clothing to self. People may have different degrees of psychological closeness of clothing, because they have different concepts of the self which direct their perception of, selection of and behavior toward external objects.

## Possible Relation between PCS and Self-perception

Since the 1970s, many researchers have studied how the general self-concept or self-esteem is associated with clothing interest, clothing attitudes, or behavior relevant to clothing. In psychology, however, self-concept has been conceptualized as a multidimensional structure rather than an unidimensional structure (Byrne & Shavelson, 1986; Harter, 1982, 1988; Marsh & O'Neill, 1984; Marsh & Shavelson, 1985).

As explained above, proximity of clothing to self is conceptually defined as a multidimensional structure which contains six dimensions. If an individual differently perceives and interacts with clothing according to the specific dimensions of self-concept, the individual may have a different expectation of outcomes obtained through clothing, and develop various levels of affect or distinct behavioral patterns toward clothing. This research focused on the possible relations between specific dimensions of PCS and specific domains of self-perception. Relations that have some bases in the literature for possible occurrence are presented in this section and depicted in Figure 1.

## Clothing in Relation to Self as Structure and Scholastic Competence

A person valuing intelligence or cognitive abilities may be motivated to pursue knowledge and put his or her efforts toward obtaining it. The person

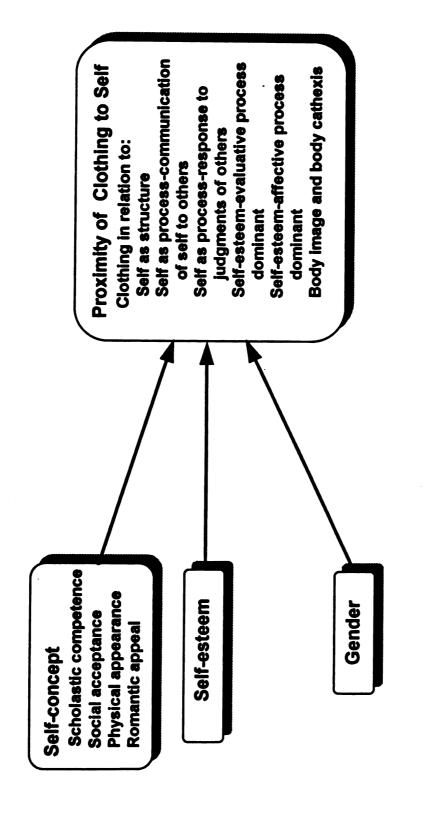


Figure 1. A hypothesized model of relationships among self-concept, self-esteem and proximity of clothing to self.

views herself or himself as more intelligent or scholastic than others. The person is probably a highly private self-conscious person who focuses on the cognitive and private aspect of the self (Fenigstein, Scheier & Buss, 1975). The person high in private self-consciousness is portrayed as autonomous, emphasizing personal identity, and less vulnerable to pressures to conform to groups (Schlenker & Weigold, 1990).

The person salient in the intelligence or scholastic competence domain of self-concept may be less aware of clothing than a person salient in the social acceptance domain of self-concept. Perry, Schutz and Rucker (1983) found that highly self-actualized persons who exploit their inner abilities tend to be less interested in clothing. If a person views himself or herself academically competent, he or she may feel less closeness of clothing to self. If the person has some degree of proximity of clothing to self, her or his interest may be how to reflect the self in clothing rather than how to express the self to, or how to be perceived by, others through clothing.

# Clothing in Relation to Self as Process Dimension and Social Acceptance

Several researchers have reported the importance of clothing in social participation (Creekmore, 1980; Florkey, 1976; Smucker, 1969). In everyday life, a person learns the role of clothing in getting positive reactions from others in social interaction. If the person sees himself or herself to be socially competent, he or she may be oriented more toward and committed to social activities and be more aware of the function of clothing in social participation.

As mentioned above, the awareness of clothing is antecedent to emotionally attaching to clothing and to perceiving it as proximal to self. At the same time, the person may use clothing either to strive toward, to maintain, or to present the social acceptance domain of self.

Research in self-consciousness theory indirectly supports this prediction. Public self-consciousness reflects awareness of and concern for the self as a social object (Fenigstein, Scheier, & Buss, 1975). A person who is high in public self-consciousness is more concerned about his or her personal appearance and believes appearance is important for smooth social interaction than a person who is low in public self-consciousness (Schlenker & Weigold, 1990). One can assume that a person salient in the social acceptence domain of self-concept has a consistent tendency toward public self-consciousness. The person may focus attention on the expression of the self to others through his or her appearance and others' appraisal of it.

Clothing in Relation to Body Image and Body Cathexis Dimension and Physical

Appearance

As a component of self, physical properties and evaluation of the body are crucial in developing self-concept (Burns, 1979). Body image and body cathexis can be altered by clothing choice. Positive body cathexis and body-image in relation to ideal body-image produce a person's competence in physical appearance. However, it is difficult to predict whether a person who perceives his or her physical appearance as more competent tends to view

clothing as more proximal to self than a person who perceives his or her physical appearance as less competent or vice versa.

Results from studies relating body-image and body cathexis to clothing are not conclusive. Women may regard clothing as important in their lives regardless of their levels of body cathexis, body sizes or body types (Davis, 1985; Shim, Kotsiopulos & Knoll, 1990). However, Theberge and Kernaleguen (1979) reported that women more satisfied with their bodies and face are likely to wear more cosmetics and to depend on them. Another study by Shim, Kotsiopulos and Knoll(1991) showed that not only men high on body cathexis, but also some men low on body cathexis, are interested in clothing. A similar result was found from women in Kwon and Parham's study (1994).

A person who views himself or herself as competent in physical appearance may receive many compliments from others about physical appearance including clothing, which reinforce the salience of the physical appearance domain. Relative to others, the person uses clothing to maintain, express or enhance the competence in physical appearance. On the other hand, a person with negative body cathexis and body image may try to change his or her body with clothing. The person uses clothing to conceal or draw attention away from the parts of the body with which he or she is not satisfied. But a seriously and obviously disabled person may have a very discontented feeling toward his or her body and may encounter and realize limitations to changing his or her body through clothing. This latter experience may make the

person perceive clothing as irrelevant to her or his body. Consequently, one may predict that clothing in relation to body image and body cathexis is not linearly related to competence in physical appearance when considering the possible distribution of people across the full range of the latter attribute.

Possible Relation between Self-esteem and Clothing in Relation to Self as Process

Self-esteem theory provides an insight into the relation between self-esteem and clothing in relation to self as process. An assumption of self-esteem theory is that an individual needs to enhance favorable feelings toward himself or herself and to boost, maintain, or confirm self-cathexis, self-worth, and self-effectiveness (Jones, 1982). Burns (1979) hypothesized that "the more this need is frustrated the more strongly the individual will wish to have it satisfied" (p.242). He suggests that individuals with low self-esteem would more likely seek favorable evaluations from others and attempt to solicit the positive responses of others than individuals with high self-esteem.

Because adolescents with low self-esteem have negative attitudes toward their inner selves, they may utilize clothing to obtain favorable appraisals from others. Therefore, they may be more likely to consider others' judgments of their clothing than to express themselves through their clothing because of their negative feelings toward themselves. Also, they may think their self-esteem can be changed by clothing and use their clothing as a tool to boost their self-esteem.

However, when adolescents with high self-esteem receive negative responses from others, they tend to devalue the responses and thus these judgments may not affect their self-esteem (Jones, 1982). Although they may like positive responses from others, they may be less concerned with receiving positive evaluations of their clothing from others than would adolescents with low self-esteem. On the other hand, due to their positive feelings about themselves, they may attempt to communicate the positive aspects of themselves through clothing. Also, because they view themselves as people with ability or competence, they may not believe that clothing makes them competent, confident, or adequate.

In summary, from self-esteem theory, it is possible to predict the relations between self-esteem and clothing in relation to self as process or clothing in relation to self-esteem—evaluative process dominant dimension of PCS. The lower self-esteem that individuals have, the more they will consider others' judgments toward their clothing and the more they are influenced by clothing in evaluating their ability or competence.

#### Gender Differences in PCS

Within a social interaction framework, individuals develop, establish and maintain their self-concept by communicating socially constructed meanings through interaction with others (Stone, 1962). As a non-verbal symbol, appearance (including gesture, grooming and clothing) bears these meanings. While individuals grow, they learn and internalize the meanings and utilize

clothing for conveying personal information to others on the basis of the meanings associated with appearance (Kaiser, 1997; Stone, 1962).

From a cultural perspective, the meanings of appearance are both universal and individual. The meanings of objects are ingrained within a culture and linked to values, beliefs or ideals of that culture. From the cultural perspective in conjunction with the social interactional perspective, one can conclude that individuals perceive, respond to and manage appearance in reference to cultural meanings which they have learned during interaction with others (Kaiser, 1997).

In every society, there are cultural standards for distinguishing gender.

Clothing is one of the cultural objects which classifies people by gender. From birth, girls receive more sensitive reactions or attention to their clothing from others than do boys (Kaiser, 1997). Girls are nurtured within a culture which emphasizes beauty or attractiveness for girls. On the other hand, boys are raised within a culture which values achievement or action rather than appearance or attractiveness and which discourages attention to their looks (Kaiser, Freeman & Chandler, 1993). Continuous reactions from others toward their clothing may make girls more aware of and attuned to clothing than boys.

This means that girls have more interaction with clothing and may develop closer feelings toward clothing than do boys.

Empirically, there is evidence for possible gender differences in proximity of clothing to self. In the Schmerbauch study (1993), mean scores on each

27

dimension of the PCS scale in the female group were significantly higher than the mean scores in the male group. Sontag (1978) also found that gender affects values which individuals realize through clothing.

Possible Relation of Clothing Deprivation to PCS and Other Concepts

Figure 2 presents the relationships among clothing deprivation, family economic situation, PCS and gender. Lack of resources in terms of quality and quantity may result in deprived feelings toward the environment. Obviously, the economic condition of a family imposes a limitation on quantity and quality of the environment. Family socioeconomic status is an indicator of family economic condition. It is measured by educational level, income and/or occupational prestige (Smith & Graham, 1995). People within a socioeconomic level share similar resources, deprivation or affluence.

Limitations and constraints on access to resources in the environment result in economic stress. If family income is substantially reduced or a specific expenditure is notably increased and taken from the same income, members of the family may adapt to the situation and sustain family life by reducing consumption. The reduced consumption connotes a limitation of quality or quantity of available resources for the family. Hence, reduced consumption may bring to family members a deprived feeling about their environments.

The deprived feeling in clothing may be different from individual to individual depending on the level of the proximity of clothing to self. Quality of life is not simply a matter of objective external conditions of resources but also

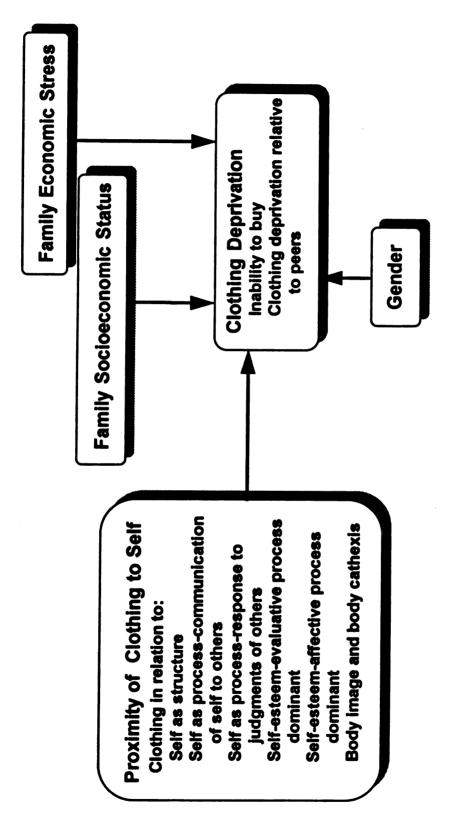


Figure 2. An exploratory model of relationships among clothing deprivation, proximity of clothing to self, family economic stress, family socioeconomic status and gender.

subjective or perceptual experiences with resources (Bubolz & Sontag, 1993). Even when individuals have the same quality and quantity of clothing, some may perceive themselves as deprived in clothing compared to others, while others may be satisfied with their clothing. The inner state of the perceiver may result in a different perception of the same environment. A person high on proximity of clothing to self may feel more deprived than a person low on PCS because clothing is more integrated with the domains of the self.

An exploratory model for relations of social acceptance and self-worth (self-esteem) to clothing deprivation is depicted in Figure 3. Researchers have shown evidence of a negative relation between general self-concept or self-esteem and clothing deprivation. In a large study, Edwards (1971) with Brawley (1971) and Brewton (1971) found that fourth grade students with low self-concept tended to have high clothing deprivation. The result of Cheek's study (1978) with the same grade level was consistent with the result from Edward's study. Although self-esteem is a feeling which evokes the evaluation of the actual self in relation to the ideal self, absolute level of self-concept may also relate to the level of self-esteem. Therefore, one may infer that clothing deprivation relates to self-esteem. Kness (1973, 1983) found that adolescents who were more satisfied with their clothing likely had more positive feeling toward themselves.

Poor appearance deters adolescents from participating in social activities or becoming leaders (Kelly, Daigle, LaFleur & Wilson, 1974; Hamilton &

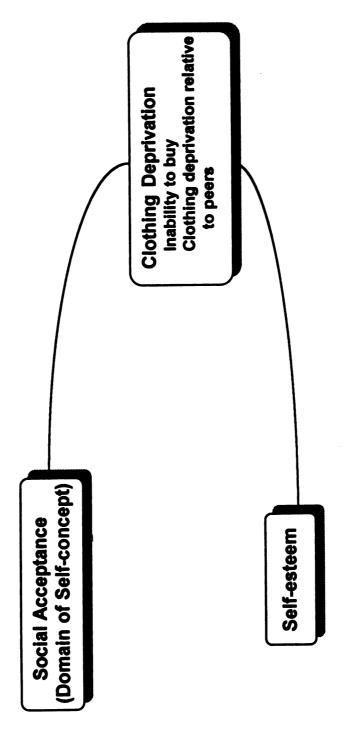


Figure 3. An exploratory model of relationships among clothing deprivation, social acceptance and self-esteem.

Warden, 1966; Morganosky & Creekmore, 1981). Absolute or relative lack of clothing makes them reluctant to become involved in social interactions, and they consequently view themselves as less socially competent.

Several studies suggest the possibility of an association of the social acceptance domain of self-concept with clothing deprivation. Kness (1973, 1983) showed that a feeling of contentment with clothing was positively correlated to feelings of social security, such as belonging or acceptance. If one feels that one is a member of a group or accepted by others, one may view oneself as socially competent. Francis (1992) studied the effect of clothing deprivation on social participation. She found that the more deprived in clothing the adolescents felt, the less they were involved in social interaction (i.e., social gatherings, social events or spending time with friends) in comparison to peers and the less they viewed themselves as socially competent. Based on the previous results, there may be a negative relation between clothing deprivation and the social competence domain of self-concept.

#### Indicators

Table 1, previously presented, also describes the indicators of the concepts in the hypothesized model and the exploratory models.

Self-concept: A person's score on the Harter's Self-Perception Profile for Adolescents (1988). Each item in each domain is scored on a scale from 1 to 4.

A score of one indicates low perceived competence or adequacy and a score of

4 reflects high perceived competence or adequacy. Each person's score on each selected domain was obtained by summing the scores on five items within each domain (see Appendix D, Section II). Selected domains for this study are scholastic competence, social acceptance, physical appearance, and romantic appeal.

Self-esteem: A person's score on the global self-worth domain of the Harter Self-Perception Profile for Adolescents (see Appendix D, Section II). It consists of five items, rated on a scale of 1 (low) to 4 (high).

Proximity of Clothing to Self: A person's score on each PCS dimension obtained by summing scores for 13 items included in each subscale of the Proximity of Clothing to Self Scale (see Appendix D, Section I). Each dimension was operationalized as the extent to which respondents think each statement within the dimension is true of them on a 6-point Likert-type scale ranging from 1 (never or almost never true of me) to 6 (always or almost always true of me).

<u>Clothing Deprivation</u>: Sums of a person's scores on 14 items measuring the *inability to buy* factor and a person's scores on 5 items measuring the *clothing deprivation relative to peers* factor (see Appendix D, Section III).

Respondents answered each item on a 5-point Likert-type scale, ranging from 1 (never) to 5 (always).

Socioeconomic Status: The score on Nakao and Treas (1994) socioeconomic index which were developed for the occupational classifications

in the 1980 U.S. Census. The score was determined based on father's or mother's occupation reported by respondents (see Appendix D, Section IV).

Family Economic Stress: The sum of a person's responses to the questions "In the past two years, has there been a decrease in your total family income compared to before?" on a 4-point Likert-type scale ranging from 1 (no decrease) to 4 (very substantial decrease) and "In the past two years, have there been unusually large demands on total family income?" on a 4-point Likert-type scale ranging from 1 (no unusually large demands) to 4 (unusually large demands) (Francis, 1990; see Appendix D, Section IV).

# Hypotheses and Exploratory Research Questions

The researcher's main purpose in this study was to investigate the pattern of relationships among specific domains of self-concept, self-esteem and specific dimensions of PCS among adolescents. The following research null hypotheses were posed to guide the collection and analysis of data for this study and to assess the relationships between the six predictors (five subscales of self-perception and gender) and each dependent variable (six subscales of PCS).

#### Null Hypothesis 1

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the *clothing in relation to self as structure* dimension of PCS.

Among six predictors, this researcher predicts that the *clothing in relation to self* as *structure* dimension of PCS will be positively related to the *scholastic* competence domain of self-concept, and the mean score of female adolescents on this dimension of PCS will be higher than the mean score of male adolescents.

# **Null Hypothesis 2**

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the clothing in relation to self as process—communication of self to others dimension of PCS.

Among six predictors, this researcher predicts that the clothing in relation to self as process—communication of self to others dimension of PCS will be positively related to the social acceptance domain, and to the romantic appeal domain of self-concept or self-worth. In addition, the mean score of female adolescents on this dimension of PCS will be higher than the mean score of male adolescents.

## Null Hypothesis 3

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the *clothing in relation to self as process—response to judgments of others* dimension of PCS.

Among six predictors, this researcher predicts that the clothing in relation to self as process—response to judgments of others dimension of PCS will be positively related to the social acceptance domain or the romantic appeal domain of self-concept, and negatively to self-worth. Also it is predicted that the mean

score of female adolescents on this dimension of PCS will be higher than the mean score of male adolescents.

## Null Hypothesis 4

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the *clothing in relation to self-esteem—evaluative process dominant* dimension of PCS.

Among six predictors, this researcher predicts that the *clothing in relation to self-esteem—evaluative process dominant* dimension of PCS will be negatively related to *self-worth*, and the mean score of female adolescents on this dimension of PCS will be higher than the mean score of male adolescents.

## Null Hypothesis 5

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the *clothing in relation to self-esteem—affective process dominant* dimension of PCS.

This researcher predicts that the mean score of female adolescents will be higher than the mean score of male adolescents on the *clothing in relation to* self-esteem—affective process dominant dimension of PCS.

## **Null Hypothesis 6**

The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the *clothing in relation to body image and body cathexis* dimension of PCS.

This researcher predicts that the null hypotheses for five predictors, especially physical appearance, will be retained except the null hypothesis for the gender

predictor and the mean score of female adolescents on this dimension of PCS will be higher than the mean score of male adolescents.

In addition to the hypotheses, several research questions were raised and explored in this study.

- 1. Do family economic stress and family socioeconomic status affect the level of clothing deprivation for adolescents?
- 2. Is there gender difference in clothing deprivation among adolescents while controlling for family economic stress and family socioeconomic status?
- 3. Do the dimensions of PCS predict clothing deprivation in adolescents, while gender, family economic stress and family socioeconomic status are held constant?
- 4. Do the two factors of clothing deprivation correlate with self-esteem and the social acceptance domain of self-concept among adolescents?

## **Assumptions**

In this section, the assumptions of the study are separately stated in two categories: theoretical assumptions and methodological assumptions.

# **Theoretical Assumptions**

1. Human beings live in multiple environments which mutually interact with them (Bubolz & Sontag, 1993).

- A sense of self is developed when a human being interacts with the environment as well as modifies and selects the environment (Bubolz & Sontag, 1993).
- 3. Through the interaction with physical environments, human beings expand themselves by investing emotionally in selected physical environments, and in turn perceive the physical environment as a part of the self (Levin, 1992).
- 4. A person's self-concept and PCS are not collections but a hierarchical organization of components which are interrelated in a complex way. The organized components of both self-concept and PCS are also conceptually integrated into several domains or dimensions, respectively. The components within a domain of self-perception and a dimension of PCS are congruent while the components across domains or dimensions are discriminative.
- 5. Individuals in the same socioeconomic status have a similar level of limitation or possibility of obtaining the resources they need.

# Methodological Assumptions

- People are aware of and can explain psychological structures or dynamics, such as the self-concept, self-esteem or proximity of clothing to self.
   Therefore, they are concepts measurable by valid, well-constructed instruments.
- 2. All items as a whole in one dimension of PCS tend to measure that dimension only and to highly relate to each other. A higher score on each item (when corrected for reversals) means a higher level of the PCS attribute.

Therefore, the sum of item scores has an approximately linear relationship with the PCS attribute (Nunnally & Bernstein, 1994).

#### **CHAPTER II**

#### **REVIEW OF LITERATURE**

The review of relevant research literature is organized into the following five sections: (a) studies in the relation of clothing to self-concept; (b) studies in the relation of clothing to self-esteem; (c) studies in the relation of clothing to body image and body cathexis; (d) studies in proximity of clothing to self; and (e) studies in clothing deprivation. The first section provides evidence that people use clothing for enhancing or communicating their general or specific self-concept. The evidence in the clothing literature of the relation between clothing and self-esteem or psychological condition relating to self-esteem comprise the second section. The third section is a collection of studies which deal with differences in clothing behavior according to body-cathexis or body-image. The fourth section is a review of the few studies contributing to the elaboration of the proximity of clothing to self-concept and development of a measurement for the concept. The fifth section presents studies on influence of socioeconomic situation or gender on individuals' feelings of clothing deprivation.

## Studies in the Relation of Clothing to Self-concept

The concept of self was ignored in psychological and social research until the second half of this century because it is so subjective (Burns, 1979). As the result of Allport's empirical studies, the self came to be regarded as a valuable area for study, and research in the self has progressively increased (Dickstein, 1977). Before the 1940s when Grace Denny attempted to introduce social science to clothing and textiles programs, Morton had already postulated the relationship between clothing and the perception of well-being mediated by self-confidence and self-respect (Newton, 1976; Roach-Higgins, 1993).

Stone's ideas provided an important theoretical framework for investigating the role of clothing in establishing and maintaining the self (Stone, 1962). According to Stone, individuals' clothing reflects, expresses and identifies the self. Also individuals establish, validate and confirm themselves, when others react toward the individuals' clothing in a way which coincides with the individuals' own responses to their clothing. He also identified two different processes in communication of the self through appearance: a program and a review. By his definition, a program is the process in which a wearer attempts to convey the intended meaning about the self through clothing. A review connotes the process in which others respond to or judge the wearer based on his or her appearance.

Reed (1973) in an attempt to test Stone's theory investigated how selfconcept, values and moods of female students affected their choice of clothing 41

for certain occasions. She found that students holding similar values or self-concept commonly select certain types of clothing which match their values or self-concept.

Aikens (1976) developed a measurement to also test Stone's theoretical perspective of the communicative aspects of clothing. One purpose of her study was to investigate the relationship of self-concept to perception of clothing. She studied individuals' perceptions of their own clothing attitudes. Females within different age groups rated stimulus drawings in which styles varied from ordinary to extreme on a semantic differential. She found that individuals likely projected their self-concept to the individuals' own clothing, but not to the individuals' perception of others' clothing.

Although researchers have not successfully investigated Stone's theory under dynamic conditions, they have attempted to discover the relationship between self and clothing behavior. Many researchers have recognized two different roles of clothing in relation to the self: clothing as a means of adaptation by helping to define the self and adjust to the environment and clothing for expression of the self (Creekmore, 1974). Solomon (1983) also acknowledged two different roles of clothing in different situations.

If one has mastered the repertoire of behaviors associated with successful role performance . . . in the social system . . . the individual may well use products to communicate—rather than to establish—his or her social placement. . . . On the other hand, when internal cues to behavior are lacking one must rely on situational cues [clothing] to determine appropriate actions and "get into" the role (p. 325-326). . . . Under some circumstances (e.g., role transition), product symbolism may evoke a specific

self-image. Behavior is then patterned to be consistent with the "me" that is called forth (p. 327).

He explained how individuals use clothing as a situational cue to define themselves in cases of uncertain role knowledge and inability to enact a given social role. He concluded that "the level of confidence in one's ability to meet role demands may determine the degree to which one must rely upon material symbols [e.g., clothing] to convince others and oneself of this ability (p. 326)."

According to Solomon's assertion, Casselman-Dickson and Damhorst (1993) studied whether the level of involvement in bicycle riding affected female bicyclists' attitudes toward bicycle uniforms. In their study, more experienced cyclists used their uniforms to express their competent image, while less experienced cyclists were their uniforms to achieve an attractive appearance.

Several studies suggest that clothing probably facilitates communication of an individual's knowledge of and pictures of himself or herself (Aiken, 1963; Aikens, 1976; Ericksen & Sirgy, 1989; Humphrey, Klaasen & Creekmore, 1971; Lawrence & Plax, 1977; Miller, 1990). An actual or ideal self-concept is reflected by the individual's choices or decisions made toward the environment for communicating an expression of the real self or the desirable self, respectively (Bloch, 1981; Dornoff & Tatham, 1972).

Individuals may prefer to wear clothing which appears to communicate specific facets of the self-concept or a desirable message about themselves. In Gibbins' study (1969), 15 to 16 year old girls evaluated six different current outfits along with their actual self and ideal self on a 7-point response scale of

the semantic differential type. Gibbins found that an individual may like a particular outfit if the individual perceives the image of the clothing as similar to the individual's ideal self-image.

Buckley and Schmerbauch (1990) arrived at the same results as Gibbins' study. In their study, female university students answered questions about their real and ideal self-concepts on the basis of descriptors of personality characteristics and evaluated their degree of preference for wearing each of 20 different outfits. Participants tended to select clothing to wear which was perceived to match both their actual and ideal self-concept.

Ericksen and Sirgy (1989, 1992) also confirmed that people wore clothing expressing their self-concept. However, the results were not completely consistent with the previous studies. They found participants usually wore clothing of an image which is similar to the actual self-image rather than the ideal self-image. Highly achievement-oriented women used businesslike clothing to show their ability or self-confidence. Interestingly, the feminine costume related more to the ideal self than to the actual self-image; otherwise, the business-like costumes seemed to reflect the actual self-image rather than the ideal self-image.

Women who acquire clothing show a certain aggregated behavioral pattern which is directed by the commonly perceived self-concept. Gutman and Mills (1982) investigated how differently the diverse segments, differentiated by fashion life-style, perceived themselves. From a randomly selected large

sample (N=6,261), they identified seven idiosyncratic clothing-fashion life-style segments, different patterns of shopping orientation and preference of clothing store. They concluded that fashion leaders are younger and active shoppers who perceive themselves as more sophisticated, modern, different, confident, sociable and having more complicated lives than other segments. The group seems to express their positive self-image through clothing.

Studying college students, Goldsmith, Flynn and Moore (1994) found similar results to the Gutman and Mills study regarding the relation of self-concept to aggregated shopping behavior, such as fashion involvement, fashion knowledge, amount of shopping and time spent shopping. Fashion leaders demonstrated shopping behavior more than their counterparts, and differences in self-concept were evident between fashion leaders and fashion followers.

The role of clothing for adjustment of the disabled has been recognized.

The psychologically or physically disabled can have a positive self-image and a better physical appearance by manipulating their clothing, which enables them to engage in social activities with confidence (Matthews, 1975).

Several researchers (Callis, 1982; Michelman, Eicher & Michelman, 1991) studied the role of clothing in psychiatric patients' lives. The results of the studies showed that clothing may be utilized for enhancing self-concept of the patients, and that patients may convey internal and external conflicts through clothing.

Callis (1982) acknowledged the therapeutic importance of a program about appearance for the psychologically disabled. She offered a 6-week and 9-week program for psychologically disabled people designed to increase their awareness of and interest in clothing and appearance, and then measured the effect of the programs on self-concept of the disabled people. The self-concept of 10 out of 16 patients had a slight tendency to positive improvement. She also found that patients with a major physical problem along with psychological disabilities showed no improvement in the self-concept.

Michelman and colleagues (1991) conducted in-depth interviews with adolescent psychiatric patients about appearance and body marking. They expressed desires, feelings and thinking through appearance, which reflected their ambivalent self-image. The researchers concluded that adolescent psychiatric patients may try on unusual clothing for experimentation with identities rather than because of psychiatric problems.

Body is very important in developing the self-concept. The individual's perception of physical attractiveness and effectiveness affects his or her positive self-concept (Lerner, Iwawaki, Chihara & Sorell, 1980; Lerner, Karabenick & Stuart, 1973). A very physically disabled person tends to evaluate her or his body very negatively and tends to have a negative self-concept, especially the physical aspect of the self, and also realizes the difficulty of modifying or concealing impairment with clothing.

In a study by Liskey-Fitzwater, Moore and Gurel (1993), female adolescents with scoliosis viewed themselves as less competent in social acceptance, athletics, physical appearance and romantic appeal and felt lower self-worth than female adolescents without scoliosis. They did not think that clothing could enhance their self-image, while they sought conformity in clothing, modesty in clothing, and were aware of clothing. They had as much interest in clothing as female adolescents without scoliosis. They also believed that appearance is very important in social acceptance.

Certain types of clothing show specific facets of the self (Eicher, 1981; Ericksen & Sirgy, 1989, 1992; Miller, 1990). Eicher (1981) proposed that individuals dress for reality, fun and fantasy, expressing three different selves, i.e., the public, intimate, and secret selves, respectively. Following Eicher's assertion, Miller (1990) examined the difference in the perceptions about Halloween night and behaviors (drinking alcohol, smoking marijuana or using other drugs) on Halloween between college students dressed in Halloween costume and those not dressed in costume. In her study using a large sample, she concluded that students were Halloween costumes for both fun and fantasy, and the themes of their costumes likely reflected their intimate and secret selves.

In summary, people tend to reflect and communicate or express their actual, ideal or other different aspects of self-concept in their clothing. Studies seemed to confirm that groups which are differentiated based on aggregated

tendencies related to clothing, such as fashion leaders or fashion followers, also exhibit differences in shopping patterns and self-perception.

Employing experimental designs or qualitative studies, researchers found that clothing enhances self-concept of psychologically or physically moderately-disabled people. However, when a person has a serious disability, clothing does not improve his or her self-concept.

Previously, most studies focused on unidimensional self-concept or different planes of self-concept which refers to different levels of thought, such as a plane of reality, a plane of possibility, a plane of fiction. (Rosenberg & Kaplan, 1982). Many studies measured self-concept by using adjective descriptions of personality or characteristics. Recently, self-concept is regarded as multi-dimensional (Marsh & O'Neill, 1984; Marsh & Shavelson, 1985). It is necessary to investigate whether multidimensional self-concept is associated with adolescents' clothing.

Studies in the Relation of Clothing to Self-esteem

Clothing becomes a means of expressing or enhancing one's self-confidence in role performance to elicit social approval. A person may use clothing to compensate for a lack of other internal cues for the role. In turn, his or her self-concept is clearly defined through clothing, and positive reactions toward clothing from others may produce an increase in self-esteem (Solomon, 1983).

The expressive function of clothing is difficult to confirm because the positive relation between clothing and individual feelings of self-worth may be confounded by other factors such as body cathexis, physical attractiveness or socioeconomic level (Kaiser, 1997). Regardless of this issue, some research asserts the positive correlation between clothing and self-esteem across the life span (Ford & Drake, 1982; Humphrey et. al., 1971).

These studies showed different forms of expression of self-esteem through clothing in different developmental stages. In a study by Humphrey et al. (1971), high school students with high self-esteem tended to consider pleasing appearance and did not likely hesitate to wear clothing which drew attention to themselves. However, Ford and Drake (1982) reported that the self-esteem of college students was not related to clothing behaviors such as wearing unusual or sexually attractive clothing to get attention from others. Their self-esteem was positively associated with clothing attitudes, such as "the subject's feeling about ability to coordinate clothing and adequacy of money for affording desired clothing" (pp. 191-192).

As mentioned above, it is acknowledged that clothing helps people enhance or boost their self-esteem. Troelstrup (1970) asserted that being well-dressed raised a person's confidence and affected the person's behavior in social interaction. He noted that:

Being well-dressed for the occasion . . . helps a person to be self-confident, to act and speak more effectively in public. People who are well-dressed in the sense of having used good taste in the selection of their clothes are more readily accepted in most social situations (Troelstrup, 1970, p. 235).

Creekmore (1963) also showed a possible relation between self-esteem and clothing. In her study of the relationship among values, needs and clothing behavior in female students, she concluded that individuals striving for self-esteem tend to place emphasis on experimentation with clothing, use of clothing as a status symbol and fashion. In addition, appearance is associated with need for belonging which is necessary for self-esteem.

Researchers have been interested in the relation between clothing and an individual's mood, depression or social insecurity (Dickey, 1967; Dubler & Gurel, 1984; Kness, 1973, 1983; Kwon, 1991). Social insecurity is characterized by feelings of rejection, isolation, anxiety, hostility, unhappiness, and inadequacy in social interaction (Kness, 1973, 1983). Depression is an affective disorder for a relatively long period of time (Dubler & Gurel, 1984). Social insecurity and depression are closely related to low self-acceptance, self-worth or self-love which refers to low self-esteem (Kness, 1973, 1983; Kwon, 1991). Clothing is used as a key tool for boosting self-esteem or stabilizing the self-concept for depressed or insecure individuals. Depressed individuals attempt to elevate their mood by positive responses to their clothing from others.

Dickey (1967) studied whether a respondent's descriptions about clothed figures identified with the respondent were related to a level of self-esteem and social security. She categorized female college students into four groups according to the levels of self-esteem and social security: high self-esteem and secure group; high self-esteem and secure group; low self-esteem and secure

group; and low self-esteem and insecure group. She found that the high self-esteem and secure group significantly used more high self-esteem words than the other groups in describing clothing figures. She concluded that female college students likely projected certain aspects of the self in judging the clothed figures.

Dubler and Gurel (1984) studied a group of women in a counseling situation and another group of faculty and staff for 28 days. The results showed that the more depressed women tended to feel positive about their clothing and also to perceive their clothing closer to the ideal clothing. There was a trend in which individuals in both groups appeared to purposely choose clothing to boost their self-concept, especially when in a negative mood. Kwon (1991) also found that female students looked for different types of clothing according to their perceived moods, especially negative moods.

Sweeney and Zionts (1989) investigated differences between emotionally disturbed and non-disturbed early adolescents in the relation of clothing to mood and found that non-disturbed adolescents' choice of clothing is more likely to depend on their mood than the disturbed adolescents. Inconsistency among studies related to use clothing for changing mood may be caused by the different developmental stages of the participants or differences in psychological conditions (depression vs. emotional disturbance) of the participants in each study.

The extent of the adaptive function of clothing also differs according to an individual's self-consciousness or personality (Kwon, 1991; Miller & Cox, 1982; Perry, Schutz & Rucker, 1983). In Kwon's study (1991), the more private self-conscious individuals seemed to be more affected by mood in the selection of clothing than the public self-conscious individuals. This result suggests that the private self-conscious individuals utilize clothing to decrease their negative mood and to increase positive feelings toward themselves.

Miller and Cox (1982) found that public self-conscious female students used make-up more than private self-conscious students. Public self-conscious students believed that make-up improves social interaction and makes them more self-confident, compared to private self-conscious female students. The results of these two studies suggest that individuals use clothing to incur changes in intra-individual or inter-individual interactions to elevate their self-esteem.

Results of Perry et al. (1983) indirectly supported the adaptive function of clothing. In their study, the more highly self-actualized individuals appeared to experiment less, manipulate less and be less concerned with clothing.

According to Maslow (1973), individuals can arrive at the level of self-actualization after satisfying their lower level needs such as security or self-esteem. Therefore, the results of Perry et al. can be interpreted to mean that individuals who are less secure or have lower self-esteem possibly exhibit more

interest in clothing than highly self-actualized individuals, for management of their inner states.

Using an experimental design, Fiore (1988) attempted to explore the causal effect of appearance management on self-esteem. She found that general and physical self-esteem pervasively increased after people participated in programs learning ways to select styles or characteristics of clothing in relation to body types for enhancing self-presentation.

The previous studies examined the association between self-esteem and clothing attitudes or clothing behaviors, or investigated change in self-esteem through clothing-related programs. Kwon (1994) took a different approach. She used a scale to assess the perceived effects of clothes on self-esteem. Rather than considering the objective relation between clothing and self-esteem, she studied the extent to which subjective perceptions about emotions, sociability and work competency were affected by different feelings toward clothing. Using college students, she found that students perceive themselves as more competent in work, more sociable and more positive emotionally when feeling good about their clothing than when feeling bad about their clothing. There were gender differences in the perceived effects of clothing on self-esteem. Female students' feelings toward clothing affect their self-esteem more than male students, especially the emotional aspect of self-esteem.

Kaiser, Freeman and Chandler (1993) found very similar results to Kwon's study with college students. Employing a qualitative method, they studied the

reasons for which females and males felt connected to their favorite or most meaningful clothing. Female students explained their reasons in terms of how they felt when they wore the clothing, while males tended to refer to their accomplishments or past experience with the clothing.

In summary, it has been found that dress is an effective tool for the expression of high self-esteem and security, and for helping the adaptation of individuals with low self-esteem or insecurity. Individuals with a minor psychological problem (depression or negative mood) attempt to increase their personal attractiveness through clothing. In turn, they may elevate their self-esteem. The studies have shown that depressed individuals purposely select their clothing as an attempt to change their inner psychological state. However, clothing does not appear to affect the self-worth of individuals with serious physical or psychological problems.

There is evidence of difference among individuals in the effect of clothing on self-esteem according to self-consciousness or personality. The evidence indirectly suggests that individuals may feel varying degrees of closeness toward clothing. If individuals perceive clothing to be psychologically close to the self, they use clothing for expressing, changing, communicating, or enhancing their self-esteem or their self-concept. Thus, the relationship between clothing and self-esteem or self-concept is not clearly explained without consideration of the perceived closeness of clothing to self.

54

Studies in the Relation of Clothing to Body Image and Body Cathexis

Each individual has a mental picture of his or her body, and feelings
about that body which are evoked when comparing it to the ideal body image or
others' bodies. Body cathexis refers to satisfaction or dissatisfaction with the
body. Individuals may perceive clothing differently and differ in their choice of
clothing and their feelings about clothing in relation to body image and body
cathexis. At the same time, clothing may change body image and in turn cause
a change in body satisfaction. The extent of body cathexis influences one's selfesteem.

Several researchers have investigated the relation between clothing and body cathexis (Baggs, 1988; Creekmore, 1974; Davis, 1985; Ford & Drake, 1982; Joyner, 1993; Kelson, Kearney-Cooke & Lansky, 1990; LaBat & DeLong, 1990; Shim, Kotsiopulos & Knoll, 1990, 1991; Shim & Kotsiopulos, 1990; Theberge & Kernaleguen, 1979). In her study with adolescents, Creekmore (1974) concluded that:

The use of clothing to draw attention to self reflected a psychological sense of well being and satisfaction with a developing physical body, regardless of sex. . . . For the girls the interrelationships of body satisfaction, perceived peer self, self-esteem, and interest and management uses as well as the attention use appeared expressive of a sense of self worth and satisfaction with their physical bodies (p. 11).

The findings of Ford and Drake (1982) are somewhat similar to

Creekmore's result for a specific attitude toward clothing. If female students

view themselves as having the ability to coordinate clothing, they are likely to be satisfied with their bodies.

Characteristics of clothing may induce different perception of body size and body satisfaction. Individuals may perceive their body size differently according to circumstances, even without changes in weight, and consequently have different feelings toward their bodies. Fisher (1973) described the changes in body image and body-image boundary due to clothing in this way:

In taking off and putting on clothes and shoes it is not uncommon to feel one's body become larger or smaller. When clothes are put on they tend to articulate the boundary of the body and this may result in a sense of being smaller. . . . It is true that the putting on of clothes can also make you feel larger. When bulky garments are added to your body they can balloon your apparent size even beyond the literal increase that results from the thickness of the garments themselves (pp. 110-111).

He also stated that individuals learn from experience how to create the expanding versus reducing effects of clothing for achieving the most preferable body size.

Individuals may be more aware and conscious of their body size when they attempt to select clothing which fits their body. Availability and variety of well-fitting clothing evoke positive feeling toward their bodies.

LaBat and DeLong (1990) were interested in the extent to which females' satisfaction with the fit of ready-to-wear clothing affects their body cathexis. The results showed that a female expressing more dissatisfaction with fit, especially on the lower body, feels more dissatisfied with her body. A narrow range of sizes of ready-to-wear clothing may be regarded as a certain standard of

acceptable body size or proportion. If a woman cannot find well-fitting ready-towear clothing in a socially desirable size range, she may think of herself as a deviant and feel dissatisfied with her body.

Shim and her colleagues generated several studies to investigate the relation between body cathexis and clothing behavior or satisfaction with clothing of women and men between 25 and 54 years of age (Shim, et. al., 1990, 1991; Shim & Kotsiopulos, 1990). Findings from the 1990 studies of Shim and her colleagues showed that petite women and short men felt most dissatisfied with their bodies. Average-sized women and tall men have the most satisfaction with their bodies. Like the results from LaBat and DeLong, Shim and her colleagues found that body cathexis was related to available size ranges, variety in styles, and the general fit of clothing among females and males.

Nevertheless, they found that women and men showed similar clothing behaviors and shopping orientation regardless of their body sizes.

In 1991 Shim et al. scrutinized the relation between body cathexis and clothing behavior through a different approach to the analysis of the 1990 data from men. They found that the lack of relation between body cathexis and clothing behavior is confounded by clothing attitude. A man high on clothing attitudes and body cathexis was most favorable to clothing behaviors and shopping behaviors. Interestingly, a person less satisfied with his or her body but with more positive opinions about clothing than others tended to give advice on others' clothing and have confidence in clothing selection. They also showed

shopping interest, in spite of less satisfaction with fit and product variety than other groups. The researchers concluded that individuals with low body cathexis and positive clothing attitude use clothing to compensate for their dissatisfaction with their bodies. Similarly, Joyner (1993) found a lack of relation between clothing interest and body cathexis in women over 55 years, and interpreted that most women may be interested in clothing regardless of their levels of satisfaction with their bodies.

The greater the discrepancy between perceived body-image and ideal body-image is, the more negative the body cathexis is. Davis (1985) studied how perceived somatotypes of females in late adolescence influence their body cathexis and attitude toward clothing. About 70% of the female students studied regarded their bodies as 'average' or 'thinner' than average; however, 78% of female students showed discrepancy between perceived and ideal body-image. Body cathexis decreased as the perceived body-image deviated more from the ideal body-image. The study showed that these women's perceptions of their bodies were not related to their interest in fashion innovation, fashion opinion leadership, clothing interest or attitudes about the importance of appearance.

In Baggs' study (1988), body satisfaction of female college students related to clothing interest, although the relationship was not strong (r=.14). The correlation increased when only average weight students were considered (r=.37).

Kwon and Parham (1994) investigated the reverse direction of influence between clothing and body cathexis. In their study, there was intraindividual difference in clothing function and feelings about body size and weight. When females felt fat, they were less satisfied with their bodies, and preferred clothing to conceal or camouflage their body. On the contrary, in the slender state, women's body satisfaction tended to increase, and clothing was considered as a means of expressing individuality. Body image plays an important role in which aspect of clothing functions individuals pursue.

Theberge and Kernaleguen (1979) hypothesized the use of cosmetics as reinforcement and fulfillment of a psychological need. However, with young or middle-aged females, data supported the opposite conclusion. The more women were satisfied with their bodies, the more they depended on cosmetics and used cosmetics daily (r=.22). Their conclusion of an expressive or demonstrative role of clothing was confirmed by the Rook study (1985).

With young adult females and males, Rook investigated the relation of grooming activity to body cathexis. He found that the more both females and males felt positively about their bodies, the more heavily they tended to use grooming products. Results from the previous studies were partially supported in a recent study by Kelson, Kearney-Cooke and Lansky (1990).

Kelson et al.(1990) sought to show the relation between body image and body cathexis and beautification among late adolescents. The results from 245 female college students suggested that self-image confounded the relationship

between them. For students viewing themselves as nonfeminists, the more satisfied or competent they felt with their body, the more they tended to be concerned about their appearance (r=.22, r=.18, respectively). Also in this group, the students high on public body consciousness were likely to spend more time changing their appearance. On the other hand, body cathexis or body competence was not related to concern about appearance among students identifying themselves as feminist.

Contrary to these studies, Mulready and Lamb (1985) found no relationship between usage of cosmetics and body cathexis. Body cathexis in female chemotherapy patients did not significantly improve after cosmetics therapy, such as facials and make-overs, although their self-esteem did change significantly. They concluded that the lack of effect of cosmetics on body cathexis stemmed from possible worsening of physical symptoms.

In summary; the studies reviewed above have found that body cathexis or body image influences an individual's clothing selection, interest, or motivation toward clothing. However, the relationship is not conclusive in terms of direction. When individuals are satisfied with their bodies or have body-images close to the ideal body, they are interested in clothing and regard clothing as a tool for expression of individuality. At the same time, there is evidence that a person with low body cathexis uses clothing to compensate for the weak body part. An effect of clothing on body cathexis or body image also has been found in studies. Availability of well-fitting clothing influences a person's body-

satisfaction, and the characteristics of clothing may change the person's bodyimage.

However, the studies showed that the relation between clothing behavior or interest and body-image or body cathexis was not strong. Shim and her colleagues showed that the relation between them is confounded by clothing attitudes. This result suggests that other psychological factors, such as proximity of clothing to self, may mediate the relation of clothing to body-cathexis or body-image.

### Studies in Proximity of Clothing to Self (PCS)

Clothing is referred as "the second skin" (Horn, 1965), and "the visible self" (Roach & Eicher, 1973), which strongly asserts the physical or psychological closeness of clothing to self. However, these words do not take into account individual variation in PCS. Not all individuals perceive clothing as a reflection of, expression of or manifestation of the self, or utilize clothing as an adaptive function for the self to an equal extent. Sontag and Schlater (1982) realized that "people differ in the extent to which they perceive clothing as the second skin and the visible self" (p.7).

According to the quality of life theory, an individual's sense of well-being is determined by his or her degree of satisfaction with life concerns which are perceived as being psychologically close to the self (Andrews & Withey, 1976; Sontag & Schlater, 1982). Sontag (1978) postulated that affective evaluations of

clothing as a life concern might be an indicator of an individual's perceived quality of life (QOL). Interestingly, she found that a much stronger correlation existed for men's affective evaluations of clothing with perceived QOL than women's (r=.45 and r=.25 respectively), and that the relation between clothing and the perceived QOL was mediated by feelings about the self. She also expected that the QOL would be more strongly related to clothing for people who view clothing as closely associated with the self than for those who perceive clothing as psychologically remote from themselves. She found that people high on the PCS scale had stronger feelings of personal accomplishment, higher correlation between QOL and clothing, and stronger feelings of clothing importance, compared to people with low scores on the PCS scale. Men with low scores on the PCS scale valued clothing more as an instrument to perform occupational roles or as a reflection of standard of living or material well-being than did men with high scores.

As the first step in developing a theory about the contribution of clothing to the perceived quality of life, Sontag and Schlater (1982) stressed the necessity of clarifying the concept of PCS and developing a standardized measure. They defined the PCS as a multidimensional concept and proposed six dimensions of PCS grounded in theories and research related to self. Also, they introduced a three-point rating scale for dividing qualitative responses in terms of degree of explicitness of the recognition of PCS, and pointed out the limitation of the three-point rating scale in terms of the distinctive discrimination

of individuals on the PCS attribute. They recommended the development of an appropriate set of items and response scale.

Several empirical studies that were conducted at the University of Illinois utilized the PCS concept for understanding consumer involvement in purchasing apparel (Vreeman, 1984), clothing needs of elderly consumers (Lynn & Buckley, 1987; Lynn, 1990), and individual differences in self-esteem among adolescents (Schmerbauch, 1993).

Vreeman (1984) found a significant difference in apparel involvement between persons with low and high levels of PCS. Apparel involvement is defined as "the closeness of apparel to consumers' egos as reflected in the extensiveness of thoughts and behaviors used to evaluate apparel products" (p.21). Based on previous studies, she developed two statements for each dimension of proximity of clothing to self. Subjects with higher PCS tended to put more of their time and efforts into looking at apparel and obtaining information from the media, to place greater importance on brand names and to enjoy shopping for clothing more than those with lower PCS. These findings suggested that an individual perceiving clothing as closer to the self is more likely to like and be involved in activity related to clothing.

Lynn (1990) and Schmerbauch (1993) suggested that people possess different degrees of psychological closeness of clothing according to their developmental stages. In investigating the clothing needs of the elderly, Lynn found age differences in the elderly groups with regard to the degree of PCS.

She developed a questionnaire of five items for each of six PCS dimensions conceptualized by Sontag and Schlater (1982). The old-olds (75 and over) perceived clothing closer to the self than the young-olds (55-64). The result may suggest that old-olds have a firm self-definition and an ability to reflect themselves through clothing, because the older seniors have gone through more and a greater variety of life experiences. Due to limitation or restriction of interaction with diverse and multiple layered environments, they may commit themselves more intensely to available objects which are located in the very near environment such as clothing and furniture. The older seniors may use clothing as a tool for ego support after they lose their social interaction as a source for enhancing their self-image.

Schmerbauch (1993) studied the relation between PCS and adolescents' self-esteem. Her study showed that subjects' gender and school year relate to PCS scores. Females tended to feel more psychologically close to clothing than the male group. She also found that the 9th grade students, especially in the female group, felt more psychologically close to clothing than 12th grade students. The difference was more notable in the processual dimension in relation to others' judgments. This difference may occur because subjects in the lower grades may be less familiar with the school environment, and are more conscious about themselves, and seek others' approval more than those in the higher grades. In early adolescence, peer acceptance is very important because peers are replacing parents as significant others. Adolescents may

attempt to manipulate objects to induce peer acceptance. Schmerbauch also found that females with low self-esteem in the 9th grade are more likely to have higher psychological closeness to clothing than females with low self-esteem in the 12th grade. It seems that clothing is not always related to a person's self-esteem. In younger adolescents, clothing may be a significant factor to boost their self-esteem.

Sontag and Lee (1994) refined the definition and label of each dimension of PCS, originally conceptualized by Sontag (1978), and developed items grounded in people's experience with clothing and based on their written expression across both age and sex. Sontag and Lee administered a series of open-ended questions pertaining to the PCS dimensions to 190 female and male adolescents, young adults, middle-aged and older adults. Based on their responses, Sontag and Lee constructed items distributed among the six dimensions, which were applicable to a broad range of people. Procedures and criteria for item construction are described in the next chapter.

According to the definitions (previously listed in Chapter 1) refined by Sontag and Lee (1994), in Dimension 1, *clothing in relation to self as structure*, clothing is regarded as a reflection and expression of a person's identity, values, attitudes, beliefs, traits, or moods. It does not imply the desire for expression of his or her identity, values, attitudes, beliefs or traits to *others*, but rather for the benefit of the *self*. People strive for consistency between the self-image and

clothing. Dimension 1 also includes the notion of clothing as part of an organized image or picture of the self existing in awareness.

Two concepts relevant in the appearance process addressed by Stone (1965) were clearly and separately depicted in revised dimensions of PCS: the presentation of program (Dimension 2) and the response to review (Dimension 3). These are regarded as two-way interactive processes. For Dimension 2, clothing in relation to self as process—communication of self to others, Sontag and Lee stressed people's intent to convey messages about themselves in social interaction. For Dimension 3, clothing in relation to self as process—response to judgments of others, they describe the influence of one's actual or imagined judgment of one's clothed self by others on his or her clothing behaviors.

People ordinarily express their evaluative aspects of self-esteem with an affective term or with a cognitive term, e.g., "I feel confident" or "When I don't like the way I look in my clothes, it is hard for me to think positively about myself." Thus, the revised definition of Dimension 4, clothing in relation to self-esteem—evaluative process dominant, contains both cognitive and affective evaluations. In Dimension 5, clothing in relation to self-esteem—affective process dominant, Sontag and Lee only included individuals' global feelings directed toward themselves, such as self-love, self-acceptance, and self-cathexis. However, they excluded moods or other emotions from this dimension.

In the original conceptual model of PCS, only body cathexis was included as it relates to clothing. In addition, Sontag and Lee found evidence that

clothing influences body image, and body image affects clothing behavior. As a result, they included body image as well as body cathexis in defining clothing functions in relation to the body in Dimension 6, clothing in relation to body image and body cathexis.

In summary, PCS is related to the perceived quality of life, importance of clothing in life, apparel shopping patterns and self-esteem. The studies found differences in PCS across different age groups and gender. Sontag and Lee (1994) recognized that there is a problem with existing instruments for measuring the PCS. Reliability was substantially low for several individual PCS dimensions in both Lynn's and Schmerbauch's studies, even though overall reliabilities were high. Content validities of the instruments in these studies were established, based on experts' evaluation about the representativeness of the constructed statements with a definition of each dimension. However, construct validity has not been determined for these instruments. For developing a theory, a valid and reliable instrument is crucial. Therefore, it is necessary to study the relationship of clothing to other concepts with a well developed PCS scale for generating a theory which explains the relation of clothing to the self along with other concepts.

### Studies in Clothing Deprivation

Peer acceptance becomes critical to adolescents' development as peers replace parents as significant others. Adolescents strive for positive appraisals

from their peers to validate themselves and to grow as healthy people. Studies have found that awareness of and conformity to clothing modes influence social acceptance (Drake & Ford, 1979; Kelly & Eicher, 1970; Littrell & Eicher, 1973; Smucker and Creekmore, 1972), participation in social activities (Hamilton & Warden, 1966; Kelly, Daigle, LaFleur & Wilson, 1974) and achieving leadership in adolescence (Morganosky & Creekmore, 1981).

If adolescents are very aware of and dissatisfied with their clothing, they may have difficulties with involvement in social interactions. If adolescents are isolated from social interaction with their peers, they may experience more emotional or psychological stress (Kness, 1983) and less personal adjustment (Musa & Roach, 1973). In turn, as Roach (1960) mentioned, feelings of the lack of clothing may lead to negative personality development of adolescents who perceive themselves as economically deprived, compared to others.

Researchers have examined different aspects of clothing deprivation. Some researchers define clothing deprivation as discontent with dress in relation to physical and psychological comfort (Drake & Ford, 1979, Edwards, 1971). However, Francis (1990, 1992), building on the work of Kelly and Turner (1970) and Kness (1983), defined it as "discontent with clothing in relation to peers, the feeling of not having enough clothing to be satisfied" (1990, p.29). The former definition connotes a wider sense of deprivation, a kind of uneasiness due to clothing, not necessarily produced as a result of comparison with others. The latter definition by Francis stresses the notion of comparison.

Several studies were conducted to investigate perceived clothing deprivation in relation to socioeconomic aspects and gender. The results have not been homogeneous. Francis and Liu (1990) studied clothing deprivation in 336 high school students in grades nine through twelve. All participants were recruited from home economics classes. They reported that socioeconomic status was a significant predictor of adolescent clothing deprivation. This is consistent with Musa and Roach's (1973) and Kness' (1973) studies. As their social standing decreased, adolescents had a tendency to regard their clothing as less desirable than their peers'.

Along with significant differences between socioeconomic groups, Liu (1987) also found that the older adolescents get, the less they have feelings of clothing deprivation (r=-.13). However, she did not find any evidence of an effect of gender on clothing deprivation. A study by Etherton and Workman (1996) supported the result of Liu's study. With 5th-grade boys and girls, they found that gender did not affect clothing deprivation. Contrary to these studies, other studies (Drake & Ford, 1979; Musa & Roach, 1973) showed evidence that boys more often than girls perceived their clothing as more desirable compared to their peers. This suggests that boys tend to be more satisfied with what they wear than girls. In Colquett's study (1980), adolescent boys felt that their clothing was average in cost, stylish and gave them the feeling of being well-dressed, compared to others.

The relation of socioeconomic level to clothing deprivation may be mediated by culture. Each ethnic group forms its own collective subculture along with adapting to a mainstream culture. Resources and the meaning of socioeconomic status can be different among cultures.

In cooperative studies at the University of Tennessee, Brawly (1971), Brewton (1971), and Edwards (1971) examined the relationship among clothing deprivation, self-concept, peer acceptance and demographic variables with 187 fourth grade black and white students in low and middle socioeconomic groups. They found that the black students felt significantly more clothing deprivation than the white students. However, there was only a slight trend that feelings of clothing deprivation are differently affected by socioeconomic status in accordance with race (p< .10). Among blacks, the students in the low socioeconomic group felt most clothing-deprived, followed by the lower-low, and then the middle socioeconomic group. On the contrary, among white students, those in the middle group felt most clothing-deprived, followed by students in the low, and then in the lower-low socioeconomic group. Edwards (1971) concluded that the different ethnic groups get their feelings of clothing deprivation from different sources. Among white students in the middle class, their desire for more clothing may bring about the feeling of clothing deprivation. The low socioeconomic black students may have limited accessible resources, and actually need more clothes.

Kness (1973, 1983) examined clothing deprivation in high school girls of three different ethnic groups: Anglo-American, Mexican-American and Afro-American. In her study, Anglo-American and Mexican-American adolescents of higher socioeconomic status expressed a less deprived feeling about their clothing than those of lower socioeconomic status. Socioeconomic status in Mexican-Americans (r=.43) more strongly influences clothing deprivation than in Anglo-Americans (r=.26). However, no significant relationship was found in Afro-Americans. Kness concluded that Afro-American adolescents in low socioeconomic status find different channels to meet their clothing needs such as buying second hand-clothing or earning money to purchase enough clothing to satisfy their needs.

Kelly and Turner (1970) and Francis (1990) took different approaches in explaining the relationship between clothing deprivation and family economic condition. Kelly and Turner (1970) studied first grade children in the lower socioeconomic class by interview and doll choice activities. The researchers evaluated each child's clothing appearance and clothing awareness. Kelly and Turner found that most children expressed satisfaction with their own clothing rather than deprivation even though their clothing was evaluated by the researchers as poor. The researchers interpreted the high satisfaction of these children with their clothing as resulting from their homogeneous socioeconomic status. The researchers suggested that a more diverse socioeconomic environment exposes children to a greater range in amount and type of clothing

and the comparison causes feelings of deprivation. The other possible explanation of the result was that first grade children may not have reached a developmental stage that enables them to be aware of clothing.

Francis (1990) declared that a dynamic factor such as family economic stress is more significant than a static factor such as socioeconomic status in clothing deprivation. Her logical explanation is that a person in economic stress may experience a dramatic reduction in obtaining what the person expects or desires; in turn, the person will have feelings of clothing deprivation. The more participants perceived family economic stress, the more they felt clothing-deprived in terms of ability to buy as well as in relation to their peers.

In another study, Francis and Browne (1992) obtained the same conclusion in relation to family economic stress and clothing deprivation. Also they found that group memberships (general high school students, adolescent skateboard group, adolescent baseball group) affected the clothing deprivation relative to peers factor. However, her result regarding the effect of group membership and gender may be unreliable due to unbalanced sample sizes among groups by gender or membership.

In conjunction with the Brawly (1971) and Brewton (1971) studies,

Edwards (1971) found that self-concept has a significantly negative relationship
with feelings of clothing deprivation (r = -.41), regardless of race and
socioeconomic status. The more positive self-concept students have, the less
they feel deprived in their clothing. Their results were confirmed by Cheek's

study (1978). With low socioeconomic fourth grade students, she found that self-concept negatively predicted clothing deprivation while controlling gender, clothing importance, type of school, number of siblings and racial group and was the most significant indicator of clothing deprivation among other variables. In Kness' study, the relation between clothing satisfaction and self-esteem was positive across three different ethnic groups.

Clothing deprivation likely limits feelings of competence or security in social interaction. With female and male adolescents, Francis (1992) found that the students less clothing-deprived in terms of 'inability to buy' and 'relative to peers' perceived themselves as more popular and attractive than their more deprived counterparts. Also they more frequently engaged in social life. The relation between clothing deprivation and social participation can be assumed from the result from Kness' study (1973, 1983). Clothing satisfaction was positively correlated to feelings of being liked or accepted, or belonging.

In summary, the studies have found that family socioeconomic status and family economic stress are significant predictors of adolescent clothing deprivation. However, the relationship of clothing deprivation to socioeconomic status is moderated by other factors, such as race or culture. Also, clothing deprivation is associated with developmental stage. The relationship between clothing deprivation and gender is not conclusive. There is a possibility that the difference in results among studies may be partially due to time gaps among studies.

Although there was evidence of difference in clothing behavior and restriction on their clothing selection depending on their budget, male adolescents overall did not feel deprived as to their clothing, when they compared it to their friends. Self-concept and self-esteem are significantly and negatively related to clothing deprivation, regardless of race and socioeconomic status. There is evidence that clothing deprivation among adolescents may affect social security or social participation, impacting the development of the social competence domain of self-concept.

#### **CHAPTER III**

#### **METHODOLOGY**

This study was designed in conjunction with a project developed and directed by M. Suzanne Sontag, Ph.D., Department of Human Environment and Design. The Michigan Agricultural Extension Station (MAES) provided the financial support for the MAES 3326 project, "Proximity of Clothing to Self: Scale Construction, Measurement, and Theory Development." The MAES project focused on the development of a standardized instrument to measure PCS and the verification of the content validity and construct validity of the measurement instrument. The project also sought to clarify the position and relationship of PCS within a theoretical system of ecological concepts, processes and propositions.

The analytic survey, which enables this researcher to explore relations among variables (Rosenthal & Rosnow, 1991), was used as a research design for the present study. Data were collected by administering written questionnaires to high school students. The remainder of this chapter describes the methodology used in exploring the relationships addressed by this study. Included are the descriptions of sample, the details of the research procedures, the instruments used, and the data analysis.

**75** 

#### **Pretest**

A pretest of the complete questionnaire was conducted in April 1996 with 10th grade students in a suburban area in Ingham County, Michigan. The purpose of the pretest was to evaluate difficulties, clarity, length and format of the questionnaire and the written directions in the questionnaire. The researcher selected 10th grade students for the pretest because the target group for this study was 10th through 12th grade students, and it was assumed that a questionnaire designed to be comprehensible to 10th graders would be comprehensible to 11th or 12th graders as well.

After permission was obtained from the school district and the principal of a high school, a cooperative teacher was identified by the principal. Signed written consent forms were obtained from the principal and from a parent or guardian of each child who participated in the pretest. Because this study was nested in the larger MAES project, two different questionnaires were administered to the students who returned the parental consent forms at two different class times on different days. Both this researcher and the project director attended and observed on both administration days. The oral agreement of the teacher was regarded as the teacher's consent.

The cooperative classroom teacher with the assistance of this researcher administered the questionnaires to the 27 students in a 10th grade classroom setting. The classroom teacher read a short verbal introduction about the survey

<sup>&</sup>lt;sup>1</sup> Procedures for the protection of the rights of human subjects were approved by the University Committee on Research Involving Human Subjects (UCRIHS).

which was written by this researcher. The students were informed that their responses would be treated confidentially and that the results would be aggregated and reported only as group findings. This researcher observed the effectiveness of this procedure.

After the students completed the questionnaire, they answered written open-ended questions about clarity of the items and of the directions for each section of the questionnaire. In addition, as a group, they orally evaluated the questionnaire with this researcher.

Overall, most students rarely had difficulty understanding the questions or using the alternative responses on the PCS scale or the clothing deprivation scale. As a result of the pretest, revisions listed below were made in the questionnaire:

- 1. A female student expressed difficulty with the word "my roles" in Item No. 75 in Section I. Because adolescents are still struggling to establish their identities, it may not be easy for them to verify what their roles are. Thus, the item was restated in a general way: "When I change roles, I prefer to change my clothing".
- 2. Four students expressed difficulty in understanding the directions for Section II. While conducting the pretest, this researcher observed that students who had difficulty with Section II tended not to have read the directions carefully. Accordingly, a part of the directions was highlighted. In addition, this researcher

requested that teachers explain to the students how to answer questions in Section II before conducting the survey.

- 3. One student living with foster parents could not find any proper response to the question, "Which of the following adult(s) live in the same household with you mostly?". Accordingly, a decision was made to modify "natural parents" to "both natural, adoptive or foster parents"; "mother, but no adult male" to "mother or foster mother, but no adult male; and "father, but no adult female" to "father or foster father, but no adult female".
- 4. Six students expressed no knowledge of the highest level of education their parent(s) completed. Accordingly, "Don't know" was added to the possible responses.

The students in the pretest took approximately 35-45 minutes to complete the questionnaire. The data from the pretest were not included in any analyses for this study.

### **Participants**

The participants for this study were 10th through 12th grade girls and boys in southern Michigan. High school students were chosen as a target group because they are more aware of and interested in clothing than any other age group. Clothing is important in their lives. They may have strong needs for clothing because of their involvement in various social activities and relationships. Adolescents realize that clothing attractiveness is important in

social activities and dating (Creekmore, 1980; Florkey, 1976; Smucker, 1969).

They seem to use clothing to develop their sense of self and to be accepted by their peers. Also, they have reached a developmental stage where they are able to think about themselves reflexively.

The researcher attempted to include high school students from diverse economic and ethnic groups in this study. However, some schools declined to participate in this study because the end of May was an inconvenient time. The researcher was unable to obtain a school in a predominantly minority community due to principals' refusals to participate. Also, the requirement of parental consent likely discouraged participation by some students.

Systematic variation in characteristics of the participants may exist because of the non-random sampling. Thus, care should be exercised in generalizing the results of this study to a population beyond that from which the participants were drawn.

# Procedures of Sampling and Data Collection

In mid-April, initial letters were sent to three schools in southern Michigan. However, the principals of the schools declined to participate in the study as it was too near the end of the school year. Additionally, seven schools near the East Lansing area were identified via the Michigan Educational Directory (1996), and one school in Walled Lake, Michigan was approached through this researcher's personal connection with a teacher in the school. These additional

schools were contacted by mail. Each principal was sent a cover letter with a written description of the study and consent form for the principal (see Appendix A) and a copy of a letter and consent form for the parents/guardians (see Appendix B) together with a copy of the questionnaire (see Appendix D). Then this researcher contacted each principal by telephone for further explanation of the study and data collection procedure.

Three principals agreed to have their students participate in the study.

They were asked to identify teachers of social studies, life management, or other required classes, who might be willing to cooperate with the study and permit access to their classes for administration of the questionnaire. The principals were requested to return their signed consent forms along with names of cooperative teachers and the numbers of students in their classes.

After receiving the principal's signed consent form and names of cooperative teachers, each teacher was sent letters of explanation and parental consent forms to distribute to the students' parents or guardians, questionnaires, and a letter and instructions for the teacher about data collection (see Appendix C). The letter for the parents or guardians contained a description of the project and a request to sign the enclosed consent form for their child (see Appendix B). The instructions for data collection were developed by this researcher and the

director of the MAES project<sup>1</sup> to keep similar conditions in data collection across the schools and the classes.

Several days before data collection the teachers distributed a letter and a consent form to each student under the age of 18 to take to his or her parents or guardians. Students 18 and older could sign their own signature on the consent forms. The classroom teacher reminded the students to turn in the signed consent form, and collected it prior to the scheduled day for the questionnaire. The survey was administered during the regular class periods by the classroom teachers in late May and early June 1996.

Three hundred sixteen questionnaires and consent forms were distributed to the three schools. Two hundred and five signed parent consent forms and 194 completed questionnaires were returned. During the editing process, 7 questionnaires were omitted from data entry due to invalid consent forms, no consent form or missing data on most of the questionnaire, leaving 187 questionnaires for data entry.

Before testing hypotheses or exploring the questions proposed in Chapter I, this researcher deleted 16 more cases because there was evidence that the students' answers on Harter's Self-perception Scale were not reliable because of a problem resulting from one teacher's action in administering the questionnaires. Also, thirteen more cases were omitted from data analysis

The project director conducted a study in additional high schools at the same time using parallel procedures. The PCS Scale instrument was the only instrument common to both studies.

because data on the gender variable were missing. However, these 29 cases were included in reliability analyses of the PCS scale and the clothing deprivation scale. The 16 cases were omitted for computing reliability coefficients for the self-perception scale. One hundred fifty eight cases were included in testing hypotheses and exploring relationships before the listwise deletion of missing data on variables was considered.

#### Measures

The questionnaire contained items measuring proximity of clothing to self, self-perception, clothing deprivation and family socioeconomic status, family economic stress and demographic information. The questionnaire is presented in Appendix D.

# PCS Scale Development Procedure

As part of an earlier phase of the MAES project, a new version of the PCS scale was developed by the project director and this researcher. A detailed summary of this phase is included here to assist the reader in understanding the careful process by which items were constructed.

A series of open-ended questions pertaining to PCS dimensions and demographic information was administered to 190 respondents including male and female adolescents (ages 14-18), young adults (ages 19-34), middle-aged adults (ages 35-54) and older adults (age 55 and over). Several focus group interviews were also conducted with subgroups of participants. Adolescent

subjects were obtained through attendance at Cooperative Extension Service youth development workshops. Adult subjects were solicited in a large shopping mall and two apartment complexes in the Lansing area. The composition of the sample was: 40 female adolescents (21%), 17 male adolescents (9%), 37 female young adults (20%), 33 male young adults (17%), 8 female middle-aged adults (4%), 6 male middle-aged adults (3%), 28 female older adults (15%) and 21 male older adults (11%).

Subjects' actual responses on each question were coded and collated by the dimension to which each question corresponded. This researcher recoded portions of a subject's response to a particular question if this researcher judged that the response had additional content pertaining to another PCS dimension. The principal investigator and this researcher independently constructed both proximal and distal<sup>1</sup> items for each PCS dimension, based on preestablished criteria<sup>2</sup> and the ordinary language used by subjects in their responses. During

<sup>&</sup>lt;sup>1</sup> A distal item states that a person perceives clothing as irrelevant, or remote, to the self, in some way. For example, Item 55 states: "What I wear has nothing to do with who I really am."

<sup>&</sup>lt;sup>2</sup> The criteria are cited from Sontag and Lee (1994). Concept- and context-related criteria.

<sup>1.</sup> Each item must state a relationship between clothing and the self. An item may incorporate concepts related to the self, attributes or characteristics of clothing or the practice of dressing, and/or a process or outcome of interaction of the self with clothing. Decisions about which specific concepts to include must be based on content of subjects' responses.

<sup>2.</sup> Some attention should be given to situational, social, or cultural context. Ageor sex-specific or idiosyncratic contexts should be avoided (e.g., school, work, diet, jogging). Items could incorporate generalized public and private or formal and informal contexts that all people would have in common.

comparison of two separate constructions, the best construction for similar items was selected, and some items were revised in order to make the items broadly applicable and easily understandable. Many modifications, and deletions were made in order to meet the predefined criteria, to prevent redundancy of the same idea, and to construct moderately positive or negative items rather than extreme items

#### Scale-related criteria.

- 1. Items should be classifiable as proximal or distal with respect to the PCS concept.
- 2. Items should permit expression of several degrees of agreement or disagreement.
- 3. Items should allow the expression of <u>sentiment</u> (attitudes, opinions, viewpoints based on feelings or emotions).
- 4. Each item should be constructed to measure one and only one dimension of the PCS attribute.
- 5. Items, taken together as a whole, should be constructed to measure only the PCS attribute and not other attributes (e.g., social comfort, fashion, conformity).

#### Sample-related criteria.

- 1. Items should be able to be answered by both sexes.
- 2. If feasible, after qualitative analysis of Phase One questionnaires, items should be universally applicable across age groups.
- 3. Items should be stated in the ordinary language of people as determined through qualitative analysis of Phase One questionnaires.

## Syntax-related criteria.

- 1. Most items should be stated in first person to insure that the person's PCS is being measured rather than his or her idea of the way PCS should be or his or her concept of others' PCS. If, for the sake of variety or because of the ordinary language used, an item is stated in second or third person, implied should be "I believe that . . . " or "I feel that . . . " (e.g. "Clothes do not make the person; it's not what you wear but who you are" implies "I believe that clothes do not make me; it's not what I wear but who I am."
- 2. Most, if not all, items should be stated in present tense in order to insure measurement of the current state of PCS. [Note: This is based on the assumption that PCS could change over the life span of an individual].

A word usage analysis was conducted to determine whether there were differences by gender or age in the language used to describe PCS. This researcher counted the number of occurrences of specific words which appeared in the subjects' actual responses by gender and age groups,. The researcher selected any words which linked to clothing or body (e.g., figure, body, style) and related to feeling or cognition evoked by clothing (e.g., adequate, confident, awesome). However, very common words such as 'good' or 'happy' were excluded from the language analysis. Also, this researcher included any words which she judged were used by some groups but not others (e.g., accessory, fat, distinguished).

The frequency of usage of selected words was counted according to gender and age groups. After a list was made of the words which were used only or more frequently by specific groups, the word usage among groups was compared. There was evidence of different usage of several words among groups by age and gender. However, the project director of the large project and this researcher decided to develop a common PCS scale rather than several different PCS scales for different age and gender groups. Accordingly, it was determined to delete from the constructed items the words which were used by only a specific group. For the words more frequently used by a specific group, synonyms were substituted which were more commonly used across different groups.

Out of about 700 items originally constructed, 204 items distributed among the dimensions were retained after several iterations of review, editing, and deletion. Within each dimension, items were grouped according to similarity in terms of representing a particular portion of the definition of each dimension redefined by Sontag and Lee (1994). When only one item represented a certain portion of the definition, the item was not grouped.

Eight national researchers in clothing and human behavior were asked to evaluate the items in terms of the congruence or representativeness of each item with the definition of the dimension and for the best expression for congruent items containing similar ideas (Osterlind, 1989). They also recorded any comments on clarity of language, grammar or applicability to gender and age groups. Three of six dimensions were assigned to each judge according to her area of expertise. Thus each dimension was evaluated by four judges.

On the basis of analysis of the experts' evaluation for content validity, the project director and this researcher chose seventy-eight items, thirteen for each of six PCS dimensions. Those chosen items were scored highest within grouped items or were rated as highly congruent and representative among ungrouped items.

# Measurement of Variables

The measurements of self-perception (i.e., self-concept, self-esteem),

PCS and clothing deprivation are presented in the subsections that follow. In

addition, economic situation (i.e., family socioeconomic status, family economic

stress) and demographic information are described. Indicators addressing each variable used in this study are summarized in Table 2.

# Proximity of Clothing to Self

The researcher and the project director of the MAES project developed a multi-step procedure for randomizing the final 78 items (13 items for each of 6 dimensions) within the PCS instrument. After one item from each of the six dimensions was randomly selected, the order of these six items in the group was randomly selected. This procedure was repeated thirteen times with the additional rule imposed that two items from a single dimension would not be placed in sequence where one group of six items ended and another group of six began. Thus, the items were randomly selected within each group of six, and the order of items within each group varied across groups.

Several research studies (Jenkins & Taber, 1977; McKelvie, 1978) have reported that between a 5- and 7-point Likert scale is most reliable. A larger range (9- to 12-point scale) may cause a loss of discriminative power. A scale with fewer than five points tends to have low validity. A 6-point scale was selected for assessing the PCS items.

The range of points, from 1 to 6, were defined as "Never or almost never true of me," "Usually not true of me," "Sometimes true of me," "Often true of me," "Usually true of me," and "Always or almost always true of me." Out of these six points, four points are stated in a positive direction. Previous researchers found that more people perceived clothing as psychologically

Table 2 - Definitions of Indicators, Corresponding Items in the Questionnaire and Range of Scores on the Indicators

		Section/Items	Range
Variable	Indicators	No. <sup>a, b</sup>	of Scores
Proximity of Clothing to Self	A person's score on each dimension obtained by summing the scale response for 13 items of Proximity of Clothing to Self Scale.  Clothing in relation to:	Section I	
	Clothing in relation to.	lanna.	
	Self as structure	Items: 4, 11, 18, 23, 26, 33, 38, 44, 50, 55, 62, 71, 75	13-78
	Self as process—communication of self to others	3, 10, 14, 19, 28, 34, 39, 46, 49, 57, 64, 68, 73	13-78
	Self as process—response to judgments of others	2 <sup>°</sup> , 8, 15 <sup>°</sup> , 24 <sup>°</sup> , 29, 31, 37 <sup>°</sup> , 43, 54, 58, 66, 70, 76	13-78
	Self-esteem—evaluative process dominant	1, 9, 13, 21, 25, 36, 41, 45, 52, 60, 63, 72 , 77	13-78
	Self-esteem—affective process dominant	5, 7, 17 <sup>*</sup> , 22 <sup>*</sup> , 27, 35, 42, 47, 53, 56, 65, 67 <sup>*</sup> , 78	13-78
	Body image and body cathexis	6, 12, 16, 20°, 30, 32°, 40, 48, 51, 59, 61, 69°, 74	13-78
Self-concept	A person's summated score on the four specific domains of Harter's Self-Perception Profile for Adolescents: Scholastic competence Social acceptance Physical appearance Romantic appeal	Section II Items: 4, 8, 13, 16, 24, 3, 10, 14, 19, 21, 2, 6, 12, 20, 23, 1, 9, 15, 18, 22	5-20 5-20 5-20 5-20

Table 2 - (cont'd).

Variable	Indicators	Section/Items No. <sup>a, b</sup>	Range of Scores
Self-esteem	A person's score on the global self-worth domain of Harter's Self-Perception Profile for Adolescents	Section II Items: 5, 7, 11*, 17*, 25*	5-20
Clothing deprivation	A sum of a person's responses to 14 items measuring the inability to buy factor and of scores on 5 items measuring the clothing	Section III	
	deprivation relative to peers factor Inability to buy	Items: 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 18	14-70
	Clothing deprivation relative to peers	1°, 10°, 13°, 17°. 19°	5-25
Socioecono- mic status	A score on Nakao and Treas (1994) socioeconomic index based on father's or mother's occupation	Section IV Items: 1 through 5	
Family eco- nomic stress	A sum of a person's score on perceived income decrease and on increased demand Decrease in family income Increased demand on family income	Section IV Items: 7 8	2-8

Section and item numbers refer to the numbers assigned in the questionnaire (see Appendix D).

Items followed by an asterisk were reverse-scored.

proximal rather than distal to themselves (Lynn, 1990; Schmerbauch, 1993; Sontag & Schlater, 1982). This researcher and the project director intentionally skewed the response scale toward the positive direction in an attempt to make the responses of participants approximate a normal distribution, and prevent misleading results due to a ceiling effect. The PCS instrument contained 14 distal items: items 2, 15, 17, 20, 22, 24, 28, 32, 34, 37, 55, 67, 69, and 72. These items were reverse-scored.

# Self-concept and Self-esteem

Self-concept and self-esteem were assessed by using Harter's Self-perception Profile for Adolescents (1988). Harter devised a measurement of high school students' domain-specific judgments of their competence or ability and social relationships, in addition to global self-worth. The measurement contained separate subscales for each domain.

From nine specific domains in the Harter Self-perception Profile for Adolescents, five domains were selected, which were expected to relate to this study. The five domains were scholastic competence, social acceptance, physical appearance, romantic appeal and global self-worth; the latter domain corresponded to self-esteem in this study. Each subscale had five items, therefore, the shortened Profile consisted of 25 items. Harter presented the reliability for each domain based on Cronbach's alpha. Each was within an acceptable range across different groups: scholastic competence, .77 to .91:

social acceptance, .77 to .90; physical appearance, .84 to .89; romantic appeal, .75 to .85; and self-worth, .80 to .89.

Each item was scored from 1 to 4, where "1" indicated low competence, and "4" indicated high competence. An item which was positioned with the positive statement on the left side of the page was reverse-scored. The reversed items were: items 1, 4, 10, 11, 13, 15, 17, 18, 19, 20, 21, 23, 24, 25 in Section II.

## **Clothing Deprivation**

Clothing deprivation was assessed by the clothing deprivation scale originally developed by Liu (1987). It was based on previous studies, and has a two factor structure confirmed by Francis (1990). The instrument contains nineteen items in two factors: *inability to buy* and *clothing deprivation relative to peers*. The *inability to buy* factor consists of 14 items; the *clothing deprivation relative to peers* factor has 5 items. The items were stated both negatively and positively. Participants responded to the clothing deprivation items on a 5-point Likert-type scale. Francis (1990) reported an appropriate internal consistency for each subscale; Cronbach's alpha for the *inability to buy* subscale was .88 and Cronbach's alpha for the *clothing deprivation relative to peers* subscale was .77.

An item which reflected satisfaction with clothing was reverse-scored. Thus, a higher score indicated more deprived feelings about clothing than a lower score. The reverse-scored items were: 1, 10, 13, 15, 17, and 19 in Section III.

91

### Socioeconomic Status

The family socioeconomic status was measured by the parents' occupation. Only the father's occupation and education has been used in a traditional procedure to measure the socioeconomic status of a family. However, the traditional index of socioeconomic status is not applicable to all the diverse family structures found in the United States today (Entwisle & Astone, 1994).

Family structure was sought by asking the question, "Which of the following adult(s) live in the same household with you mostly?" The participants chose from among seven nominal categories to identify the adults likely to contribute to the family income. The occupation of a parent not living in the same household with the participant may be irrelevant to the participant's socioeconomic status.

Based on responses to three open-ended questions about the parents' occupation, activity and industry, the father's (or father substitute's) and the mother's (or mother substitute's) occupation was indexed according to occupation codes from the 1980 Census of Population (1982). A report of the National Education Longitudinal Study (Ingels, 1987; Lucas, 1988) indicated that students could more effectively utilize open-ended questions about parent occupations than a question with categorized alternatives.

Two coders independently identified occupational codes by reference to the <u>Alphabetical Index of Industries and Occupations</u> (U.S. Bureau of the Census, 1982) and the <u>Classified Index of Industries and Occupations</u> (U.S.

Bureau of the Census, 1982). The degree of agreement between coders constituted the measure of coding reliability. The degree of agreement between the coders was 71% for father's occupation and 80% for mother's occupation. When the coding results from the two coders were not congruent, the decision was made through inclusive discussion. When the coders could not determine a proper category, an arbiter was consulted. The agreement rates between coders likely were not higher because the adolescents did not describe their parents' occupations in sufficient detail.

The occupational codes were converted into the Nakao-Treas socioeconomic index (SEI), which was recently developed and supersedes socioeconomic indices used by earlier researchers (Entwisle & Astone, 1994). The Nakao-Treas SEI scores reflect occupational characteristics for the male and female labor force rather than characteristics only of male labor as does the Duncan index (1961). Nakao and Treas (1994) produced the SEI prediction equation by regressing the prestige scores of 500 detailed occupational categories on the age-standardized proportion of occupational incumbents with one or more years of college in 1980 and the age-standardized proportion with personal incomes of \$15,000 or more in 1979 (p.11). Based on the equation [SEI = 9.24 + 0.64 (Education) + 0.31 (Income)], they calculated the SEI for the detailed categories of the 1980 occupational classification. At the time of the present study, the updated SEI for 1990 occupational classifications was not available.

The rules for determining family SEI in this study were as follows: 1) If the participant lived with only one of his or her parents in the same household, that parent's SEI was defined as the family SEI; 2) If the participant lived with both parents (or guardians) and only one of them was working, the working person's SEI was regarded as the family SEI; 3) If both parents (guardians) living with the participant were working, the higher of the two SEIs was the family SEI; 4) If both parents were working but information about the occupation of one of the parents was insufficient, the other's SEI was the family SEI. In this study, the range of scores was from 26 (equivalent to paving, surfacing, and tamping equipment operators) to 97 (equivalent to physician).

Two questions were asked about the father's and mother's levels of educational attainment. Parental education was indexed as "1" = "Less than high school diploma" to "9" = "PhD, EdD, or Other advanced professional degree". To increase the reliability of the information, a 'don't know' category was included. However, parents' educational levels were not applied in indexing the family socioeconomic status because Nakao-Treas SEI is determined without further information required on education.

# Family Economic Stress

Two questions developed by Francis (1990) were modified and used to create an index of an adolescent's family economic stress. One question was "In the past two years, has there been a decrease in your total family income compared to before?", and was scored on a 4-point Likert-type scale where "1" =

"no decrease" through "4" = "very substantial decrease." The other question was "In the past two years, have there been unusually large demands on total family income?", and was scored using a 4-point Likert-type scale, "1" = "no unusually large demands" through "4" = "unusually large demands." Family economic stress was indexed by adding the scores on these two questions. For both questions, a "Don't know" category was included to increase the reliability of the responses.

## **Demographic Information**

Demographic information about ethnicity, gender, age and grade of each participant, in addition to occupation and education of father and/or mother as described above, was gathered.

Age. Age was established as age at last birthday and was scored as a continuous variable.

Gender. Gender was treated as a dichotomous variable: "0" = "female", "1" = "male".

Ethnicity. Ethnicity was measured as a seven category nominal variable.

The categories are "1" = "White/Caucasian American/Non-hispanic", "2" =

"Black/African American/Non-hispanic", "3" = "Hispanic American", "4" =

"American Indian", "5" = "Asian American or Pacific Islander American", "6" =

"American of Mixed Ethnicity (two or more of above)", and "7" = "Foreign".

#### Statistical Analysis

To answer the research questions, several different types of statistics were calculated. The statistical analyses that were employed are explained below.

#### Assessing Reliability

Reliability is defined as repeatability and stability of the instrument (Nunnally & Bernstein, 1994). Repeatability refers to the extent to which observations are duplicated "(1) when different persons make the measurements, (2) with alternative instruments intended to measure the same thing, and (3) when incidental variation exists in the conditions of measurement" (Nunnally & Bernstein, 1994, p. 213). A high degree of reliability suggests homogeneity of content among the items used to measure the construct of interest, as well as high correlation among these items. Stability refers to the unchangeability of results of observations over time and under different circumstances.

In this study, repeatability, the first aspect of reliability, was estimated by using Cronbach's alpha coefficient, which indicates the degree of homogeneity or consistency of items in a measurement. However, this researcher did not attempt to evaluate stability of measurement in this study.

Reliability coefficients were computed on all of the multi-item measures (i.e., subscales) in the questionnaire: the six dimensions of PCS, the five domains of Harter's self-perception profile and the two factors of clothing

deprivation. Cronbach's alpha coefficient indicates how well the items within each subscale reflect a common, underlying construct (Mehrens & Lehmann, 1984; Spector, 1992). In general, an alpha coefficient greater than or equal to .8 is regarded as high (Nunnally & Bernstein, 1994). A high coefficient alpha indicates that a scale has a good degree of homogeneity, and therefore that the items are measuring the same construct.

#### Assessing Construct Validity

Construct validity of a scale represents how well the scale measures the abstract or latent variable (called a construct) which it was designed to measure (Allen & Yen, 1979). Nunnally and Bernstein (1994) outlined three major aspects of construct validation: (1) identifying the domain of observables related to the abstract variable; (2) determining how well the different scales of observables related to the abstract variable intercorrelate empirically; (3) determining relations among constructs.

The first aspect of construct validation seems to be intimately related to the procedures required to ensure content validity (Nunnally and Bernstein, 1994). The second aspect of construct validation is assured when two different scales measuring the same abstract variable are highly correlated, or their functional relationships to different treatment variables are similar. Some authors call this trait validity or convergent validity, which is "the extent to which a measure relates more highly to different methods for assessing the same construct than it does to measures of different constructs assessed by the same

method" (Messick, 1989, p. 46). The third aspect of construct validation is determined from how well empirical evidence fits into the predicted associations between the measure of interest and other established measurements of other concepts, based on a theory or previously accumulated results on the concept (Devellis, 1991; Nunnally & Bernstein, 1994). This is often called nomological validity (Messick, 1989; Nunnally and Bernstein, 1994).

Additionally, when any predictions about how the test scores should behave are supported by data, construct validity is established. The possible predictions can be group differences or change in a construct (Allen & Yen, 1979).

Construct validity also can be established by assurance of content validity and criterion-related validity (Allen & Yen, 1979; Messick, 1989). Content validity is how well the items of a measure represent a specified domain of an abstract variable or how adequately the content of a measurement was sampled (Allen & Yen, 1979; Kerlinger, 1986). Content validity is assured through a rational analysis of the content of a test with a well-formulated plan and procedures for test construction, and it is determined based on individual, subjective judgment (Allen & Yen, 1979; Nunnally & Bernstein, 1994). Criterion-related validity is important in using a test score to predict some behavior (criterion). It is typically established by showing the correlation between the test score and the criterion score.

To establish content validity, it is important to carefully define the domain of a construct to be measured and include items to cover all the relevant and representative content of the construct. Previous studies (Sontag, 1978; Sontag & Schlater, 1982) identified the dimensions of PCS based on qualitative data and theories. As mentioned earlier in this chapter, the items of the PCS scale were grounded in 190 respondents' written statements and constructed through a planned systematic process and logical design. Accordingly, the items in the PCS scale broadly represent people's possible feelings and thoughts in relation to PCS. Content validity of the PCS scale was also ensured through evaluation of representativeness of items by experts in the clothing behavior area in the earlier phase of the larger MAES project.

This study is designed to determine the relation between two different constructs, PCS and self-perception. In Chapter I, this researcher explained the possible predictions about the relationships between these constructs based on previous research and theories. The results of hypothesis tests in this study may provide some evidence of nomological validity of PCS. The results of hypothesis tests for gender differences in PCS would also make a contribution toward establishing construct validity of the PCS Scale.

# **Treatment of Missing Data**

Unfortunately, not all respondents in the survey responded to all of the items or all of the subscales. Treatment of missing data was as follows:

- 1. If, on a PCS subscale (13 items on each dimension) and the *inability to* buy subscale (14 items), the respondent failed to answer one or two items, a mean of scores of all answered items on the subscale for the respondent was assigned to the unanswered item. However, if the respondent failed to answer three or more items, he or she received a missing value for that particular subscale score.
- 2. If, on any subscale of Harter's self-perception profile (5 items on each domain) or the *clothing deprivation relative to peers* subscale (5 items), the respondent failed to answer one item, the mean of the four items on the domain or factor which were answered by the respondent was assigned to the unanswered item. However, if the respondent failed to answer more than one item, he or she received a missing value for that particular subscale score.

These missing data methods were applied to 8 respondents who failed to answer items on PCS subscales, 10 respondents who omitted items on Harter's self-perception subscales and 11 respondents on clothing deprivation subscales.

# **Descriptive Statistics**

# Mean, Standard Deviation and Effect Size

Descriptive statistics (mean and standard deviation) were obtained to summarize distributions of observations on the subscales of PCS, self-perception and clothing deprivation. Effect sizes to examine the differences between females and males on the six dimensions of PCS were also computed.

The effect size  $((\overline{X_1} - \overline{X_2})/S_p)$ , or standardized mean difference, gives the difference between the means of two groups, in terms of the pooled standard deviation of the groups. It is a useful descriptive estimate of the magnitude of the difference between means when the scale of the dependent variable is arbitrary, such as measures in behavioral research (Glass & Hopkins, 1984, p.373).

Because F and t values are very sensitive to sample size, significant differences between groups can be found even when there is little difference in group means, if the sample size is large enough. On the other hand, sample size does not affect the effect size, therefore making the effect size a useful statistic to simply describe the magnitude of group differences.

## Correction for Attenuation of Correlation and Partial Correlation

Zero-order Pearson product-moment correlation coefficients were computed to describe the linear relationships among subscales in the questionnaire. However, zero-order correlations will not be discussed in Chapter 4. The reader can find the zero-order correlations in Appendix F.

Observed scores are not true scores but contain measurement errors

(Nunnally & Bernstein, 1994). When measurements of two variables are
unreliable (i.e., there is measurement error), the observed correlation between
two variables is lower than the correlation between true scores of the two
variables. Attenuation of correlation due to measurement error can be corrected
by using the formula below (Nunnally & Bernstein, 1994):

$$r'_{12} = \frac{r_{12}}{\sqrt{r_{11}r_{22}}}$$
, where

 $r_{12}'$  = Corrected correlation between  $X_1$  variable and  $X_2$  variable  $r_{12}$  = Zero-order correlation between  $X_1$  variable and  $X_2$  variable  $r_{11}$  = Reliability of measurement of  $X_1$  variable, and  $r_{22}$  = Reliability of measurement of  $X_2$  variable.

The  $r'_{12}$  is an estimate of how high the correlation would be if the two variables were measured by a perfectly reliable instrument (Nunnally & Bernstein, 1994).

Partial correlation coefficients were calculated to explore the correlation between clothing deprivation and self-esteem or self-concept. Because the two factors of clothing deprivation were correlated, partial correlations were computed to explore the unique relation of one factor of clothing deprivation to the social acceptance domain of self-concept or self-worth while controlling for the effect of the other factor on the first factor and on the social acceptance domain or self-worth. A partial correlation  $(r_{123})$  indicates the degree to which  $X_1$  and  $X_2$  are correlated after the effect of  $X_3$  on the two variables is held constant, or partialed out (Polit, 1996). The partial correlation coefficients were calculated by using the following formula:

$$r_{12.3} = \frac{r_{12} - r_{13}r_{23}}{\sqrt{\left(1 - r_{13}^2\right)}\sqrt{\left(1 - r_{23}^2\right)}}$$

Partial correlations were calculated both with and without a correction for attenuation.

## Univariate and Multivariate Multiple Regression

#### Univariate Multiple Regression

Univariate multiple regression analysis uses a linear combination of values of independent variables to predict the value of some single dependent variable. Multiple regression analysis is used to determine which of the independent variables included in a study best explain variation in the dependent variable (Polit, 1996).

The advantage of using multiple regression is that it offers a fuller explanation of variation in a dependent variable than does bivariate regression. A researcher can more fully understand certain complicated phenomenon with multiple regression because in real life, few phenomena result from a single cause (Lewis-Beck, 1989).

Univariate multiple regression analysis was performed for each dimension of PCS (dependent variable) with the domains of self-perception and gender (independent variables). Another univariate multiple regression analysis was done for each factor of clothing deprivation (dependent variable) with family economic stress, family socioeconomic status, gender and the dimensions of PCS (independent variables).

Assumptions. Certain assumptions should be met in order to estimate population parameters and perform hypothesis tests. The key assumptions for univariate multiple regression are as follows (Berry & Feldman, 1985; Stevens, 1996):

- 1. For each set of scores predicted from the *k* independent variables, the errors have a normal distribution. However, the tests are robust to the violation of this normality assumption when the sample size is large. The normality assumption is necessary only for tests of statistical significance, but not for estimating the parameters of the regression model.
- 2. For each set of scores on the *k* independent variables, the errors are independent and have a constant variance (i.e., they are homoscedastic). Violation of the independence and homoscedasticity assumptions leads to biased estimators of the regression coefficients and the standard errors of the regression coefficients. Hypotheses are tested and confidence intervals are calculated, but the results may be false.

Essentially, biased standard errors lead to calculation of  $(1-\alpha)$ % confidence intervals that do not have an accurate amount of coverage. As with Assumption 1, this can lead to inaccurate *p*-values.

Multicollinearity. Perfect multicollinearity exists when the variance of one predictor is completely explained by the other predictors in a regression equation. Perfect multicollinearity rarely occurs in social science research, but multicollinearity exists to some degree (Berry & Feldman, 1985). It is difficult to determine the significance of a given independent variable in explaining the variance of the dependent variable when multicollinearity exists. The effects of the independent variables are confounded due to the correlation among them (Pedhazur, 1982; Stevens, 1996).

Multicollinearity also can lead to an incorrect conclusions about the relative importance of the independent variables in explaining the variance in the dependent variable (Berry & Feldman, 1985; Stevens, 1996). When the correlation coefficients among the independent variables are high, the standard errors of regression coefficient estimators become inflated, which produces wide confidence intervals for regression coefficients and low values of *t* tests. It may produce not only the imprecise estimation of the magnitudes of regression coefficients but also reversals in their signs. (Berry & Feldman, 1985; Pedhazur, 1982; Stevens, 1996).

Multicollinearity can be diagnosed: 1) by examining the zero-order correlation among the predictors in a regression equation or 2) by regressing each predictor on the other predictors in the regression equation and establishing a tolerance  $(1 - R^2)$  or a variance inflation factor  $(1/(1 - R^2))$  for each predictor (Berry & Feldman, 1985; Polit, 1996; Stevens, 1996). For this study the multicollinearity was examined among the five subscales of Harter's self-perception and gender, and among the six subscales of PCS, family socioeconomic stress, family socioeconomic status and gender.

Regression coefficient (B) and standardized regression coefficient (B\*).

In a regression model, a regression coefficient of an independent variable represents the increase in the dependent variable corresponding to an increase of one unit of the independent variable, while other independent variables are held constant. It is the weight associated with a predictor when other predictors

are in the equation. Removal of a predictor from or entry of a predictor in a regression model can bring about changes of the regression coefficients, especially if there is multicollinearity.

Magnitudes of regression coefficients cannot be directly compared across predictors in a regression equation when each predictor has different units of measure (Pilot, 1996). However, it is useful to compare the regression coefficients from the same predictors of regression lines which are obtained from different samples (Glass & Hopkins, 1984), or from equations in which all independent variables are assessed on the same response scale.

As a way to make comparisons of slopes for different variables, the regression equation is sometimes computed with standardized scores (Z scores) on the dependent variable and independent variables. Observed scores are standardized by subtracting the mean of the sample and dividing by the sample standard deviation. The standardized score tells how many standard deviation units and in which direction the raw score deviates from the mean (Moore & McCabe, 1989). Because it is a scale-free index and links to the part correlation, the researcher can decide the importance of independent variables in predicting variance of the dependent variable, simply by comparing the standardized regression coefficients, slops drawn from regressions computed.

 $R^2$  and adjusted  $R^2$ .  $R^2$  is the square of the magnitude of the relationship between a dependent variable and several independent variables considered simultaneously. It is interpreted as a proportion of the variance of the dependent

variable explained by the set of independent variables (Polit, 1996).  $R^2$  can be used for assessing the goodness-of-fit of the regression model. However, there are limitations of  $R^2$  as an index of the goodness-of-fit.  $R^2$  varies from sample to sample, due to differences in the variance of the dependent variable, although the regression coefficients of the regressions from two groups may be identical. The other limitation is that  $R^2$  will always increase to some degree when new predictors are included in the regression, although the effect of the new variables on the dependent variable is not significant (Berry & Feldman, 1985).

An alternative for solving the limitation of  $R^2$  is to assess an adjusted  $R^2$  (or shrunken  $R^2$ ), which takes into account sample size the number of the predictors in the regression model (Polit, 1996). There are several adjusted  $R^2$  measures, but, the measure used in the SPSS (Statistical Package for the Social Sciences) program estimates "how much variance on y would be accounted for if we had derived the prediction equation in the population from which the sample was drawn" (Stevens, 1996, p.96). It does not indicate estimated average predictive power of the regression across samples. The predictive power from the SPSS output is always more inflated than a cross validity predictive power with a different formula (Stevens, 1996). The reader should be careful to interpret the adjusted  $R^2$ .

Type I error, power and controlling overall Type I error. The type I error rate is the probability of making a false rejection of the null hypothesis when it is true. Power  $(1-\beta)$  is the probability of rejecting the null hypothesis when it is

really false. When Type I error decreases, power also decreases. In this study, power was examined to confirm the strength of evidence obtained when the hypothesis was rejected, and as a basis for more careful conclusions about nonsignificant results.

This researcher set the level of significance (probability to make Type I error) at .05 for the omnibus multivariate test and for each univariate test. However, t tests for the regression coefficients of the predictors in the multiple regression equations were jointly controlled to prevent an increase of the overall significance level. That is, the overall  $\alpha$  for a set of tests on the predictions of a dependent variable was set at .05, and the significance level for each t-test was controlled by the Bonferroni method, which acts the significance level is equal to .05 divided by the number of t-tests for a dependent variable. Power and the 95% confidence intervals in results presented in Chapter IV reflect the jointly controlled Type I error.

## Multivariate Multiple Regression Analysis

A multivariate multiple regression analysis takes into account the correlation among dependent variables and simultaneously examines the relationships between several dependent variables and a set of predictors. The key advantage of doing a multivariate multiple regression analysis is that it gives a test of an omnibus null hypothesis that the independent variables as a set are in some way related to a combination of the dependent variables. When individual (separate) regression analyses are performed for several correlated

dependent variables with the same subjects, the overall Type I error is increased (Polit, 1996; Tatsuoka & Lohnes, 1988). When the tests are independent, the probability of Type I error is

$$1 - (1 - \alpha)^n$$
  
where  $n =$  the number of tests  $\alpha =$  the significance level

If the hypotheses are tested at the .05 level of significance, the probability of at least one false rejection becomes much higher than .05 when *n* becomes high.

Note, however, that the actual regression coefficients of predictors in the multivariate multiple regressions are identical to what would be found if separate univariate multiple regression analyses were conducted (Stevens, 1996).

In this study, multivariate regression analysis was performed to simultaneously test the significance of relationships between the dimensions of PCS and the domains of self-perception together with gender. Following the omnibus *F* test, a univariate multiple regression analysis for each dimension of PCS was separately examined.

#### Limitations

The results of the study should be considered in light of the following limitations which originate from the selection of the sample, data collection procedure, and measurements used in the study:

- 1. As previously mentioned, the sample was not randomly selected. This researcher solicited schools from three suburban areas in southern Michigan.

  As a result, the sample did not include participants from backgrounds very different in terms of ethnicity or family economic condition. The homogeneous group may produce results which may not be applicable to a more heterogeneous group. Therefore, the results from this study can be generalized only to the population from which the sample was drawn. Although the researcher attempted to include students in required classes to obtain the most representative sample of the school, systematic errors might be produced because the survey only included students who turned in their signed consent forms.
- 2. To control the conditions of data collection, this researcher developed instructions for teachers administering questionnaires. However, it cannot be guaranteed that all teachers followed the instructions and provided the same conditions for the participants.
- 3. Whereas content validity of the PCS measurement scale was established through systematic item construction procedures and evaluation by eight experts in the apparel and textiles area, the dimensions of the concept are yet to be confirmed by statistical analysis.
- 4. Participants' responses about their father's or mother's occupation may not be reliable. Some students in this study did not give sufficient information. The National Educational Logitudinal Study (Ingels, 1987; Lucas,

1988) reported that parents' descriptions about their occupation were somewhat inconsistent with the descriptions from their children, although adolescents' responses to open-ended questions were more congruent with their parents' than were adolescents' responses to questions with categorical options.

5. Because a relatively small sample size was obtained, separate regression analyses by gender were not performed in order to guarantee a sufficient number of subjects for a regression. About 10 to 15 subjects per predictor were generally recommended for developing a prediction equation which has generalizability (Stevens, 1996). To solve this problem, gender was included in a regression equation as a dummy independent variable. With this regression equation, one assumption is homogeneity of the regression coefficients for the other predictors in each gender group. There is a possibility that the regression coefficients obtained in this study may be overestimated or underestimated for each gender group.







LIBRARY Michigan State University

PLACE IN RETURN BOX to remove this checkout from your record. TO AVOID FINES return on or before date due.

DATE DUE	DATE DUE	DATE DUE
PEB, 2: 6 27 J.		
HN 0.6-2900		
8820		
JUL 2 0 2000		
FEB 08 10 2000		

MSU Is An Affirmative Action/Equal Opportunity Institution

#### **CHAPTER IV**

#### RESEARCH FINDINGS

Included in this chapter are descriptions of the characteristics of the sample, the reliability of each scale used in the study, the results of the hypothesis testing and exploratory analysis results.

#### Evaluation of the Data

Before data analysis, it is critical to investigate and describe the distributions of the data. This allows us to more easily detect outliers affecting the average and the variance, and to check the violation of assumptions for the inferential statistics. It is also important, of course, to ensure that the data were input correctly. Accuracy of data input was achieved through a two step dataentry procedure. After three trained persons entered the data into the computer, a team of two persons verified the accuracy of the data entry with a verifying computer program which gives an alert signal when the datum being reentered differs from the original input. All data for all cases were reentered and verified in this way. In addition, the accuracy of the data was also examined by inspecting out-of-range values.

The normality of the data on each variable was investigated by calculating a Q-Q plot for each variable. The Q-Q plot shows how much the observed values deviate from expected normal values in the standard normal distribution of the same sample size (Norusis, 1993). Although the observed scores of each variable from the participants were not completely matched to the expected normal scores, they did not deviate very much from the expected values. Therefore, data transformation was not considered.

Reliability

Cronbach's alpha was computed for each subscale of the PCS Scale, the clothing deprivation subscales and the self-perception subscales (see Table 3). As mentioned in the previous chapter, reliability for the self-perception scale was calculated from 171 cases, as the invalid responses on the self-perception scale were excluded. In Table 3, the sample sizes reported reflect the listwise deletion of missing data on the items within each subscale.

The reliabilities of the subscales of the PCS Scale ranged between .84 and .90, all of which indicated that the scales had larger than adequate reliability (Nunnally & Bernstein, 1994). Also, relatively high reliability coefficients of the subscales were obtained in this study compared to previous studies in which different scales of PCS were used. In Lynn's study (1990), the reliability coefficients of the subscales were under .71 except *the clothing in relation to self* as *structure* subscale ( $\alpha$  = .85). In the Schmerbauch study (1993), the reliability

Table 3 - Reliability of the Scales for Measuring the Variables

Scale	Reliability Coefficient Alpha	Sample Size	
Sontag & Lee PCS Scale			
Clothing in relation to self as structure	.849	180	
Clothing in relation to self as process—communication of self to others	.841	182	
Clothing in relation to self as process—response to judgments of others	.840	181	
Clothing in relation to self-esteem—evaluative process dominant	.894	182	
Clothing in relation to self-esteem— affective process dominant	.870	182	
Clothing in relation to body image and body cathexis	.897	181	
Harter Self-perception Scale			
Scholastic competence	.812	164	
Social acceptance	.853	161	
Physical appearance	.839	161	
Romantic appeal	.739	158	
Self-worth	.825	163	
Francis Clothing Deprivation Scale			
Inability to buy	.834	176	
Clothing deprivation relative to peers	.722	182	

coefficients of the subscales ranged from .39 to .76. In Appendix E are presented the mean, standard deviation (*SD*) of each item, the corrected itemtotal score correlation, and the reliability if the item is deleted. The corrected item-total score correlation is the correlation between participants' scores on one item and participants' total scores obtained by summing scores of the other items within a dimension.

In this study, except for the *romantic appeal* subscale, the subscales of the Harter's self-perception measurement achieved acceptable reliability coefficients (above .8). These reliability coefficients were similar to the reliability coefficients of subscales that Harter (1988) obtained from different adolescent samples (for *scholastic competence*,  $\alpha$  = .77 to .91; for *social acceptance*,  $\alpha$  = .77 to .90; for *physical appearance*,  $\alpha$  = .84 to .89; for *romantic appeal*,  $\alpha$  = .84 to .89; for *self-worth*,  $\alpha$  = .80 to .89).

Within the clothing deprivation scales, Cronbach's alpha was .83 for the inability to buy subscale. In the clothing deprivation relative to peers subscale, coefficient alpha was .72. The study with adolescents by Francis (1990) obtained a slightly higher reliability for each factor; in her study, Cronbach's alpha coefficient for the inability to buy factor was .88 and was .77 for clothing deprivation relative to peers. In Callen's study (1992), reliability coefficients for the two factors of clothing deprivation were almost identical to reliabilities in this study (.82 for inbility to buy, .72 for clothing deprivation relative to peers).

#### Descriptive Data for the Variables

Participants' characteristics are described in this section. Means and standard deviations of total scores on each subscale of the PCS Scale, self-perception scale and clothing deprivation scale are also reported. The effect sizes for gender effects on each subscale of PCS are included in this section.

#### Participants' Characteristics

Demographic information on the participants is summarized in Table 4; cases with missing data on gender or with invalid answers on the self-perception scale are excluded. Slightly more females were included in the study than males. The mean age of the participants was 16.5 years, with a range from 15 to 19.1 Fifty seven percent of those participating in the study were in 10th grade; about one-fourth were in 12th grade; and the remaining 15 percent were in 11th grade. Ethnic groups were represented as follows: White American (*N* = 118); American of mixed ethnicity (N = 13); Black American/Nonhispanic, Hispanic American and foreign (N = 5 each); American Indian and Asian-Pacific Islander American (N = 3 each). In comparison to the adolescent population between 15 and 19 in Michigan², this study included relatively fewer Black/Nonhispanic Americans, and more American Indians and Americans of mixed ethnicity.

The questionnaire used in this study included categories of "under 14 years" and "over 20 years". Because no participant checked either of these categories, it is reasonable to calculate the mean participants' age.

According to the 1990 Census of Population, in Michigan, 77.3% of total adolescents between 15 and 19 years old were White/Nonhispanic American; 17.6% were Black/Nonhispanic American; 2.9% were Hispanic origin American; 0.7% were Nonhispanic American Indian; 1.4% were Nonhispanic Asian or Pacific Islander; other ethnic groups were 0.1%.

Table 4 - Characteristics of the Participants (N = 158)

Characteristics	Frequency	Percent (%)		
Age of participants				
15 yrs.	20	12.7		
16 yrs.	74	<b>4</b> 6.8		
17 yrs.	26	16.5		
18 yrs.	32	20.3		
19 yrs.	3	1.9		
Missing	3	1.9		
Grade of participants				
10th grade	90	57.0		
11th grade	24	15.2		
12th grade	41	25.9		
Missing	3	1.9		
Sex of participants				
Female	84	53.2		
Male	74	46.8		
Ethnicity of Participants				
White Amer./Nonhispanic	118	74.7		
Black Amer./Nonhispanic	5	3.2		
Hispanic American	5	3.2		
American Indian	5 3 3	1.9		
Asian-Pacific Island American	3	1.9		
American of mixed ethnicity	13	8.2		
Foreign	5	3.2		
Missing	6	3.8		
Living with				
Both of natural or adopted				
parents	101	63.9		
Mother and Step-father	13	8.2		
Father and Step-mother	7	4.4		
Mother or foster mother	22	13.9		
Father or foster father	6	3.8		
Other	6	3.8		
Missing	3	1.9		

Three-fourths of the participants (76.5%) in this study were living with two parents, while 17.7% of the participants were living with only one.

As seen in Table 5, 65.8% of the respondents' fathers had completed a higher level of education than high school, and 21.5% had an advanced degree. Fifty-five percent of the respondents' mothers had more than a high school education, and about 10% of the respondents' mothers obtained an advanced degree. A plurality of fathers were working in managerial and professional specialty occupations. Slightly less than one third of the participants' mothers were employed in managerial and professional specialty occupations.

Compared to fathers, more mothers were working in technical, sales and administrative support or service areas.

There was a substantial amount of missing data on the parental occupation and education items. Certainly, one reason for this was that many respondents only gave (or knew) information about the parents living with them and some came from single-parent households. Future investigators are recommended to ask these questions of the participants' parents, if possible.

# Proximity of Clothing to Self (PCS)

In Table 6, the means and standard deviations of the aprticipants' mean scores on each subscale of PCS are shown. Adolescents in this study tended to feel moderately psychologically close toward clothing across six subdimensions  $(\overline{X}_{\text{total group}} = 3.08 \text{ to } 3.74 \text{ on } 6\text{-point scale})$ , congruent with findings from the previous studies (Lynn, 1991; Schmerbauch, 1993; Sontag,1979). The mean of

Table 5 - Education and Occupation of the Participants' Parents (N = 158)

Characteristics	Father Frequency %		Mother Frequency %	
Parent's Education		·		
Less than high school	6	3.8	7	4.4
High school diploma	18	11.4	39	24.7
Vocational, trade or business school after high school				
Less than 2 years	16	10.1	6	3.8
2 years or more	5	3.2	3	1.9
College program				
Less than 2 years of college	8	5.1	12	7.6
Two or more years of college	10	6.3	19	12.0
Finished college (4- or 5-year degree)	31	19.6	31	19.6
Master 's degree or equivalent	25	15.8	12	7.6
Ph.D., M.D., or other advanced	•	5.7	4	2.5
professional degrees Don't know or missing	9 30	19.0	25	15.8
DOLL KHOW OF HIISSING	30	19.0	25	13.0
Parent's Occupation				
Managerial & professional specialty Technical, sales & administrative	63	39.9	49	31.0
support	22	13.9	40	25.3
Service	2	1.3	17	10.8
Farming, forestry & fishing	0	0.0	2	1.3
Precision production, craft & repair	20	12.7	3	1.9
Operators, fabricators & laborers	13	8.2	5	3.2
Not working	3	1.9	21	13.3
Missing	35	22.2	21	13.3

Table 6 - Means and Standard Deviations of the Participants' Mean Scores on Each Subscale of PCS

Subscale	Total (N = 154) Mean SD	Female (N = 83) Mean SD	Male (N = 71) Mean <i>SD</i>	
Clothing in relation to self as structure	3.43 .86	3.46 .91	3.40 .79	
Clothing in relation to self as process  —communication of self to others	3.08 .85	3.09 .93	3.08 .76	
Clothing in relation to self as process  —responses to judgment of others	3.29 .88	3.32 .95	3.25 .80	
Clothing in relation to self-esteem — evaluative process dominant	3.43 1.02	3.61 1.04	3.22 .95	
Clothing in relation to self-esteem — affective process dominant	3.74 .91	3.99 .91	3.44 .83	
Clothing in relation to body image and body cathexis	3.27 1.08	3.79 .96	2.67 .89	

Note. The possible range of mean scores would be 1 to 6 on each subscale.

the clothing in relation to self-esteem—affective process dominant subscale was highest (3.74), followed by the clothing in relation to self-esteem—evaluative process dominant subscale (3.43) and the clothing in relation to self as structure subscale (3.43). The standard deviations of the individuals' mean scores on each subscale are all between .85 and 1.08, indicating considerable variation among individuals.

There were similar patterns between Schmerbauch's study and this study on mean scores of the subscales for female and male adolescents. Table 7 compares the ranks of means on the subscales of PCS by gender between the sample of this study and the additional sample from the MAES project. As explained in Chapter 3, this study was conducted in conjunction with the MAES project. All participants in the two groups responded to the same items in the PCS subscales. However, other instruments differed between the two studies. The definitions of each dimension adopted in this study and the MAES project are slightly different from those used in Schmerbauch's study (as discussed below). Interestingly, the mean on the clothing in relation to self-esteem—affective process dominant was highest among subscales in both this study and Schmerbauch's study.

As shown in the table, the means on the dimensions of PCS between the two samples were similar, with the means in this study somewhat lower than in the other MAES sample. Also, the pattern of ranks seemed to be very consistent between the two samples. Across the female adolescent groups, the ranks were

Table 7 - Ranks of Means on the Subscales of PCS for Two Samples by Gender

	Fer	nale	Male		
PCS Dimensions	Sample from This Study	Additional Sample from MAES Project <sup>a</sup>	Sample from This Study	Additional Sample from MAES Project <sup>b</sup>	
Clothing in relation to self as structure	3.46 (4)	3.61 (4)	3.40 (2)	3.49 (1)	
Clothing in relation to self as process—communication of self to others	3.09 (6)	3.15 (6)	3.08 (5)	3.21 (5)	
Clothing in relation to self as process—response to judgments of others	3.32 (5)	3.46 (5)	3.25 (3)	3.30 (4)	
Clothing in relation to self- esteem—evaluative process dominant	3.61 (3)	3.76 (3)	3.22 (4)	3.39 (3)	
Clothing in relation to self- esteem—affective process dominant	3.99 (1)	4.07 (1)	3.44 (1)	3.44 (2)	
Clothing in relation to body image and body cathexis	3.79 (2)	3.90 (2)	2.67 (6)	2.91 (6)	

<u>Note</u>. The number within parentheses represents the rank order of mean scores of the subscales in a group.

<sup>\*</sup> The sample size of the female group in the other MAES Project was 155.

The sample size of the male group in the other MAES Project was 103.

perfectly matched. In the female group, the mean score of the clothing in relation to body image and body cathexis subscale was the second highest mean score. In the male group, the mean of this dimension was lowest among the dimensions. The mean of Dimension 5 was highest among the dimensions of PCS in the female group in both samples and the male group in this study.

The adolescents from the two samples seemed not to feel as psychologically close to clothing in terms of clothing giving information about their values, attitudes and identity to others (Dimension 2) when compared to other dimensions of PCS. In female and male groups, the mean on the clothing in relation to self as structure subscale was higher than the mean on the clothing in relation to self as process—communication of self to others subscale.

However, in this study, the participants' scores on these two subscales were positively and highly correlated (.82; see Appendix F). This tells us that a person whose clothing reflects or fits his or her personality or who he/she is may make more attempts to communicate himself or herself to others through his or her clothing than do others.

In this study, male adolescents in particular were less likely to use clothing for creating or changing their mental picture of the body or their feeling toward the body in contrast to the female group ( $\overline{X}_{male} = 2.65$ ;  $\overline{X}_{female} = 3.79$ ). Thus, the difference between genders was greater on Dimension 6 than on other dimensions of PCS. With only one exception, females had higher mean scores on six subscales of the PCS Scale than the male group although the mean score

of the clothing in relation to self as structure subscale and the mean score of the clothing in relation to self as process—communication of self to others subscale are very similar between the two gender groups.

In Table 8, effect sizes<sup>1</sup> comparing the male and female groups on the dimensions of the PCS Scale are presented. Because the effect size is a unit free index, the magnitudes of effect by gender on each dimension of the PCS Scale can be compared across different dimensions, studies, or samples. The effect sizes were separately calculated for the sample in this study, for the additional sample from the MAES project, and for the Schmerbauch study.

Table 8 - Effect Sizes for Females and Males from this Sample, the Additional Sample from MAES Project and Schmerbauch's Study

Source	Dim.1	Dim.2	Dim.3	Dim.4	Dim.5	Dim.6
Sample from this Study	.07	.02	.08	.40	.64	1.20
Additional Sample from MAES Project	.14	08	.17	.41	.81	1.10
Sample from Schmerbauch's study <sup>a</sup>	.29	.41	.68	.39	.54	.61

<sup>&</sup>lt;sup>a</sup> Effect sizes were based on mean scores and standard deviations of six dimensions of PCS and sample sizes for female adolescents and male adolescents reported in Schmerbauch's thesis (1993).

<sup>&</sup>lt;sup>1</sup> The effect size  $((\overline{X_1} - \overline{X_2})/S_p)$ , or standardized mean difference, is a difference between the means of two groups divided by the pooled standard deviation of the groups.

The gender effects on the dimensions of the PCS Scale seem congruent between the two MAES sample groups. Cohen (1977) suggested that an effect size around .20 is small, an effect size around .50 is moderate, and an effect size larger than .80 is large. In both groups, the effect sizes by gender were small on Dimension 1, Dimension 2 and Dimension 3. Also, a moderate effect size was obtained on Dimension 4. On Dimension 5, the effect sizes were even larger (especially from the other sample in the MAES project). The effect size of the clothing in relation to body image and body cathexis subscale showed a substantially large effect by gender from both samples. The results for the clothing in relation to self-esteem—affective process dominant subscale and the clothing in relation to body image and body cathexis subscale were very large, compared to most effect sizes in social science research (Stevens, 1996).

There were differences in results between Schmerbauch's study and the two MAES samples. In the Schmerbauch study, the effect sizes for the clothing in relation to self as structure (Dimension 1) subscale and the two subscales of clothing in relation to self as process (Dimension 2 and Dimension 3) by gender were larger than in the two MAES samples. The effect sizes were moderate on the clothing in relation to self-esteem —affective process dominant (Dimension 5) subscale and the clothing in relation to body image and body cathexis (Dimension 6) subscale.

The differences between the Schmerbauch results and the results from the two samples seemed to stem from the differences in the definitions of the dimensions and the instruments which were applied in the studies.

Schmerbauch generated her questionnaire based on the definition of PCS originally developed by Sontag (1978) and published by Sontag and Schlater (1982). As mentioned in Chapter II and III, however, Sontag and Lee (1994) modified the definitions of each dimension of PCS and developed questions which were congruent with the revised definitions based on responses of a previous sample of people across the life span to a series of open-ended questions.

A comparison of the questions on each dimension from the two different questionnaires reveals a possible explanation for the different pattern of the effect sizes by gender. Several questions from the Schmerbauch study did not belong to the same dimension under the new definitions (Sontag & Lee, 1994). For instance, there seemed to be content overlap in the Schmerbauch study between the clothing in relation to self as structure dimension and the clothing in relation to self as process—communication of self to others dimension. Another substantial difference between items was found in the clothing in relation to self as process—response to judgments of others subscale. Because Sontag and Lee (1994) did not modify the definition of this dimension, the items in the two measures seemed initially to assess the same construct. However items in each measure were stated differently. Items used in this study measured how much adolescents considered the judgment of more generalized others on their

clothing rather than their peer groups' judgments. Items in Schmerbauch's study were stated in terms of judgment of close friends or students in school.

## Clothing Deprivation, Self-concept and Self-esteem

The possible range of the mean for the subscales of clothing deprivation is 1 to 5. A higher mean score suggests more deprived feelings about clothing than a lower mean score. As shown in Table 9, adolescents tended not to feel deprived in clothing and the tendency did not substantially vary among individuals. The low mean suggests a possibility of a ceiling effect, and small variation on the *inability to buy* factor of clothing deprivation suggests that the clothing deprivation scale may not discriminate well or the sample was quite homogeneous on this variable.

On average, male adolescents likely felt similarly deprived in clothing due to insufficient quality and quantity of clothing and inability to buy ( $\overline{X}_{male} = 2.17$ ) as did female adolescents ( $\overline{X}_{female} = 2.09$ ). Compared to females, males seemed to feel that their clothing is less fashionable, and worse in comparison to their peers ( $\overline{X}_{male} = 2.58$ ;  $\overline{X}_{female} = 2.28$ ).

Adolescents in this study tend to view themselves positively. In Harter's report (1988), participants from different groups had tendencies similar to the adolescents in this study. Harter reported that the range of mean scores on subscales was 2.4 to 3.2 and the standard deviations ranged from .59 to .79.

The mean for scholastic competence and the mean for social acceptance for female and male adolescents were essentially equivalent ( $\overline{X}_{female} = 2.87$ ,

Table 9 - Means and Standard Deviations of Participants' Mean Scores on Subscales of Clothing Deprivation and Self-Perception

	Tota	al	Fen	nale	Ma	le
Scale	Mean	SD	Mean	SD	Mean	SD
Clothing Deprivation Scale®	( <u>N</u> =	= 157)	( <u>N</u> =	= 83)	( <u>N</u>	= 74)
Inability to buy	2.13	.53	2.09	.50	2.17	.57
Relative to peers	2.42	.65	2.28	.62	2.58	.65
Self-perception Scale <sup>b</sup>	( <u>N</u> =	= 154)	( <u>N</u>	= 83)	(N	= 71)
Scholastic competence	2.86	.67	2.87	.66	2.85	.69
Social acceptance	3.02	.68	3.03	.67	3.01	.70
Physical appearance	2.51	.68	2.33	.69	2.73	.61
Romantic appeal <sup>c</sup>	2.56	.65	2.49	.67	2.63	.63
Self-worth	2.97	.68	2.85	.68	3.10	.66

<sup>&</sup>lt;sup>a</sup> The possible range of the mean for the subscales of clothing deprivation was 1 to 5.

The possible range of the mean for the subscales of self-perception was 1 to 4.

<sup>&</sup>lt;sup>c</sup> The sample size of *romantic appeal* for the total group was 153 and the sample size for females was 82.

 $\overline{X}_{male}$  = 2.85;  $\overline{X}_{female}$  = 3.03,  $\overline{X}_{male}$  = 3.01, respectively). The male adolescents viewed themselves as somewhat more adequate than did females in aspects of physical appearance, romantic appeal and self-worth. The systematic gender differences were also found in Harter's study (1988). In her study, female adolescents consistently rated their physical appearance lower than did boys (average difference of .5) and saw themselves as less positive than did boys with regard to self-worth (average difference of .2). Other studies also found that males were significantly higher in self-esteem than females (Richman, Clark & Brown, 1985; Schmerbauch, 1993).

### **Results of Hypothesis Testing**

Multivariate multiple regression analyses were conducted to test

Hypotheses 1 to 6. A multivariate analysis was used to take into account the

correlation among dependent variables (see Appendix F) in this study when

testing the omnibus null hypothesis. Total scores across the 13 items on each

subscale of the PCS Scale were used as the dependent variables and total

scores (based on the 5 items) on each subscale of Harter's self-perception scale

were used as predictors.

# Checking Assumptions for the Regression Model

Prior to interpretation of results, the assumptions mentioned in Chapter 3 were checked. The normality of the errors was checked by examining the quantile of the normal distribution of sample residuals with SPSS. The quantile

normal plot (Q-Q Plot) shows the extent of deviation of the sample's residuals from the theoretical normal distribution with the same sample size (Hamilton, 1992; Norusis, 1993). The sample residuals of all dependent variables tended to approximately correspond to the theoretical normal line, although the upper or lower tail somewhat deviated from it.

For assessing homogeneity of errors, a plot of the standardized residuals  $(r_i)$  versus the standardized predicted values was generated. The residual plots on each dimension seemed to scatter without systematic patterns about a horizontal line defined by  $r_i = 0$  (Stevens, 1996). The randomly scattered plots of residuals suggest no violation of the homogeneity assumption.

During the data collection period, the participants were asked to independently respond to questions. Therefore, it seems safe to assume that the individuals' scores are independent across persons and no violation of the assumption of independence occurred.

Multicollinearity among the independent variables can cause several problems in the interpretation of results, as explained in Chapter 3. To check for multicollinearity, each independent variable was individually regressed on the other independent variables, and the proportion of the shared variance ( $R^2$ ) and the tolerance (the proportion of  $X_k$ 's variance not shared with the other X variables;  $1 - R^2$ ) were calculated. As shown in Table 10, the independent variables in this study tended to be fairly independent in each other. However,

Table 10 - Assessing for Multicollinearity: Correlation,  $R^2$  and Tolerances (1- $R^2$ )
When Regressing Each Independent Variable on the Other
Independent Variables

		Zero-ord	ler correl	ation coe	efficient		į
Independent Variables	Dom 2	Dom 3	Dom 4	Dom 5	Gender	R²	1 - <i>R</i> ²
Scholastic Competence (Dom 1)	.23	.29	.14	.41	01	.19	.81
Social Acceptance (Dom 2)		.32	.46	.30	02	.27	.73
Physical Appearance (Dom 3)			.42	.64	.29	.51	.49
Romantic Appeal				.24	.11	.30	.70
(Dom 4) Self-worth					.18	.47	.53
(Dom 5) Gender						.11	.89

the tolerances of the *physical appearance* domain and the *self-worth* domain are moderate. These moderate tolerances result from the relatively high correlation between those two independent variables. Rather than employing any strategy for increasing the tolerance of *physical appearance* or *self-worth*, the researcher decided to put both variables in the regression model and to carefully interpret the regression esults because the multicollinearity was not very high.

# Results of Overall Multivariate and Univariate Tests

Table 11 presents the results of testing the omnibus null hypothesis that there is no relationship between the six dependent variables and the six predictors. The omnibus multivariate null hypothesis was rejected at the .05 significance level. Significance of all multivariate tests was less than .001.

Table 11 - Results of the Multivariate Test of Significance

Test Name	Value	Approx. F	Hypoth. df	Error df	Sig. of F
Pillais	.716	3.228	36	858.00	<.001
Hotellings	1.265	4.790	36	818.00	<.001
Wilks	.395	3.983	36	608.76	<.001
Roys	.508				

To assess the relationships between the six predictors (five subscales of self-perception and gender) and each dependent variable (PCS subscales), univariate *F* tests were separately conducted (see Table 12). Given consideration of moderate sample size and power, this researcher decided not

Table 12 - Results of the Univariate Tests of Significance on the Six Dependent Variables of PCS

Dependent Variables (PCS)	Multiple R <sup>2</sup>	Adjusted R <sup>2</sup>	Hypoth.	Error MS	F	Sig. of F
Dimension 1	.032	.000	100.59	127.89	.79	.582
Dimension 2	.014	.000	44.19	128.97	.34	.913
Dimension 3	.070	.031	231.22	128.59	1.80	.103
Dimension 4	.047	.007	207.33	175.29	1.18	.319
Dimension 5	.099	.061	351.59	134.22	2.62	.019
Dimension 6	.343	.316	1694.19	135.91	12.47	.000

to jointly control the significance level on the univariate F tests. Results of univariate tests on two dependent variables of PCS were significant. The significance of F value for the clothing in relation to self-esteem—affective process dominant dimension (Dimension 5) was .019 and the significance of F value for the clothing in relation to body image and body cathexis dimension (Dimension 6) was less than .001. The results suggested that at least one of the six predictors was related to Dimension 5 or Dimension 6. The F value for the clothing in relation to self as process—response to judgments of others dimension approached significance (p = .103).

Results of significance tests for the regression coefficients for each univariate multiple regression are shown in Table 13. The significance level for individual t tests of the unstandardized regression coefficients (B) were jointly controlled by the Bonferroni method. The 95% confidence intervals shown reflect the Bonferroni jointly controlled intervals of predictors for each dependent variable. This means that the overall significance level for each regression was set at .05 for the group of six predictors. Hence, the significance test for each estimated regression coefficient for the population was conducted at  $\frac{.05}{6} = .008$ . Therefore, the null hypothesis for each B was rejected only when the p-value was lower than or equal to .008. For the gender variable, one-directional tests were conducted because previous studies provided evidence of gender effect on all dimenions of PCS (Schmerbauch, 1993).

Table 13 - Results of Multiple Regression on Each Dependent Variable of PCS (N after listwise deletion = 150)

Predictor Variables	Unstandardized Regression Coefficients (B)	Standard Errors	Significance of f-values	Standardized Regression Coefficients (87)	95% Confidence Intervals*	idence als*	Power
Clothing in relation to self as structure (Dimension 1)							
<ol> <li>Scholastic competence</li> <li>Social acceptance</li> <li>Physical appearance</li> <li>Romantic appeal</li> <li>Self-worth</li> <li>Gender</li> </ol>	.206 360 .492 .277 118	.302 .315 .387 .339 .370	.496 .255 .207 .416 .750	.062 109 .149 .080 036	601 -1.202 545 630 -1.108	1.013 .483 1.528 1.183 .872	.000 .085 .005 .001
Clothing in relation to self as process—communication of self to others (Dimension 2)							
Scholastic competence     Social acceptance     Physical appearance     Romantic appeal     Self-worth     Gender	.360 207 .063 .207 161	.303 .316 .389 .340 .372	.237 .513 .643 .665	. 110 - 063 . 019 - 049 - 021	451 -1.053 978 703 -1.155	1.171 .639 1.103 1.118 .833	000 000 000 000 000 000 000

The 95% confidence intervals were computed around the unstandardized regression coefficients.

Table 13 - (cont'd)

Predictor Variables	Unstandardized Regression Coefficients (B)	Standard Errors	Significance of f-values	Standardized Regression Coefficients (B*)	95% Confidence Intervals*	ifidence vals* Upper	Power
Clothing in relation to self as process—response to judgments of others (Dimension 3)							
<ol> <li>Scholastic competence</li> <li>Social acceptance</li> <li>Physical appearance</li> <li>Romantic appeal</li> <li>Self-worth</li> <li>Gender</li> </ol>	.892 .029 425 086 327	.303 .316 -388 -340 -371	.904 .928 .275 .380 .806	.264 .008 126 024 098	.083 816 -1.465 994 -1.319	1.702 .873 .614 .823 .666 5.781	
Clothing in relation to self- esteem—evaluative process dominant (Dimension 4)							
<ol> <li>Scholastic competence</li> <li>Social acceptance</li> <li>Physical appearance</li> <li>Romantic appeal</li> <li>Self-worth</li> <li>Gender</li> </ol>	.097 .093 484 .287 .207	.353 .369 .397 .433 .2310	.783 .802 .288 .470 .633	.025 .024 125 .070 .054	848 894 -1.697 774 952 -10.723	1.042 1.079 .729 1.348 1.366 1.640	.002 .0057 .000 .000 .332

The 95% confidence intervals were computed around the unstandardized regression coefficients. The result of *t* test cannot be interpreted due to the insignificant result of the univariate test on Dimension 3.

Table 13 - (cont'd)

Predictor Variables	Unstandardized Regression Coefficients (B)	Standard Errors	Significance of f-values	Standardized Regression Coefficients (8*)	95% Cc Inte Lower	95% Confidence Intervals <sup>®</sup> wer Upper	Power
Clothing in relation to self- esteem—affective process dominant (Dimension 5)							
Scholastic competence     Social acceptance     Physical appearance     Romantic appeal     Self-worth     Gender	.155 .167 538 .102 .185	.309 .323 .397 .347 .379	.617 .605 .178 .769 .826	.044 .048 .028 .053	672 696 -1.599 826 829	.982 1.030 .524 1.031 702	
Clothing in relation to body image and body cathexis (Dimension 6)  1. Scholastic competence 2. Social acceptance 3. Physical appearance 4. Romantic appeal 5. Self-worth	.116 .085 -1.601 .476	.325 .399 .349	.709 .795 .000 .175	.028 .021 .110 .087	716 784 -2.669 458	.948 .953 533 1.411	.000 .002 .097 .039
6. Gender	-11.801	2.034	<b>00</b> .	419	-17.243	-6.358	1.00

The 95% confidence intervals were computed around the unstandardized regression coefficients.

The post hoc power for each *t* test was calculated, and the values of power reflect the one-tail test of the gender predictor; the alternative hypotheses for all other predictors were bi-directional. The values of power in Table 13 are the probabilities that the regression coefficients tests are significant (i.e., that the values of the observed regression coefficients would be said to differ significantly from zero.) at the overall significance level .008, based on the sample size used in this study. Each number tells the proportion of times one would reject the null hypothesis when there is a true difference (i.e., the true regression coefficient is actually different from zero or the female mean score is higher than the male mean score and the tested parameter has the value found in this sample).

Hypothesis 1: Relationship between the Six Predictors and the Clothing in Relation to Self as Structure Dimension of PCS

The following null hypotheses were formulated and tested.

Null hypothesis 1.1 to null hypothesis 1.6.

H<sub>01</sub> - H<sub>06</sub>: The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the clothing in relation to self as structure dimension of PCS (Dimension 1).

This researcher predicted that the *scholastic competence* domain and gender would be significant in reference to previous published research and was interested in the relationship. However, given the insignificant p-value (p = .582; see Table 12), all of these null hypotheses were retained.

Hypothesis 2: Relationship between the Six Predictors and the Clothing in

Relation to Self as Process—Communication of Self to Others Dimension of PCS

The following null hypotheses were formulated and tested.

Null hypothesis 2.1 to null hypothesis 2.6.

H<sub>01</sub> - H<sub>06</sub>: The score on any given predictor will, when holding the

other predictors constant, fail to relate to the score on the clothing in relation to self as process—communication of self to others dimension of PCS (Dimension 2).

This researcher specifically predicted the relations between this dependent variable and the *social acceptance* domain and the *romantic appeal* domain of self-concept based on self-consciousness theory. Also, she hypothesized the relationship between this dependent variable and the *self-worth* domain, based on self-esteem theory.

However, the F value was small (.34), thus the p-value was insignificant (p = .913). Therefore, all of these null hypotheses were retained. The domains of self-concept, self-worth or gender did not explain the variation of the clothing in relation to self as process—communication of self to others dimension, while taking account of the relationships among the predictors.

Hypothesis 3: Relationship between the Six Predictors and the Clothing in

Relation to Self as Process—Response to Judgments of Others Dimension of

PCS

The following null hypotheses were formulated and tested.

Null hypothesis 3.1 to null hypothesis 3.6.

H<sub>01</sub> - H<sub>08</sub>: The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the

clothing in relation to self as process—response to judgments of others dimension of PCS (Dimension 3).

The result of the univariate *F*-test on Dimension 3 showed that the predictors were not related to this dimension of PCS. However, the univariate *F* value approached significance (p = .103; Table 12). The significance of scholastic competence (p = .004; Table 13) on this dimension should not be ignored in future studies. The regression coefficient together with its confidence interval shows that there was a positive relation between the scholastic competence domain and Dimension 3, while controlling three domains of self-concept, self-worth and gender. The result needs to be replicated and validated from a larger sample in a future study.

Hypothesis 4: Relationship between the Six Predictors and the *Clothing in*Relation to Self-esteem—Evaluative Process Dominant Dimension of PCS

The following null hypotheses were formulated and tested.

Null hypothesis 4.1 to null hypothesis 4.6.

H<sub>01</sub> - H<sub>06</sub>: The score on any given predictor will, when holding the other predictors constant, fail to relate to the score on the clothing in relation to self as process—evaluative process

dominant dimension of PCS (Dimension 4).

This researcher predicted the relation between Dimension 4 and self-worth stemming from self-esteem theory. However, as shown in Table 12, the F value of the univariate test on Dimension 4 (F = 1.18) was too small to approach the significance level. Given the insignificant p-value (p = .319), all of these null hypotheses were retained. However, it is necessary to pay attention to the

moderate effect size indicating a standardized difference between female and male groups in two samples (.40 and .41; see Table 8). Rather than ignoring the possible gender difference on Dimension 4, additional investigation with a larger sample is advised.

Hypothesis 5: Relationship between the Six Predictors and the Clothing in

Relation to Self-esteem—Affective Process Dominant Dimension of PCS

The following null hypotheses were formulated and tested.

Null hypothesis 5.1 to null hypothesis 5.6.

H<sub>01</sub> - H<sub>05</sub>: The score on any given predictor will, when holding the

other predictors constant, fail to relate to the score on the clothing in relation to self as process—affective process

dominant dimension of PCS (Dimension 5)

As shown in Table 12, the null hypotheses were rejected. The regression model was statistically significant (F = 2.62, p = .019); and 9.9% of the total variance in this dimension of PCS was explained by the six predictors in the model. The results of the t-tests for the regression coefficients of the predictors are presented in Table 13. Only gender was a significant predictor in explaining the variance of Dimension 5 of PCS at the Bonferroni joint level of .008 (controlling overall  $\alpha$  at .05 for a univariate), while statistically controlling the scores on five domains of self-perception. The power of the rejection was .726. Out of 10% of the variance on this dimension of PCS explained by the predictors of self-concept, *self-worth* and gender (see Table 12), gender uniquely

explained about 5.8% of the total variance in the clothing in relation to selfesteem—affective process dominant dimension.<sup>1</sup>

The unstandardized regression coefficient (*B*) for gender tells the extent to which a mean score for males deviated from a mean score for females, when the other predictors were statistically controlled, as female was coded as "0", and male was coded as "1". Thus, the negative sign means that female adolescents scored significantly higher on this dimension than male adolescents. The result was consistent with the qualitative study of female and male undergraduate students conducted by Kaiser et al. (1993) and the Schmerbauch study (1993) of adolescents.

After testing the full model with the six predictors, the *clothing in relation to* self-esteem—affective process dominant dimension was regressed on the only significant variable, gender. As shown in Table 14, the F value increased and the p-value was smaller [F (1, 152) = 15.46, p <.000], when compared to the full model with the six predictors.  $R^2$  was slightly decreased compared to the regression model with the six predictors, however, the adjusted  $R^2$  increased, suggesting the latter model is a better model than the full model. In the reduced model, gender explained about 10% of the total variance in the dependent variable. The 95% confidence interval of the regression coefficient (mean

<sup>&</sup>lt;sup>1</sup> The multiple R<sup>2</sup> was .041 when scores of scholastic competence, social acceptance, physical appearance, romantic appeal, and self-worth were used to predict scores of the clothing in relation to self-esteem—affective process dominant dimension of PCS. Variance of this dimension uniquely explained by gender was obtained by subtracting .041 from .099., which is equal to .058.

Table 14 - Results of Multiple Regression on Dimension 5 and Dimension 6 with Selected Predictors

Predictor Variables	Unstandadized Regression Coefficient (B)	Standard	Significance of f-value	Standardized Regression Coefficient (B)	95% Co Inter Lower	95% Confidence Interval	Power
Clothing in relation to self- esteem—affective process dominant (Dimension 5) <sup>b</sup>							
Gender	-7.226	1.838	000	304	-10.856	-3.595	.974
Clothing in relation to body image and body cathexis (Dimension 6)°							
Physical Appearance	-1.114	.291	000	270	-1.774	454	.938
Gender	-12.041	1.989	000	428	-16.545 -7.536	-7.536	1.000

The 95% confidence intervals were computed around the unstandardized regression coefficients. A = 0.092; Adj.  $A^2 = 0.086$ ; A = 0.086; A = 0

capture zero. The regression coefficient tells that the mean score of the total scores of the female adolescents is 7.226 higher than the mean score of the total scores of the male adolescents when the other predictors in the regression model were controlled.

Hypothesis 6: Relationship between the Six Predictors and the Clothing in

Relation to Body Image and Body Cathexis Dimension of PCS

The following null hypotheses were formulated and tested.

Null hypothesis 6.1 to null hypothesis 6.6.

H<sub>01</sub> - H<sub>06</sub>: The score on any given predictor will, when holding the

other predictors constant, fail to relate to the score on the clothing in relation to body image and body cathexis

dimension of PCS (Dim. 6).

The result of the univariate test (see Table 12) suggested that at least one of the predictors in the regression model for Dimension 6 significantly predicted the score on this subscale of the PCS Scale, while controlling the other predictors [F (6, 143) = 12.47,  $\rho$  < .001]. The six predictors explained 34.3% of the total variance in this dependent variable. The result of the t test for each predictor in Table 13 indicated that the *physical appearance* domain of self-perception and gender were significant predictors (for *physical appearance*, t = -4.009,  $\rho$  < .001; for gender, t = -5.801,  $\rho$  < .001).

The unstandardized regression coefficient of *physical appearance* was -1.601 with .399 standard error, indicating that as *physical appearance* of self-perception increases by 1 unit, the predicted value of *clothing in relation to body* 

image and body cathexis decreases by 1.601 units. The rejection of the null hypothesis is not spurious. For the population, the 95% confidence interval of the unstandardized regression coefficient of the *physical appearance* domain was between -11.52 and -.702, when setting the univariate joint significance level at .05.

The power of the rejection at .05 jointly controlled significance level was .904. The power of the statistical test is the probability of correctly rejecting a hypothesis when the hypothesis is really false (Shavelson, 1988). The value of power indicates that the null hypothesis would be falsely rejected about 1 time when one conducts the same test 10 times. Therefore, one can strongly conclude that the regression coefficient for prediction of Dimension 6 by the *physical appearance* domain of self-perception is substantially different from zero.

After deletion of the *physical appearance* domain from the regression model,  $R^2$  on Dimension 6 decreased from .343 to .267<sup>1</sup>. The change suggested that the *physical appearance* domain uniquely explained about 7% of the total variance in Dimension 6 after taking into account the relationships between the *physical appearance* domain and other predictors in the regression.

The standardized regression coefficient indicated that the *physical*appearance domain was moderately and negatively related to Dimension 6,

When physical appearance was excluded from the regression model, the multiple  $R^2$  of the reduced regression model with scholastic competence, social acceptance, romantic appeal and gender was .267.

while controlling other predictors. The less satisfied with his or her body or physical appearance a person was, the more he or she attempted to modify images of his or her body by clothing, and the more his or her feelings toward body changed through clothing. The result supported the assertion that people use their clothing to boost their physical self-image.

While controlling the other predictors, gender was also a statistically significant predictor of scores on Dimension 6 (*p* <.001). The power of the test was 1.0. The mean score of female adolescents on this PCS dimension was substantially higher than the mean score of male adolescents after accounting for the effect of the other predictors on gender; the 95% confidence interval of the regression coefficient for gender on this dimension covered the range between -17.243 and -6.358. Females tended to perceive that they modify or express their body image or feelings toward body through their clothing more than males.

In the regression model, gender is the most important factor ( $B^*=-.419$ ) among the predictors in explaining the variation of scores on the *clothing in* relation to body image and body cathexis dimension of PCS. The *physical* appearance domain of self-concept was the second important factor ( $B^*=-.389$ ), followed by the *romantic appeal* domain which did not reach significance.

Using only the two significant predictors, a reduced model was tested. The results are shown in Table 14. After removing the insignificant predictors,  $R^2$ 

slightly decreased from .343 to .326. However, the adjusted  $R^2$  was almost identical (.317) to that for the model containing six predictors (.316). A more significant F value was obtained with the *physical appearance* and gender predictors [F (2, 148) = 35.75, p<.001].

The regression coefficient for the *physical appearance* domain became smaller than in the full model; on the other hand, the regression coefficient for gender increased. This suggests that the other predictors in the full model inflated the effect of the *physical appearance* domain. The moderate correlation (r = .64, see Table 10) between the *physical appearance* domain and *self-worth* may cause the inflation of the regression coefficient of the *physical appearance* domain. Although *self-worth* was negatively correlated to this dimension (see Appendix F), *self-worth* was not a significant predictor in the full regression model because *self-worth* shared its variance with other predictors, especially with *physical appearance* (see Table 10).

# Results of Exploratory Analysis

The second objective of this study was to explore how deprived feelings toward clothing were related to the dimensions of PCS, family economic stress, family socioeconomic status and gender among adolescents. Previous studies (Brawly, 1971; Brewton, 1971; Drake & Ford, 1979; Edwards, 1971; Francis, 1990; Kness, 1973; Liu, 1987; Musa & Roach, 1973) have found that family socioeconomic status, family economic stress and gender were related to level

of clothing deprivation. However, few studies have attempted to find the relation of clothing deprivation to these variables after accounting for the dependency among the variables. This study aimed to explore which variable or combination of variables among them best explains degree of clothing deprivation. It also explores the relationships between PCS and clothing deprivation while taking into account family economic situation and gender.

Several studies (Cheek, 1978; Francis, 1992; Kness, 1983) found a negative association between clothing deprivation and self-esteem or *social* acceptance. This study also examined the relationship of two aspects of clothing deprivation with self-esteem and the *social acceptance* domain of self-concept.

Due to the fact that all of the data on PCS had already been used in the previous regression analysis, it was decided that more hypothesis testing using the same data would be statistically unwarranted. For this reason, the relationships among variables were not tested or estimated but simply examined by the regression model or partial correlation. Thus, the regression analysis below should be considered descriptive, and not used for inference to a more general population. Prior to performing the regression analyses for clothing deprivation, assumptions and multicollinearity among the predictors were examined.

Assessing Assumptions and Multicollinearity Among the Independent Variables

The normality of the errors was assessed by examining the quantile of the normal distribution of residuals. The sample residuals of two factors of clothing deprivation did not substantially deviate from the theoretical normal line. The homogeneity of errors was also checked by plotting the standardized residuals versus the standardized predicted values. The residual plots on each factor of clothing deprivation seemed to randomly scatter.

A summary of the zero-order correlations and tolerances (see Table 15) suggested that a regression that used all of the dimensions of the PCS Scale as predictors would have a problem with multicollinearity. Eight of the fifteen intercorrelations between the dimensions are ≥.60, six are ≥.70, and two are ≥.80. Tolerance values of these dimensions are low (14 to 30), along with the tolerance value of Dimension 6.

One of the options for dealing with multicollinearity is to combine two or more independent variables that are highly correlated and subsume them into the same underlying theoretical concept (Berry & Feldman, 1985). Both Dimension 4 and Dimension 5 deal with the extent to which an individual's clothing is related to their self-esteem. It was thus decided to combine the scores on these two dimensions into an unweighted average, and use this new variable in the regression analyses (Combination of Dimension 4 and Dimension 5).

Table 15 - Zero-order Correlation Coefficients Among the Independent Variables and  $R^2$  - Values and Tolerance (1 -  $R^2$ ) When Regressing Each Independent Variable on the Other Independent Variables.

			Zerro-ord	Zerro-order correlation coefficients	tion coeffi	cients				
	FSS	Dim 1	Dim 2	Dim 3	Dim 4	Dim 5	Dim 6	Gender	፟፟፟፟ጟ	1 - R2
Family economic stress (FES)	22	8.	Ξ.	8	.05	· 8	.18	09	.12	88.
Family socioeconomic status (FSS)		03	05	.02	02	00	-10	6	80	.92
PCS Dimension 1			.83	.40	<b>9</b> 9.	.57	.37	03	2.	8.
PCS Dimension 2 (Dim 2)				8.	<b>8</b> .	.59	<del>4</del> .	01	17.	.29
PCS Dimension 3 (Dim 3)					57.	.70	8.	9.	.62	88.
PCS Dimension 4 (Dim 4)						<b>6</b> .	.73	20	<b>%</b>	41.
PCS Dimension 5 (Dim 5)							7.	30	.85	.15
PCS Dimension 6 (Dim 6)								52	74	.26
Gender									.42	.58

Dimension 1 emphasizes the degree to which a person expresses concern that his or her clothing matches his or her personality or identity. Some of the items focus on expression of the self through clothing to oneself, and congruency of clothing to one's self-concept. Dimension 2 emphasizes expressing the self to others through clothing. Because of this commonality of meaning, expression of the self through clothing, adolescents may not distinguish Dimension 1 from Dimension 2. However, the definition of Dimension 1 also connotes perceived unity of clothing and the self, differentiated by the notion of expression of the self. Therefore, in consideration of the conceptual distinction between the two dimensions, this researcher decided to omit Dimension 2 from the regression model to deal with the multicollinearity. This decision was made because adolescents in this sample seemed to focus more on congruency of clothing to one's self-concept (Dimension 1) than on expression of the self to others through clothing (Dimension 2), and Dimension 1 showed higher tolerance than Dimension 2. Even though the tolerance of Dimension 6 is not large, and Dimension 6 has moderately high correlations with other dimensions of PCS, it was not combined with other variables because it seemed to be conceptually distinct.

Exploring the Association Between Clothing Deprivation,

PCS, Family Economic Situation and Gender

Two steps were taken to find predictors to explain variation on each subscale of clothing deprivation. First, the regression equation predicting each

aspect of clothing deprivation was obtained using family socioeconomic status, family economic stress and gender as predictors; scattered evidence suggests a relationship between clothing deprivation and these variables (e.g., Drake & Ford, 1979; Francis, 1990; Francis & Liu, 1990; Kness, 1973; Musa & Roach, 1973). After exploring the contribution of these three predictors to prediction of degree of clothing deprivation, the dimensions of PCS were included as predictors in the regression model to study how important the independent effect of PCS is in explaining the variance of the dependent variables.

Model I: Prediction of Clothing Deprivation by Family Economic Stress, Family Socioeconomic Status and Gender

Multiple R<sup>2</sup> and regression coefficients for the Model I regression are presented in the first column of Table 16.

<u>Clothing deprivation: Inability to buy factor.</u> Family economic stress, family socioeconomic status and gender explained 13.4% of the total variance of participants' scores on *inability to buy*. Among the predictors, family economic stress was the most important.

The results agreed with Francis' assertion that family economic stress is a more key factor than family socioeconomic status (Francis, 1990). However, it must be remembered that the measures of family economic stress and socioeconomic status were assessed by the adolescents, and that they may not have high reliability. More reliable measures are needed before it can be said

Table 16 - Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender, and PCS

Predictor Variables	Model 1ª Unstandardized Regression Coefficients Reg	91 1° Standardized Regression Coefficients (8°)	Mod Unstandardized Regression Coefficients (B)	1 9	M 2 <sup>b</sup> Standardized Regression Coefficients (B")
Clothing deprivation: Inability to buy Family economic stress Family socioeconomic status Gender PCS dimension 1 PCS dimension 3 PCS combination of	1.687 (.56) 086 (.04) 1.557 (1.37)	.165 165 .107		(.60) (.04) (.09) (.09)	.309 171 .063 .087
dimension 4 & dimension 5 PCS dimension 6	R'=.134 Adj.R'=.108	8	.040 (.1 084 (.1 R²=.156 Ad	(.13) (.10) Adj. R² = .092	.086 159
Clothing deprivation relative to peers Family economic stress Family socioeconomic status Gender PCS dimension 1 PCS dimension 3 PCS combination of	.427 (.26) 022 (.02) 2.030 (.65)	.156 117 .298		(.27) (.02) (.04) (.04)	.124 102 .325 .081
dimension 4 & dimension 5 PCS dimension 6	R' = .122 Adj. R' = .095	98	133 (.0 .065 (.0 R <sup>2</sup> = .184 Ac	(.06) (.04) Adj. R² = .123	473 .265

Note. The numbers within parentheses represent the standard errors of the regression coefficients.

N after listwise deletion of missing data = 103.

N after listwise deletion of missing data = 101

with more certainty that family economic stress is more key than socioeconomic status.

The positive sign of the regression coefficient for family economic stress  $(B = 1.687; B^* = .288)$  suggests that the more students perceived demands on family income to have increased or family income to have decreased, the more they felt deprived in clothing in terms of inability to buy. This result is congruent with the results from the Francis studies (1990, 1992). In her studies, the group lowest in economic stress had significantly less deprived feelings about their clothing than the other three groups, and the group second lowest in economic stress felt less clothing-deprived than the group highest in family economic stress.

The *inability to buy* factor was negatively related to family socioeconomic status (B = -.066;  $B^* = -.165$ ). In this sample, the students of lower socioeconomic status likely felt or thought that they were less able to afford qualitatively or quantitatively desired clothing than the students of higher socioeconomic status even after controlling for family economic stress and gender. However, the independent effect of socioeconomic status on the *inability to buy factor* was weak. This result agreed with the findings of Kness<sup>1</sup> (1973), Cheek (1978) and Liu (1987), although these studies did not distinguish

<sup>&</sup>lt;sup>1</sup> In her study, clothing deprivation was negatively related to socioeconomic status of Mexican-American and Anglo-American groups. In the African-American group, no relationship was found between these variables.

the *inability to buy* scale from *clothing deprivation relative to peers* scale, instead treating them as a unified construct.

The standardized coefficient for gender ( $B^*$ = .107) was very small; the unstandardized regression coefficient (B) was 1.557. In other words, gender does not seem to relate to the *inability to buy* factor after holding family economic stress and family socioeconomic status constant. This result concurs with the result from the Liu study (1987). Although she did not distinguish the two factors of clothing deprivation, she did not find a gender difference in clothing deprivation.

Clothing deprivation relative to peers. About 12% of the variation of clothing deprivation relative to peers was explained by family economic stress, family socioeconomic status, and gender. In contrast to the results on *inability to buy*, gender was the most important predictor ( $B^*$ = .298), followed by family economic stress ( $B^*$ = .158). The unstandardized regression coefficient on gender (B = 2.030) informs us that the mean score of male adolescents in this study was 2.030 higher (i.e., males felt more deprived relative to peers) than the mean score of females, after family economic stress and family economic status are statistically controlled.

This finding was contrary to those reported in previous studies (Cheek, 1978; Cloquett, 1980; Drake & Ford, 1979; Musa & Roach, 1973), which found that boys felt more satisfied with their clothing than females, and viewed their clothing as more desirable than their peers.

Family economic stress was the next important predictor of the variance of the dependent variable (B = .427; B = .156). It independently explained less variance here than when predicting *inability to buy*. Francis (1990) found a similar pattern in adolescents, though she did not control for gender. In her study, group means on *inability to buy* significantly differed from each of the other group means (the groups were defined by level of family economic stress). However, on the *clothing deprivation relative to peers* variable, she only found a mean difference between the highest economic group and the other three groups.

Model 2: Prediction of Clothing Deprivation by Family Economic Stress, Family Socioeconomic Status, Gender, and PCS

As explained above, Dimension 2 of PCS was deleted from further analyses in this study, and Dimension 4 and Dimension 5 of PCS were combined due to the multicollinearity among the dimensions. The results of regression analysis are shown in Table 16. In Appendix G are presented the results of the regression analysis with family economic stress, family socioeconomic status, gender and all dimensions of PCS before the problem of multicollinearity was addressed (Table G-1). Also, two regression equations are shown in Table G-2, Appendix G: one excluding Dimension 6 and the other excluding the combination of Dimension 4 and 5. This researcher computed these regression equations to examine inflation or deflation of regression

coefficients for predictors due to low tolerances of the combination of Dimension 4 and 5 and Dimension 6<sup>1</sup>.

Clothing deprivation: Inability to buy. As shown in Table 16, adding the dimensions of PCS as predictors in the regression equation, explained only 2.2% of additional variance. And adjusted  $R^2$  goes down (.108 to .092); it suggests that the dimensions of PCS do not significantly add any information in explaining the variation of participants' scores on *inability to buy*.

Clothing deprivation relative to peers. The dimensions of PCS accounted for an extra 6.2% of the variance in participants' scores on the *clothing* deprivation relative to peers factor when they were added to regression model I. The most important predictor for the *clothing deprivation relative to peers* factor was the combination of Dimension 4 and 5 (B = -.133;  $B^* = -.473$ ), followed by gender and Dimension 6. The sign of the regression coefficient indicated that, in this sample, the more adolescents used their clothing to improve their self-esteem, the less deprived they felt with their clothing in comparison to their peers' clothing. As shown in Table G-2, Appendix G, after Dimension 6 was removed from the regression equation (because of the high correlation among it and the other predictors), the same pattern of prediction was obtained although the partial regression coefficient became deflated (B = -.083;  $B^* = -.296$ ).

The tolerances of the predictors in Model 2 in Table 16 were as follow: family economic stress, .89; family socioeconomic status, .92; gender, .63; Dimension 1 of PCS, .61; Dimension 3 of PCS, .43; the combination of Dimension 4 and 5, .20; Dimension 6, .26.

The next most important predictor was gender. In Model II, the unique effect of gender on clothing deprivation relative to peers was slightly increased after controlling for PCS in addition to family economic stress and family socioeconomic status. The standardized regression coefficient of Dimension 6 indicated that it may also be an important indicator. However, there was a curious result. In a regression equation without the combination of Dimension 4 and 5 (see Appendix G), the regression coefficient for Dimension 6 was near zero (B = .005;  $B^* = .022$ ). It means that there was almost no change in a predicted score on clothing deprivation, when a score changed one unit on Dimension 6, while other variables were held constant. In Model 2, the regression coefficient of Dimension 6 was inflated because of the collinearity, and the coefficient for the combination of Dimension 4 and 5 is similarly inflated in the opposite direction.

Family economic stress and family socioeconomic status were relatively less important indicators in predicting *clothing deprivation relative to peers* than *inability to buy*. In the Francis and Browne study (1992), there was evidence that family economic stress was associated with *clothing deprivation relative to peers*.

Exploring the Association between Clothing Deprivation and the Social Acceptance Domain of Self-concept or Self-esteem

Zero-order correlations, partial correlations, and corrected partial correlation coefficients are shown in Table 17 and Table 18. In the first order correlation matrix, the values on the diagonal represent the reliability coefficients

of the scales in the questionnaire. The sample size for computation of each correlation can be found in Appendix F.

Partial correlation of inability to buy with social acceptance or self-worth

Without controlling the relationship between the two factors of clothing deprivation, the results indicated that the inability to buy factor negatively related to the variables of social acceptance or self-worth (-.153 and -.238, respectively; Table 17). However, after removing the effect of clothing deprivation relative to peers from inability to buy and social acceptance or self-worth, the effect of inability to buy on social acceptance or self-worth was reduced (-.011, and -.131, respectively; Table 18).

As explained in Chapter III, a correlation between two variables is attenuated by measurement errors. The attenuation of a correlation can be corrected by use of reliability coefficients. The results of correction for attenuation of the partial correlation coefficients indicated that there was almost no relationship between *inability to buy* and *social acceptance* or *self-worth* (see Table 18). If adolescents in this sample thought their clothing inadequate in quality or quantity and felt unable to buy clothing, there was no tendency to view themselves as less worthy or less socially competent than their counterparts, when the level of clothing deprivation relative to peers was controlled.

However, these results need to be qualified. Because the sample in this study was not selected from an economically deprived area, the participants may not strongly feel clothing-deprived. When a range of scores on X or/and Y

Table 17 - Reliability and Pearson Product Moment Correlation Coefficients among Two Factors of Clothing Deprivation, Social Acceptance and Self-worth

	Clothing	Deprivation	Harter's Sel	f-perception
	Inability to buy	Relative to peers	Social acceptance	Self-worth
Clothing deprivation: Inability to buy	.834ª			
Clothing deprivation relative to peers	.533	.722ª		
Social acceptance	153	276	.812ª	
Self-worth	238	249	.298	.825ª

<sup>\*</sup> The number represents the reliability coefficient of each scale.

Table 18 - Partial Correlation Coefficients and Corrected Partial Correlation Coefficients among Clothing Deprivation, Social Acceptance and Self-worth

Partial corre	lation coefficients	•	ntial correlation fficients		
Controlling for clothi to p <del>ea</del> rs	ing deprivation relative	Controlling for cloth to peers	ing deprivation relative		
	Inability to buy		Inability to buy		
Social acceptance	011	Social acceptance	.09		
Self-worth	<b>131</b>	Self-worth	09		
Controlling for inabil	Controlling for inability to buy		Controlling for inability to buy		
	Relative to peers		Relative to peers		
Social acceptance	237	Social acceptance	33		
Self-worth	150	Self-worth	18		

\*\*& Bernstein, 1994). The relatively small standard deviation of mean scores on inability to buy supports the possible limitation of range in this sample (Table 9)<sup>1</sup>. In this group, their deprived feelings might not be strong enough to affect self-perception in terms of self-worth or social acceptance.

Partial correlation of clothing deprivation relative to peers factor with social acceptance or self-worth

The zero-order correlation coefficients between clothing deprivation relative to peers and social acceptance or self-worth were higher than the association of the latter two variables with the inability to buy factor of clothing deprivation. Contrary to this results, Callen (1992) obtained stronger relationships of inability to buy to self-worth than clothing deprivation relative to peers. When the effects of inability to buy on these variables were controlled, the correlations were reduced from -.276 to -.237 for the correlation between clothing deprivation relative to peers and social acceptance and from -.249 to -.150 for the correlation between clothing deprivation relative to peers and self-worth (see Tables 17 and 18).

The correction for attenuation of correlation increased the former correlation. If the variables are measured on perfectly reliable scales, the

<sup>&</sup>lt;sup>1</sup> The mean of total scores was 29.79 and the standard deviation score was 7.47. The possible score range was between 14 and 70 for the *inability to buy* factor. However, the maximum score in this sample was only 51 and the minimum score for this sample was 15, which was close to the possible minimum score.

correlation between the *clothing deprivation relative to peers* factor and *social acceptance* is estimated to be -.33 (see Table 18). The negative correlation coefficient indicates that adolescents in this study perceived themselves as less socially accepted, the more they were clothing-deprived relative to their peers, i.e., if they felt their clothing was less fashionable or worse than their friends' clothing.

The results from the Francis study (1990) and the Callen study (1992) were consistent with this result. Francis reported that those who felt most clothing-deprived compared to their peers perceived themselves as the least socially competent. On the other hand, the least deprived group indicated that they were most socially competent. As explained above, she did not control the effect of the *inability to buy* factor on the *clothing deprivation relative to peers* factor. Callen (1992) showed a moderately negative relationship between *social acceptance* and *clothing deprivation relative to peers* (r = -.55) without controlling *inability to buy*.

#### **CHAPTER V**

### SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of a summary of the research design, discussion of the findings, and explanation of a proposed model within the human ecological perspective. Implications and recommendations for future studies are also included.

## Summary of Research Design and Data Analysis

The purpose of this research was to investigate relationships among self-concept, self-esteem, proximity of clothing to self, clothing deprivation, economic situation and gender. Previous research has studied the relationship between self-concept or self-esteem and clothing interest, clothing deprivation, or clothing behavior. These relations may be mediated by the extent to which a person perceives clothing as psychologically close to the self. Prior to investigating the effect of PCS on the relationship between self-perception and clothing deprivation, it is necessary to understand how PCS relates to self-perception and clothing deprivation along with other factors. This study was attempted as an exploratory work to build a theoretical model for PCS.

One hundred eighty seven high school students in southern Michigan completed written questionnaires consisting of items related to PCS, self-perception, clothing deprivation, family background, and demographic information. PCS was measured by the PCS Scale developed by this researcher and the project director of the MAES Project in which this study was nested.

Other concepts were measured by adopting existing scales: Harter's (1988) self-perception scale for adolescents and the clothing deprivation scale developed by Francis (1990).

Both female and male students participated in the study. The respondents were predominantly White/Nonhispanic American. A small number of participants from other ethnic groups were included in the sample:

Black/Nonhispanic American, Hispanic American, American Indian, Asian-Pacific Island American, Americans of mixed ethnicity and a few foreign adolescents.

After deletion of invalid questionnaires, responses from 158 students were obtained for the final analyses.

The data analyses were conducted in four stages. First, descriptive statistics including reliability and effect sizes were applied. Reliability analyses were performed on three measurements which consisted of multiple items and were multi-structural: the six subscales of PCS, five domains of self-perception and two factors related to clothing deprivation. Second, the assumptions (i.e., normality, homogeneity and independence of errors) were checked before performing regression analysis. Next, multivariate multiple regression analysis

was conducted to estimate the relationships between a set of dependent variables (the six dimensions of PCS) and a set of independent variables (the five domains of self-perception and gender), followed by univariate multiple regression analyses. These analyses were employed to test the relationships of the six dimensions of PCS to the five domains of self-perception and gender. Third, two separate multiple regression analyses were performed to explore important factors in predicting two factors of clothing deprivation including the inability to buy factor and the clothing deprivation relative to peers factor.

Predictors included family economic stress, family socioeconomic status, gender and PCS. Partial correlations were examined to discover whether there was a relationship between one factor of clothing deprivation and the social acceptance domain of self-concept or self-worth while controlling for the other factor of clothing deprivation.

#### Discussion of the Findings

Three objectives were proposed. The findings are aggregated and summarized for each objective.

## Research Objective 1

#### Research objective 1 was:

To determine whether self-esteem and multidimensional self-concept are significantly related to the multidimensional concept, proximity of clothing to self, and whether there is a gender difference in PCS among adolescents.

Contrary to prediction of the relationships in Chapter 1, only the *physical* appearance domain of self-concept significantly predicted the *clothing in relation* to body image and body cathexis dimension of PCS (B = -1.601) while controlling for scholastic competence, social acceptance, romantic appeal, self-worth and gender. Other domains of self-concept did not have significant effects on any dimensions of PCS.

Predictions were made based on previous studies which showed the significant relationships between self-concept or self-esteem and behaviors, attitudes or feelings toward clothing with qualitative and quantitative research methods. When negative associations were obtained between these variables, some researchers concluded that people use clothing to enhance or boost their self-concept and self-esteem (Callis, 1982; Creekmore, 1963; Dubler & Gurel, 1984; Kwon, 1994; Matthews, 1975; Solomon, 1983; Troelstrup, 1970). On the other hand, when the other researchers found positive relationships between self-perception and clothing variables, they inferred that people use clothing to reflect or express self-concept and self-esteem (Aikens, 1976; Creekmore, 1974; Ericksen & Sirgy, 1989; Ford & Drake, 1982; Gutman & Mills, 1982; Humphrey, Klaasen & Creekmore, 1971; Michelman, Eicher & Michelman, 1991; Reed, 1973).

The incongruence between the results of this study and the predictions drawn from previous studies may have occurred because the definition and indicator of PCS include the notion of these two different roles of clothing:

expression of and compensation for self-concept and self-esteem. Therefore, individuals both with low self-concept or self-esteem and with high self-concept or self-esteem may have high scores on the PCS Scale. This tendency may lead to the non-significant relationships between most dimensions of PCS and the domains of self-concept and self-esteem.

Also, non-significant results of this study, contrary to significant relations between clothing and self-concept or self-esteem from previous studies, may stem from differences in how self-concept was measured. In previous studies using a quantitative method, researchers investigated the relation between clothing and general self-concept, or actual/ideal self-concept measuring it with adjective attribute descriptions. In this study, however, actual self-concept was considered as multidimensional and measured in terms of how similar a statement is to evaluation of the self in each domain: scholastic competence, social acceptance, physical appearance, romantic appeal. These different scales measure different facets of self-concept. Also, because self-concept was differentiated into different domains which were considered separately, the significant effect of the physical appearance domain of self-concept on PCS can be clearly seen.

The results from Liskey-Fitzwater et al. (1993) are similar to the results from this study. They also used Harter's Self-perception Scale for measuring self-concept but did not find any significant correlation between self-perception

domains and clothing factors.<sup>1</sup> Unfortunately, in their study, clothing factors did not include any aspects of clothing in relation to body. Thus, their results neither confirm nor contradict the negative relation between the *physical appearance* domain of self-concept and the *clothing in relation to body image and body cathexis* dimension.

This researcher predicted no linear relationship between the *physical* appearance domain of self-concept and the *clothing in relation to body image* and body cathexis. However, there was a significantly negative relationship between these variables.

Because of the dramatic change taking place in their bodies, adolescents experience different body images and satisfaction than they did in childhood, and become very conscious of their bodies. To adolescent boys, physical effectiveness, being muscular, tall and strong, is important and related to their status in peer groups. Therefore, boys who are smaller and less muscular may feel about or view their *physical appearance* negatively (Jenson, 1985; Steinberg, 1985). The study by Shim et al. (1991) provided evidence that males with bodies that deviated from an ideal also used clothing to camouflage their weak areas of the body.

<sup>&</sup>lt;sup>1</sup> In the article, Liskey-Fitzwater et al. did not report all correlation coefficients, but presented only high and significant correlations. The correlation coefficients between clothing factors and self-perception domains were not reported in a table. Therefore, this researcher interpreted this to mean that there was no correlation between clothing factors and the domains of self-perception.

During maturation, adolescent girls gain more fat than muscle, and their bodies become round and curved. They also confront distorted messages about ideal slimness from the fashion and diet industry. Adolescent girls may see a discrepancy between their body-images and the ideal image imposed by society. Many girls view their bodies as average weight or under weight, yet they still want to lose weight (Eisele, Hertsgaard & Light, 1986; Stephens, Hill & Hanson, 1994). Their distorted body images and the difference between their bodies and the ideal body-image may increase negative feelings toward their bodies (Davis, 1985).

According to Fisher (1973), adolescents may use clothing to achieve a sense of having the preferred body image by expanding or reducing their body boundaries through clothing. Regardless of gender, adolescents' incorrect perceptions about and the negative feelings toward their bodies may lead them to compensate for rather than express their bodies through clothing.

Contrary to predictions, self-worth did not significantly explain the variation of any dimension of PCS, while controlling the domains of self-concept and gender. In particular, relations between self-worth and clothing in relation to self as process—communication of self to others, clothing in relation to self as process—response to judgments of others or clothing in relation to self-esteem—evaluative process dominant were strongly expected, based on self-esteem theory. Without controlling the effect of the other domains of self-concept and gender, self-worth was negatively related to clothing in relation to

body image and body cathexis. However, self-worth was correlated to the other domains of self-concept and gender, especially the physical appearance domain (see Table 10). Physical appearance seems to be a central or salient aspect of self-worth of adolescents. After taking into account the effect of the domains of self-concept and gender, self-worth did not uniquely explain the variation of any dimensions of PCS. As O'Malley and Bachman (1983) pointed out, the specific domains of self-concept related to competence could partially overlap global self-worth.

While controlling the effect of the domains of self-perception, gender was not a statistically significant predictor of four dimensions of PCS. The dimensions were clothing in relation to self as structure, clothing in relation to self as process—communication of self to others, clothing in relation to self as process—response to judgments of others and clothing in relation to self—evaluative process dominant.

The results may be understood by considering the developmental stage of adolescents and possible differences in anticipating outcomes through clothing. As explained in Chapter 1, ideas or beliefs in modern societies stimulate females more than males to be aware of clothing. However, this does not mean that males totally ignore clothing. They also interact with clothing every day. Thus, they may develop some degree of close feeling toward clothing. Because of the different reaction from the socio-cultural environment, males may expect to achieve different outcomes through clothing.

In the Kaiser et al. study (1993), late adolescent males tended to show their preference for certain clothing because it was associated with their personal accomplishments. They may establish their self-concept through achievement or action which their culture recognizes as valuable. Since they receive less social feedback about their clothing than females, males may have more opportunities to wear their clothing in their own way and to use clothing to express their personal achievement. In this study, males rank relatively higher on the clothing in relation to self as structure dimension than on other dimensions (second highest mean score among six dimensions of PCS; see Table 7). On the other hand, adolescent girls may consider this dimension less because they may more highly regard intimacy and emotional investment in their peers than do males (Gavin & Furman, 1989). This tendency may narrow the observed difference of the mean scores between girls and boys in the clothing in relation to self as structure dimension of PCS.

During adolescence, children experience dramatic changes psychologically, physically and socially. Adolescents have not yet established stable self-concepts. Some may be reluctant to declare who they are through their clothing, they may be inexperienced with the communication power of clothing, or they may have negative attitudes toward an idea of intentionally showing information about themselves through clothing to others. Atkins (1976) found that female high school students scored significantly lower on attitude toward communicating their self through their clothing than did female college

students. These factors may make both males and females respond in a less proximal way, compared to other dimensions of PCS and further result in the shrinkage of the mean difference between the two groups.

No mean difference by gender in the clothing in relation to self—response to judgments of others from this study is contrary to previous studies. Kaiser et al. (1993) asserted that females, compared to males, showed clothing preference in connection to experience with other people. In the Drake and Ford study (1979), females were more likely than males to dress for others. Indirectly, this indicates that it is important to females how others view their clothing.

Schmerbauch (1993) also reported that adolescent girls were significantly more concerned with peers' judgments about their clothing than boys.

This inconsistency of the results among different studies can be seen by examining instruments or samples. Each item of this third PCS dimension in the questionnaire used in this study was stated to measure the extent to which adolescents were concerned with judgments of generalized others rather than judgments of their peers. During the adolescent period, peer groups replace parents as adolescents' most significant others. Consequently, the relationship with and approval from the peer group are very critical. Because of girls' tendencies to seek socially positive responses, girls may be more attuned to the judgment of peers about their clothing than boys. Gavin and Furman (1989) argued that adolescents, especially early (7th and 8th grade) and middle (9th and 10th grade), more antagonistically interact with other groups. It suggests

that they may reject established ideas or beliefs of a larger culture and ignore generalized others' judgments because they are struggling to establish their own identities and status within their own subculture. This attitude may lead them to respond to the questions on this dimension of PCS in a less proximal way and produce less discrepancy between the two gender groups.

The participants in Kaiser et al. (1993) or Drake and Ford (1979) studies were university students. As individuals get older, they interact with wider social environments than adolescents. They become able to comprehend and internalize values, ideas or standards which prevail in the wider social environments. They reflect these internalized social norms in their behavior. The internalized social norms refer to generalized others, not specific peer groups. University students may internalize the social norms of larger environments more than high school students. As females get older, when they perceive their clothing as being accepted by generalized others, they may feel more accepted by others or included in social groups than males (Sontag, 1978). In turn, they may think about others' judgments about their clothing and be affected by actual or imaginary responses from others toward their clothing. Schmerbauch (1993) also reported that relying on the judgment of peers declined with age in the female group.

Gender was a significant factor to account for variation of scores in the clothing in relation to self-esteem—affective process dominant dimension of PCS, while holding the domains of self-perception constant. Schmerbauch

(1993) also found results consistent with the results from this study. However, four items in this dimension in her study did not belong to this dimension under the definition adopted in this study. Kaiser et al. (1993) found that female students referred to their favorite clothing in a way that emphasized aesthetic attributes of the clothing in relation to their feelings about the clothing, while males related their favorite clothing to specific events, experiences or accomplishments. This suggests that how they feel about certain clothing is more important to females than to males, and consequently their feelings in wearing clothing may affect their feelings toward the self. In considering the definition and indicators of clothing in relation to self-esteer—affective process dominant, one can conclude that, among adolescents, girls' feelings toward themselves seemed to be more affected by clothing and to lead to more different behavioral consequences toward clothing than boys'.

Gender was also a significant factor to account for variation of scores in the clothing in relation to body image and body cathexis dimension of PCS. This finding supports the result of Schmerbauch's study (1993). Without considering the effect of self-concept and self-esteem on this dimension, she found a significant gender difference in this dimension. Females' images of and feelings about their bodies depend on their clothing and affect clothing behaviors to a greater extent than males'. Female adolescents perceive that they use their clothing to conceal an undesirable part of their body or to express their body satisfaction to a greater extent than males. Gender was a more important

predictor than the *physical appearance* domain of self-concept in predicting respondents' scores on *clothing in relation to body image and body cathexis*.

Traditionally, ideology of the body is different for females and males. The primary ideology for the female body is physical attractiveness to others; the ideology for the male body is physical effectiveness, showing mastery or control of the external environment (Kaiser, 1997; Lerner, Orlos, and Knapp, 1976; Stephen et al., 1994). The stereotyped ideologies are continuously communicated to adolescents by advertisements or commercials through mass media (Signorielli, McLeod, & Healy, 1994; Stephen et al., 1994). Therefore, physical attractiveness becomes very important to female adolescents in their feelings toward themselves, in contrast to male adolescents whose feelings toward themselves are more affected by physical effectiveness (Lerner, et al., 1976). Physical effectiveness relates to physical capability, but physical attractiveness links to beauty of body in terms of contour or size of body, in short, how good one looks. Culturally and historically, females have utilized clothing, such as figure-enhancing underwear or illusion-creating clothing, to achieve an attractive body contour (Kaiser, 1997). The prevailing tendency may make female adolescents use clothing to create different body images and help change their body cathexis.

In this study, female adolescents felt their *physical appearance* to be less competent than male adolescents (see Table 9). This was also true with samples in Harter's study (1988). Female adolescents may feel less competent

with respect to their body than boys due to an ideology socially skewed toward female slimness. Female adolescents' incorrect perceptions and negative affect toward their bodies may lead them to be more conscious of compensation through clothing than male adolescents.

### Research Objective 2

Research objective 2 was:

To explore the relationships of PCS, family economic situation and gender to clothing deprivation and the associations of clothing deprivation with self-esteem and self-concept among adolescents.

To achieve this objective, two different regression models were used.

Because previous studies found the significant effects of family economic stress, family socioeconomic status and gender on clothing deprivation and these predictors are exogenous factors, first, a regression equation with the three predictors for each factor of clothing deprivation was obtained. Second, a full regression model with the three predictors and the PCS dimensions for each factor of clothing deprivation was also obtained.

Because inclusion of PCS dimensions in the regression equation produced a multicollinearity problem, the solution used to handle the problem was to exclude Dimension 2 (clothing in relation to self as process—communication to self to others) from the regression equation and combine Dimension 4(clothing in relation to self-esteem—evaluative process dominant) with Dimension 5 (clothing in relation to self-esteem—affective process dominant), thereby creating a new variable. In the full regression model, each

factor of clothing deprivation was regressed on 7 predictors: family economic stress, family socioeconomic status, gender, Dimension 1 (*clothing in relation to self as structure*), Dimension 3 (*clothing in relation to self as process—response to judgments of* others), the combination of Dimension 4 and 5 (*clothing in relation to self-esteem—evaluative and affective processes*), and Dimension 6 (*clothing in relation to body image and body cathexis*).

Family economic stress was the most important predictor in the reduced regression model and the full regression model in explaining the variation of participants' scores on the *inability to buy* factor of clothing deprivation, followed by family socioeconomic status. This result is congruent with the findings from the Francis (1990) study. She found a significant difference in the *inability to buy* factor among groups divided by level of family economic stress.

The PCS dimensions did not much improve the predictive power of the regression equation for the *inability to buy* factor. The entry of the PCS dimensions did not change the pattern of importance of predictors in explaining the variance of the dependent variable.

No contribution of the PCS dimensions in predicting *inability to buy* seems to be understandable. Clothing deprivation in terms of inability to buy seems to be evoked by actually restricted resources (economical aspect) rather than by psychological aspects in relation to clothing. Through a family's adaptation process to keep financial stability, the family may decide to lessen their consumption when their incomes are reduced or their necessary expenses are

increased. Decreased consumption may achieve financial balance; however, each family member may not have the resources, such as clothing, that he or she needs. In turn, this lack of resources may produce deprived feelings about clothing among family members. A family in low socioeconomic status may control family consumption and may budget less for family members' clothing, compared to a family with higher socioeconomic status.<sup>1</sup>

Gender was the most important predictor in accounting for the variation of scores in the *clothing deprivation relative to peers* factor of clothing deprivation, followed by family economic stress in the reduced model. In the full model, the combination of Dimension 4 and 5 (*clothing in relation to self-esteem—evaluative* and affective processes) of PCS was the most important variable among the predictors in the regression, followed by gender. The PCS dimensions contributed more toward explaining the variation of scores in the *clothing* deprivation relative to peers factor than in the *inability to buy* factor.

Clothing deprivation relative to peers was negatively related to the combination of Dimension 4 and 5. This suggests that the more adolescents in this study relied on clothing when evaluating the self (e.g., competence or mastery of environment) or for their feelings toward themselves (e.g., self-love or self-satisfaction), the more they felt that they had desirable clothing relative to

<sup>&</sup>lt;sup>1</sup> According to the Consumer Expenditure Survey (1993), the higher family income was, the higher the family's absolute expenditure on apparel and services related to clothing. An exception to this was that families with incomes less than \$5,000 spent more on apparel than families with incomes between \$5,000 and \$9,999.

their peers (i.e., the less clothing-deprived), while statistically controlling for their family economic situation, gender and other dimensions of PCS.

Self-esteem may be an important factor for individuals' perceived quality of life and well-being. If adolescents perceive or believe clothing is a tool for enhancing their self-esteem, they may use clothing to improve their feelings about themselves more than others. They may think that having good clothing is essential for their well-being or the quality of their life. Accordingly, they may purchase and possess more clothing than their friends. Therefore, they may feel less clothing deprivation relative to their peers.

The results from this sample did not provide evidence to support previous studies which found a gender difference in clothing deprivation. The latter found that males felt less clothing-deprived and more satisfied with their clothing than did females (Cheek, 1978; Cloquett, 1980; Drake & Ford, 1979; Musa & Roach, 1973). The positive regression coefficient in this study indicates that, compared to females, males tended to a greater extent to perceive their clothing as worse or less fashionable than their friends' clothing. On the other hand, Liu (1987) and Etherton and Workman (1996) found no gender differences in clothing deprivation.

There are several possible explanations for the discrepancy between the results in this study and the results from previous studies. Difference in developmental stage could be a factor. For instance, in Cheek's study, the

sample consisted of fourth graders. Boys at this age may not be conscious of or interested in clothing at all.

Cultural changes over time may also be a cause for the inconsistency.

The studies which found less clothing deprivation in males than in females were done before 1980. Today's adolescent boys seem to be very concerned about grooming (Kate, 1995). Recently, adolescents have become an economic force and a target consumer group for apparel related to sports and footwear (Swanson, 1990). Fashion companies have increased their advertising targeting this group (e.g., Cuneo, 1995; "Sneaker peek," 1993). The image of sportswear and sneakers seems to match the ideology of physical effectiveness imposed on males. In turn, males may become aware of sportswear and footwear.

Adolescents may be influenced by sports celebrities in decisions to purchase expensive clothing or footwear (Lee & Browne, 1995). This trend may make adolescent boys feel deprived in comparison to their peers, if they cannot purchase them.

The Etherton and Workman study (1996) seems to illustrate the possible explanations for the inconsistency in results across studies. Participants in their study, who were 5th graders, can be assumed to be in a similar developmental stage to the participants in the Cheek study (1978). However, a time gap of almost two decades may contribute to the incongruent results between Cheek and Etherton and Workman. Even though the participants in Etherton and Workman and in the present study can be assumed to have been exposed to a

similar culture, the different developmental stages of the participants may contribute to the inconsistent results between these two studies.

The possible gender effect on clothing deprivation relative to peers can be indirectly found in a recent study. Francis and Browne (1992) found that group membership (skateboard group, baseball group, or general high school students group) was an important indicator of clothing deprivation relative to peers. In their study, the skateboard group and the baseball group felt more deprived in comparison to their peers than the high school students in general. However, most of the skateboard group were adolescent boys (92%), and all of the baseball group were boys, while most of the general high school students were females (82%). Because of the unbalanced ratio of girls and boys in each group, gender may lead to the significant effect of membership in groups on clothing deprivation relative to peers.

The associations between the two factors of clothing deprivation and self-worth or the social acceptance domain of self-concept were explored by using partial correlation. Both social acceptance and self-worth showed very weak relationships with the inability to buy factor while controlling for the clothing deprivation relative to peers factor with this sample. Social acceptance and self-worth presented stronger relationships with clothing deprivation relative to peers than inability to buy, while taking account of the correlation between the two factors of clothing deprivation. After correction for attenuation of correlation, the

social acceptance domain showed a moderate relation to clothing deprivation relative to peers.

Francis (1990) found a significant relation between *inability to buy* and social competence, a variable that appears through the similarity of measurement indicators to be comparable to social acceptence in this study. In her study, adolescents in the highest inability to buy group reported the lowest social competence. Incongruent results between the two studies may stem from the level of heterogeneity of each sample. She sampled from six different high schools from economically depressed and non-depressed. Therefore, her study might include a more heterogeneous population than this study, which included participants from three different schools in suburban areas. Thus, the scores in the *inability to buy* factor from her study may be more diverse than scores in this study. Another possible explanation is that Francis did not control for the effect of *clothing deprivation relative to peers* on *inability to buy*.

## Research Objective 3

Research objective 3 was:

To develop a partial theoretical framework to evaluate and establish the construct validity of PCS measurement.

# Evidence of Construct Validity of PCS Measurement

Commonly, theory development is described as putting together puzzle pieces in logical manners. Results from each study can be viewed as a puzzle piece to complete a whole picture of a theory in a lawful way. Theory consists of a set of interrelated statements about relationships between constructs. This

research was designed to attempt development of a partial theoretical framework to depict a nomological network of proximity of clothing to self in relation to other constructs and, concurrently, to establish the construct validity of the PCS scale (Messick, 1989).

As explained previously, the measurement of PCS obtained high internal consistency. However, "high internal consistency is necessary but not sufficient for construct validity" (Nunnally & Bernstein, 1994, p.90).

To assess construct validity, this researcher attempted to evaluate nomological validity by predicting the relationships between two constructs, the dimensions of PCS and the domains of self-perception, and statistically testing the predictions (Messick, 1989; Nunnally & Bernstein, 1994). Based on previous studies and theories, possible relationships of the dimensions of PCS were proposed. In Table 19, the proposed hypotheses and the results of statistical tests are summarized.

As shown in Table 19, any predictions were not supported by the responses of participants in this study. In other words, this study does not provide enough evidence for establishing construct validity for PCS measurement.

Results from previous studies about the relationships between body image or body cathexis and clothing attitude or use of clothing were not conclusive. According to previous studies, individuals with high body cathexis had positive attitude toward clothing and use their clothing for expressing their

Table 19 - Summary of Predictions and the Results of Hypothesis Tests for Establishing Construct Validity

Relationships	Predictions	Results
Between the clothing in relation to self as structure dimension of PCS and the scholastic competence domain of self-concept.	Positive	No relation
Between the clothing in relation to self as process—communication of self to others dimension of PCS and the social acceptance domain of self-concept.	Positive	No relation
Between the clothing in relation to self as process—communication of self to others dimension of PCS and the romantic appeal domain of self-concept.	Positive	No relation
Between the clothing in relation to self as process—communication of self to others dimension of PCS and self-worth.	Positive	No relation
Between the clothing in relation to self as process—response to judgments of others dimension of PCS and the social acceptance domain of self-concept.	Positive	No relation
Between the clothing in relation to self as process—response to judgments of others dimension of PCS and the romantic appeal domain of self-concept.	Positive	No relation
Between the clothing in relation to self as process—response to judgments of others dimension of PCS and self-worth.	Negative	No relation
Between the clothing in relation to self-esteem—evaluative process dominant dimension of PCS and self-worth.	Negative	No relation
Between the clothing in relation to body image and body cathexis dimension of PCS and the physical appearance domain of self-concept	No relation	Negative

positive feelings toward their bodies (Baggs, 1988; Kwon & Parham, 1994; Rook, 1985; Shim, et al., 1991; Theberge & Kernaleguen, 1979). Individuals with moderate body cathexis did not show any collective pattern in clothing attitude or use of clothing (Davis, 1985). Individuals with low body cathexis had positive attitude toward clothing and use clothing to compensate for weak parts of their bodies (Kwon & Parham, 1994; Shim, et al., 1991). Extremely disabled people may think that clothing is irrelevant to their body cathexis or body image (Liskey-Fitzwater, et al., 1993; Mulready & Lamb, 1985). It seems that there are curvilinear relations between these. Therefore, based on theories and these previous research findings, this researcher predicted no linear relation between the physical appearance domain of self-concept and clothing in relation to body image and body cathexis when considering the possible distribution of people across the full range of physical appearance, but obtained a different result, a significantly negative relationship.

Additionally, the positive relation between *self-worth* and Dimension 2 (*clothing in relation to self as process—communication of self to others*) or the negative relationships between *self-worth* and Dimension 3 (*clothing in relation to self as process—response to judgments of others*) or Dimension 4 (*clothing in relation to self-esteem—evaluative process dominant*) were strongly predicted based on self-esteem theory. However, no prediction was confirmed by results from this sample.

These results may have occurred due to a restricted range of the participants' scores on the attributes. Another reason could be the developmental characteristics of adolescents. If adults are studied, a different pattern of relationships may be found.

For establishment and evaluation of construct validity for a scale, strong predictions are necessary in basis of a theory or previous studies related to a construct which the scale is designed to measure. Because previously only a few studies have been completed in relation to the PCS construct, it is difficult to predict accurately how the construct would be associated to other constructs. However, the insignificant relationships between each dimension of PCS and the domains of self-perception at least suggest that the PCS Scale measures a different construct from self-concept and self-esteem.

Because the significant gender differences in Dimension 5 (clothing in relation to self-esteem—affective process dominant) and Dimension 6 (clothing in relation to body image and body cathexis) of PCS were found in this study (see Table 20) and the Schmerbaush study (1993), one can strongly predict gender differences in the two dimensions and test the predictions to establish construct validity of the PCS Scale in a future study. Validation of a construct is an ongoing process rather than being established from an isolated study. Continuously replicated studies need to be performed for accumulating and evaluating evidence of construct validity of PCS.

Table 20 - Summary of Predictions and the Results of Hypothesis Tests for Gender Differences

Dimensions of PCS	Predictions	Results
Clothing in relation to self as structure	Female>Male	Not supported
Clothing in relation to self as process—communication of self to others	Female>Male	Not supported
Clothing in relation to self as process—response to judgments of others	Female>Male	Not supported
Clothing in relation to self-esteem— evaluative process dominant	Female>Male	Not supported
Clothing in relation to self-esteem— affective process dominant	Female>Male	Supported
Clothing in relation to body image and body cathexis	Female>Male	Supported

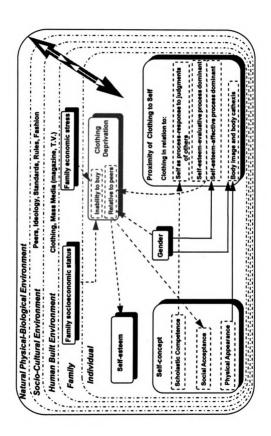
# A Summary Model within the Human Ecological Perspective

Based on these results and discussion, a summary model of relationships among PCS, self-perception, clothing deprivation and family economic condition is suggested within a human ecological perspective (Figure 4). In this model, solid lines represent the established relationships which were statistically confirmed by the data from this study; on the other hand, broken lines describe predictive relationships based on the exploratory study. These relationships need to be tested in a future study for validating the construct. This model omits the dimensions of PCS which failed to find significant relationships with self-

Figure 4. A summary model for established and proposed relationships among proximity of clothing to self, self-concept, self-esteem and clothing deprivation among adolescents within the human ecological perspective.

Established relationships from results of the hypothesis tests

Proposed relationships from results of the exploratory study



perception or gender and which were not important factors to explain variation in clothing deprivation.

As introduced in Chapter I, the human ecological perspective is useful in comprehending how individuals' feelings toward clothing are developed and influenced by internal (i.e., emotional and cognitive) system states and external(i.e., human built, socio-cultural or natural, physical-biological) environments (Sontag & Bubolz, 1996). As open systems, adolescents receive information about cultural ideology through the mass media and through interaction with people (social-cultural environments). Gender-stereotyped cultural ideology about body and clothing has been differently and selectively experienced by adolescents since birth.

As adolescents change physically, they react more sensitively to the cultural ideology. They compare their bodies to the cultural ideal or their peers, and evaluate their bodies as incompetent and unsatisfactory or competent and satisfactory. It may become their goal to find a way to improve or show off their physical appearance. They search for resources from the environments, such as clothing, to achieve this goal. They may continuously interact with clothing while attempting to camouflage or to create an illusion and compare their results (perceived body image through clothing) with their goals or standards. If they get positive self-evaluation or positive responses from their environments, they may continue to use clothing to change their image of or feelings toward their bodies. The more negatively adolescents feel about their bodies, the more they

may attempt to change them through clothing, and in turn, the more they perceive clothing as closely related to their body image or body cathexis.

Because females receive more input from the socio-cultural environment about their clothing, attractiveness and beauty than males, they may be more conscious of and have more interaction with clothing. They spend substantial amount of their earnings on clothing (Swanson, 1990). Also, families may spend more money for girls and participate more in activities and decision making about clothing for females than males (Norum. 1992; Zhang & Norton, 1995). Female adolescents may attach meaning to and emotionally link to clothing more than males. Therefore, clothing changes their feelings and self-esteem more than it does for males. Also, females more than males use clothing to compensate for their poor body image.

In this study, the relationship between scholastic competence and clothing in relation to self as process—response to judgments of others was not significant; however, there was a trend toward a possible relationship between them. Thus, in the model (Figure 4), the relationship is depicted with a dotted line. Adolescents who pursue scholastic achievement tend to behave within certain standards or rules established by the school or their parents (Harter, 1988). If this is true, scholastically competent adolescents may continuously evaluate themselves based on others' responses to their behavior or based on the standards or rules they have internalized, and this tendency may appear when they interact with clothing.

This study found the possible effect of clothing in relation to self-esteem on clothing deprivation relative to peers. If adolescents think that clothing is important for improving feelings about themselves, they may seek different resources from the environment to fill their clothing needs, regardless of their family economic condition. Thus they may possess more clothing than their peers, and in turn feel less clothing-deprived.

Higher clothing-deprived feelings of boys than girls can be explained by the discrepancy between messages from the socio-cultural environment and the family. In recent years, more expensive sportswear and footwear has been marketed to male adolescents than before. Male adolescents seek brand names when purchasing clothing more than female adolescents (Koester & May, 1985). The brand name information of sportswear and footwear reaches adolescents through mass media and peers. However, families may still have standards that prohibit expensive and varied clothing for males. These males may be allowed to buy only limited clothing. Due to family decision-making on males' clothing, male adolescents may feel clothing deprived.

When adolescents perceive their clothing as less fashionable or worse than their friends' clothing as distinguished from thinking they do not have adequate clothing in terms of quality and quantity, they may tend to voluntarily forego or be involuntarily excluded from social interactions. This negative

<sup>&</sup>lt;sup>1</sup> The Consumer Expenditure Survey (1993) showed that families spent more money for women's clothing (16 and over) than for men's clothing (16 and over), regardless of family income, number of earners in the family and occupation of reference person.

response contributes to low self-concept (the social competence domain) and self-esteem.

In a family system, management of income is an important activity and process. Families in lower socioeconomic status have less economic resources to meet goals than families in higher socioeconomic status. Therefore, each member's needs may not be fulfilled and family members may be unable to purchase adequate clothing.

A family employs an adaptation process when a balance between financial inputs and outputs is broken. If family's income is reduced or demand on the income is increased, the family may set a different goal and rearrange consumption patterns to sustain financial equilibrium. However, this adaptation process may produce a deprived feeling with respect to clothing.

### **Implications**

In reference to the human ecological perspective, this study formulated hypotheses to investigate the relationships between PCS and self-concept or self-worth and attempted to explore the association between PCS and clothing deprivation among adolescents. The implications drawn from the findings in this study are discussed in this section.

This study confirms that adolescents use their clothing to conceal or draw attention away from their bodies and that clothing contributes to change in their body image and body cathexis. However, variations of scores in other

dimensions of PCS were not well explained by four domains of self-concept, *self-worth*. This suggests that some important variables are omitted in the prediction equation. For enhancing construct validity of PCS, it is substantial to identify other significant variables which relate to PCS.

Self-concept is a fundamental factor which directs our behaviors and causes us to select objects in our environments with which we interact.

Individuals' self-concept leads them to interact differently with selected objects.

This study focused on the relationship of PCS to components of the self-concept. However, different aspects of self-concept can differently studied in research and this may lead to different results. Previous studies showed that focus of attention is related to clothing behavior. Self-focused attention refers to the directions toward which a person is attuned in his or her field of consciousness, such as internal vs. external locus of control, subjective vs. objective self-awareness or private vs. public self-consciousness (Rosenberg & Kaplan, 1982).

Public vs. private self-consciousness may better explain systematic variation of scores on PCS than the domains of self-perception. Individuals with high private self-consciousness focus on their own standards, values or feelings. They stress personal identity, and are less vulnerable to pressures to conform to groups (Schlenker & Weigold, 1990). On the other hand, individuals with high public self-consciousness have a tendency to adhere to social standards and to be aware of and concerned for the self as a social object (Fenigstein, Scheier, &

Buss, 1975). The different traits of self-consciousness lead individuals to have distinct interactions with clothing and to achieve unique outcomes through clothing. Private self-conscious persons may think of clothing as close to self in terms of reflecting or expressing their values, identities, and standards. However, public self-conscious persons may choose or use clothing according to actual or imaginary responses to their clothing because social standards are important to them.

Human values motivate human behaviors. Values guide judgments about objects, events, states and other human beings (Schlater & Sontag, 1994).

Values may influence a human's selection of salient objects in the environment toward which the human expands himself or herself, and affect the degree of psychological closeness of the human to those objects. Therefore, personal or family values may be an important variable to explain the variation of scores in PCS.

In this study, the relationships among variables were investigated with a quantitative method. It is necessary to confirm the associations among them by multiple methods, using different instruments or a qualitative method.

Particularly, in the summary model previously explained, the causal relation of cultural environment to gender differences in PCS or clothing deprivation was proposed based on other studies or theories, but was not tested in this study.

Thus, confirmation of the relation is required.

The results of this study seem to provide some useful information to educators and parents. Adolescents use clothing to improve negative body image and body cathexis. Adolescent boys feel more clothing-deprived than girls in comparison to their peers. It is necessary to teach adolescents appropriate ways to create better images through clothing. Boys especially need to learn to reduce their deprived feelings and to build desirable social associations through means other than clothing or to learn how to acquire appropriate clothing within budget constraints. On the other hand, parents should be aware of adolescent boys' need for clothing. Ignorance of their needs may lead to clothing-related misbehavior such as shoplifting. There is evidence that adolescents who shoplift are mostly male, and they shoplift for economic reasons (Cox, 1990).

As explained in the model, adolescents' feelings toward their clothing relate not only to their near environments such as family or peers. The messages adolescents get from society are very influential on adolescents' attitudes and feelings about their bodies or clothing. Without cooperation among family, school, the fashion industry and mass media, extreme consciousness of clothing and body in adolescents may not be diminished.

#### Recommendations

While conducting this study, this researcher noted several difficulties and methodological considerations. Suggestions for future studies are provided as follows.

- 1. The best time for data collection in the secondary school system seems to be two months into the school year. It is also recommended that schools be contacted at least one or two months before the expected data collection time.
- 2. Classroom teachers are most willing to cooperate in research projects which relate to their subject areas (in this case social studies, psychology and life management). Students in required courses may be more representative of a school population than students in elective classes.
- 3. Although it is controversial, this researcher recommends that demographic questions (i.e., gender, age or ethnicity) be placed at the beginning of the questionnaire. It is also recommended that the direction "go to next page" be placed at the end of each page, and the question, "Have you answered every question?" be placed at the end.
- 4. Many students are unable to give full and accurate information about their parents. Questions about father's or mother's occupation and education could be included with the parental consent form; and/or students could answer questions about family's possessions (i.e., the number of rooms in house, TV,

computer, or VCR, etc.) as a more reliable index to evaluate family economic status.

- 5. Students' discretionary income is an important factor making them independent of their parents' influence in purchasing their clothing (Lewis, Dyer & Moran, III). Therefore, discretionary income may be a factor related to clothing deprivation. In this study, students were asked how much income they received each week, but they were unable to give useful information. A better alternative would be to ask students to check the most approximate category of income for the school year and for the summer.
- 6. It is recommended to include a "Don't know" option for questions pertaining to information about parents' education and family economic stress. This category produces more missing data; however, it makes responses more reliable.
- 7. It is recommended that the clothing deprivation scale be modified. The inability to buy factor seems not to discriminate levels of deprivation within the middle or upper economic stress levels. The clothing deprivation relative to peers factor consists of only five items. Reliability of the subscale did not reach an acceptable level. Clothing deprivation relative to peers seems to be a very important concept for positive development in self-concept, especially the social acceptance domain. It may also be important for adolescents' perceived quality of life. A more refined scale is essential to clearly understand the association of clothing deprivation in comparison to peers with other concepts.

- 8. It is recommended to generalize the results of this research to other groups with caution. Data were not obtained by a random sampling method.

  Therefore, systematic errors may have been produced due to sampling method.
- 9. Few scholars in the clothing and textiles area have considered the power of significance tests. It is recommended to regard these issues to limit a possibility of reporting false results. It is important to think about how much power a researcher wants to achieve before planning data collection. By estimating power prior to data collection, a researcher can have an idea of how large a sample size is required for adequate power. This researcher did not consider a priori estimation of power, but estimated the power of hypothesis tests. Considering post hoc estimation of power, we can be confident about the rejected results and more carefully interpret non-significant results. In this study, retained null hypotheses showed very large Type II error (small power), but at the same time, most unstandardized regression coefficients were also very small. When the magnitude of a certain regression coefficient is moderate, if it does not reach a significant level and power is small, a researcher needs to realize that he or she has poor power to detect significance, which may result in part from small sample size.
- 10. More attention must be given to control overall Type I error rate. As explained in Chapter III, multiple tests in a study increase the probability of a false rejection without a researcher's awareness. Every researcher sets a tolerable level for false rejections, such as .05 or .01. However, if the researcher

conducts more than one test, the overall probability to make a false rejection is over the tolerable level which the researcher set. Therefore, it is necessary to set an overall  $\alpha$ -level for a set of tests. By performing the hypothesis tests in this way, we can accumulate more convincing results in our area.

11. According to the human ecological perspective, an individual's behaviors or psychological conditions (cognitions or emotions) differ due to the various interactions between the individual and his or her environments.

Different cultures as macro environments may allow for different interactions of people with clothing, and consequently people within a culture may demonstrate different levels of proximity of clothing to self and clothing deprivation. It would be valuable to compare the differences in these concepts among various cultures. Also, it is necessary to assess the ecological validity of proximity of clothing to self by studying adolescents across different countries.



## APPENDIX A

LETTER AND CONSENT FORM FOR THE PRINCIPALS

#### **APPENDIX A**

#### LETTER AND CONSENT FORM FOR THE PRINCIPALS



April 29, 1996

[Name of Principal]
[Address of School]

Dear [Name of Principal]:

Recently, regulation in adolescents' school attire through dress codes or uniforms has become a controversial national issue primarily centered around concerns for personal safety, facilitation of the education process, and freedom of expression. President Clinton has recently stated his support for examination of the possible use of uniforms by public school students. Before such a policy is adopted, we believe that more information is needed about the importance of clothing in the self-system of adolescents.

We are researchers at Michigan State University who are studying the meaning and importance of clothing to adolescents in grades 10-12. More specifically, we are conducting a scientific study of adolescents' perceptions of their clothing in relation to how they view themselves. It is widely believed that clothing is one means by which many adolescents express who they are, experiment with different identities, and relate to their peers. In fact, some writers have referred to clothing as the "visible self" and the "second skin." However, the extent to which adolescents as well as other people across the life span view clothing as proximal to the self is not known. We are assessing the dimensions and extent of this proximity of clothing to self and its relationships to adolescents' self-perception, clothing deprivation and their family backgrounds.

This on-going project is financially supported by the Michigan Agricultural Experiment Station. Based on adolescents' written and oral responses, we have thus developed an initial measure of proximity of clothing to self. We have also selected additional instruments that will give us an understanding of the importance of clothing. These instruments were pretested with students in [Identifier deleted] High School. We expect that the survey will take about 35-45 minutes of students' time.

If you agree to your high school's participation in the survey, we will ask teachers whom you identify to give each student a letter addressed to the student's parent or guardian that describes the study and an informed consent form for the student to take home. Students who are under 18 years of age must obtain the written consent of their parents/guardians; students 18 and



COLLEGE OF
HUMAN ECOLOGY
Department of Human
Environment and Design

Michigan State University 204 Human Ecology Building East Lansing Michigan 48824-1030

(517) 355-7712 FAX (517) 432-1058 over should give their personal written consent. On a scheduled data collection day, the teacher will ask students who have returned a signed consent form and who also assent to participate to respond in writing to a series of questions related to clothing, the self, and family background during the regular classroom session. The students and their parents/guardians are free to discontinue the students' participation in the study at any time. All responses will be treated confidentially, and the students' identity will remain anonymous in the publication of any research reports. These procedures have been approved by the Michigan State University Committee on Research Involving Human Subjects.

We would like to have a meeting with you within the next few days to discuss your willingness to cooperate with us in the conduct of this study. At that time we will also need to discuss with you the selection of an appropriate class setting, time, teacher identification and involvement, and consent procedures. We think it is necessary for you to review our survey procedure before the meeting. We enclose a copy of the principal's consent form, a draft of the letter to the parent/guardian, parent/guardian consent form, and a copy of the questionnaire.

We would like to have a total of about 100 tenth through twelfth grade students, preferably in required social studies or life management classes, from your school participate in the study. Your school is an important test site for insuring a representative sample in the school system within the state of Michigan. In appreciation for your school's participation in our research, we will send your school a \$50.00 gift certificate toward educational software from Educational Resources upon receipt of the completed questionnaires and signed consent forms.

We will make an appointment for the meeting with you when we give this packet to your secretary. We look forward to meeting you and talking with you soon about your school's involvement in our study.

Sincerely.

The Surgerie South

**Professor** 

Jongnam Lee, M.S.

Jongham Lee

Doctoral Candidate and Graduate Research Assistant

**Enclosures** 

#### CONSENT FORM (SCHOOL PRINCIPAL)

#### Department of Human Environment and Design Michigan State University

	whengan state University
1.	As the school principal, I hereby give my permission for students attending High School to participate in a scientific study conducted under the supervision of M. Suzanne Sontag, Ph.D. <sup>1</sup> I also understand that the researchers will also obtain written informed consent for students under 18 from the students' parents or guardians and students' personal assent. Students 18 and over will give their written informed consent instead of their parents/guardians. The purpose of the research is to study the relationship between clothing and the self. I understand that the students will be asked to answer a series of written questions about their self-perceptions and feelings about clothing and family background. I also understand that completion of the questionnaire will take about 35-45 minutes of the students' time.
2.	The study has been explained to me, and I understand the explanation that has been given and what the student's participation will involve.
3.	I agree to facilitate the conduct of this study by obtaining teachers' cooperation and permitting access to selected classes during regular class periods for administration of the research instruments.
4.	I understand that the students and their parents/guardians are free to discontinue the students' participation in the study at any time without penalty.

- 5. I understand that all results will be treated in strict confidence by members of the research staff, and the students' identities will remain anonymous in any report of research findings.
- 6. I understand that the students' participation in the study does not guarantee any beneficial results to them.
- 7. I permit the students' participation in the study and consent and agree.

Please sign your name and date this form below. enclosed self-addressed stamped envelope.	Return the signed form by mail in the
Principal's Signature	Date

<sup>&</sup>lt;sup>1</sup>If you have any questions regarding the nature of the study or your child's participation in it, please contact: M. Suzanne Sontag, Professor, or Jongnam Lee, Graduate Research Assistant, Department of Human Environment and Design, Michigan State University, East Lansing, MI 48824-1030. Telephone: 517-353-2939.

# APPENDIX B

LETTER AND CONSENT FORM FOR THE PARENTS/GUARDIANS

#### APPENDIX B

#### LETTER AND CONSENT FORM FOR THE PARENTS/GUARDIANS



May 1996

Dear Parent or Guardian:

Many adolescents view clothing not simply as a material object, but as an object by which they express who they are, experiment with different identities, and relate to their peers. In fact, some writers have referred to clothing as the "visible self" or the "second skin" and as a potentially important part of life that affects well-being.

Researchers at Michigan State University are studying the meaning and importance of clothing to adolescents in the State of Michigan. More specifically, we are conducting a scientific study of adolescents' perceptions of their clothing in relation to how they view themselves.

Students at selected high schools have been chosen as representative of high school students in the State of Michigan. We invite your child to participate in our research study.

If you consent, we would ask your child to complete a written questionnaire related to clothing, self-perception and family background during a regular period within his or her normal classroom setting. This should take about 35-45 minutes of your child's time. You or your child are free to withdraw your child's participation in the study at any time. All responses will be aggregated and treated confidentially, and your child's identity will remain anonymous in the publication of any research reports.



HUMAN ECOLOGY

Department of Human
Environment and Design

Michigan State University 204 Human Ecology Building East Lansing, Michigan 48824-1030

> (517) 355-7712 FAX (517) 432-1058

We hope that you will permit your child's participation in this research. In order for your child to participate, we need to have your written consent. If your child is under 18 years of age and would like to participate and you agree, please complete and sign the enclosed consent form. If your child is eighteen or older, she or he should sign the consent form instead of you. Please have your child return the signed consent form to his or her classroom teacher within the next two class days or by the date the teacher has told your child.

If you have any questions about the nature of the research or your child's participation, please call one of us at 517/353-2939 (office). We would be happy to talk with you. Thank you for your cooperation.

Sincerely.

M. Suzanne Sontag, Ph.D.

In Augure Bontag

Professor

Jongnam Lee, M.S.

Jongram Xee

Graduate Research Assistant

**Enclosure** 

#### **CONSENT FORM**

# Department of Human Environment and Design Michigan State University

- 1. As the legal parent/guardian of the below-named student, I hereby give my permission for his/her participation in a scientific study conducted under the supervision of M. Suzanne Sontag, Ph.D.¹ The purpose of the research is to study the relationship between clothing and the self. I understand that my child will be asked to answer a series of written questions about his or her self-perception, feelings about clothing and family background. I understand that completion of the questionnaire will take about 35-45 minutes of my child's time.
- 2. The study has been explained to me, and I understand the explanation that has been given and what my child's participation will involve.
- 3. I understand that I am free to discontinue my child's participation in the study at any time without penalty to myself or to my child.
- 4. I understand that all results will be treated in strict confidence by members of the research staff, and my child's identity will remain anonymous in any report of research findings.
- 5. I understand that my child's participation in the study does not guarantee any beneficial results to him or her.
- 6. I permit my child's participation in the study and consent and agree.

Please sign your name and date this form below. Also print your child's name below your signature. Return the signed form to the classroom teacher within the next two class days or by the date the teacher has told your child. If the student is eighteen or older, the student should sign instead of the parent/guardian.

Parent's/Guardian's Signature	Date	
Student's Signature if over 18	Date	
PRINT Student's Name		

<sup>&</sup>lt;sup>1</sup>If you have any questions regarding the nature of the study or your child's participation in it, please contact: M. Suzanne Sontag, Professor, or Jongnam Lee, Graduate Research Assistant, Department of Human Environment and Design, Michigan State University, East Lansing, MI 48824-1030. Telephone: 517-353-2939.

# APPENDIX C

**INSTRUCTIONS FOR TEACHERS** 

#### **APPENDIX C**

#### INSTRUCTIONS FOR TEACHERS

Department of Human Environment and Design College of Human Ecology
Michigan State University

#### DIRECTIONS FOR TEACHERS ADMINISTERING THE QUESTIONNAIRE

In a scientific study across different groups, it is very critical to have a standardized study setting so that procedures of data collection should be consistent across different groups. Therefore, please carefully follow the written instructions below.

#### PRIOR TO THE SCHEDULED DATA COLLECTION DAY

**Distribution and Collection of Letter and Consent Form**Several days prior to the scheduled day for administering the questionnaire to the students, distribute a consent form and letter to each student.

Say the following:

Researchers at Michigan State University are studying the significance of clothing in everyday life. They are very interested in learning about the personal meaning of clothing in your life. Our school has been invited to participate in this study, and the principal and I have agreed. In order for you to participate, federal regulations require that students under 18 must have the written consent of their parents or guardians. Students 18 and over may give their own written consent. All students have the right to assent to participate or not. I will now distribute a copy of the letter and consent form. If you are under 18, please take these home and share them with your parents or guardians. If you are 18 or over, you can simply read the letter and sign the consent form on the line where it says "Student's signature if over 18." Write in the date and print in your name. Return the signed consent form during our next class meeting. Do you have any questions?

At subsequent class sessions before the data collection day, collect the signed consent forms and remind the students who have forgotten to return the signed form to do so at the next class session.

#### ON THE SCHEDULED DATA COLLECTION DAY

#### PREPARATION FOR ADMINISTERING THE QUESTIONNAIRE

On the scheduled data collection day, take the collected consent forms, the teacher's directions, questionnaires, the envelope in which they came and pencils with you to the class.

#### **Introductory Procedure**

As quickly as possible after the class period begins, bring the class to attention. You need approximately 35-45 minutes for students to complete the questionnaire, plus another 5 minutes for directions.

#### Say the following:

Researchers at Michigan State University are inviting you to participate in a study to help them understand the ways that adolescents think about their clothing in relation to who they are. By completing and turning in the questionnaire, you give your assent to participate. If you agree to participate, it is important to take this questionnaire seriously, and be as honest as you can.

Only students who turned in the consent form should take this survey. I will now give a questionnaire to each of those students. Do not open the questionnaire until I tell you to do so. Remember, this is not a test. There are no right or wrong answers to the questions. Now I need to know who has returned the signed consent form. If you turned in the consent form to me and agree to participate, raise your hand.

If a student does not want to participate, even though you may have his or her signed consent form, that is his or her right to decide. Hand out a questionnaire to the students raising their hands.

It is very important that the students clearly understand the following information. Therefore, please say the following slowly:

Open the questionnaire. Inside, there is a letter addressed to you. As the letter says, you are free to discontinue your participation in the study at any time. However, the researchers would appreciate your completion of the entire questionnaire. Your responses will be treated confidentially. Because your name will not be placed on the questionnaire, no one will be able to identify which survey you completed. Also, your identity will remain anonymous in the publication of any research reports. Before you start, please pay attention to the paragraphs in bold type. Be sure to read the directions at the top of each section.

You have 35-45 minutes to answer all questions. Please make sure you read and respond to the items in each section. While you are completing some parts of the questionnaire, you may feel that certain ideas are stated in a similar manner. There is an important reason for this, so keep in mind that fine points of difference are important in this study. When you have finished, raise your hand. I will come to you, and you will put your completed questionnaire into this envelope. [Show large manila envelope] After all students place their questionnaires in the envelope, I will seal it and mail it to the researchers at Michigan State University. If you finish early, remain at your seat and work on today's class activity. Does anybody have any questions? Now, you may begin.

#### **During Survey Completion**

While the students are completing the questionnaire, please check whether only students who returned the signed consent forms to you are participating in the survey. It is very important to us because we may not collect data from students under 18 whose parents do not give their consent, nor from students 18 and over who do not give their personal written consent. No students without a signed consent form should complete the questionnaire. The number of signed consent forms should equal the number of students taking the survey.

If a student comes in late, who has submitted and signed consent forms, let him or her complete a questionnaire if at least 30 minutes remain. Be sure the student completes Section I and Section VI (the demographic information on the last page of the questionnaire).

Maintain a quiet atmosphere in the classroom. Students should not be permitted to discuss their responses with or comment on the items to each other while students are completing the questionnaire.

#### **Closing Procedure**

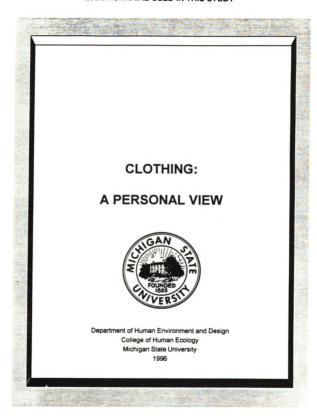
Inform the students that five minutes are left when there are five minutes remaining in the class period. After collecting all questionnaires in the large envelope, check again to be sure you have an equal number of signed consent forms and completed questionnaires. Put the signed consent forms into the same envelope together with any unused consent forms and questionnaires. Complete the information on the enclosed Teacher Information Sheet. Place this sheet in the envelope and seal the envelope. Put the sealed envelope back into the box in which we sent the copies of the questionnaire. Follow the instructions in our letter to you for return shipment to us.

THANK YOU SO MUCH FOR ASSISTING US IN THE COLLECTION OF THESE RESEARCH DATA! WE COULD NOT HAVE CONDUCTED THIS STUDY WITHOUT YOUR COOPERATION.

# APPENDIX D

**QUESTIONNAIRE USED IN THIS STUDY** 

# APPENDIX D QUESTIONNAIRE USED IN THIS STUDY





Spring 1996

Dear Student:

Researchers at Michigan State University are studying the significance of clothing in our everyday lives. At this time we are very interested in learning about the personal meaning of clothing in your life. Do you view your clothing primarily as an object to protect your body from the environment or to bring you physical comfort? Does clothing express some basic ideas about who you are and how you feel? There are many ways to think about the significance of clothing in our lives.

The purpose of this study is to understand how adolescents think and feel about clothing in relation to who they are in personal and social terms. We are particularly interested in how you view this matter.

We invite your participation in a research study to help us understand the ways that adolescents think about their clothing in relation to who they are. We ask you to take about 35-45 minutes of your time to complete this questionnaire. There is no right or wrong way to view clothing, and there are no right or wrong answers to the questions. Your responses will remain confidential; your responses will be combined with those of others; and your name will not be included in any publication of the results. By completing and turning in the questionnaire you give your assent to participate.



COLLEGE OF
HUMAN ECOLOGY
Department of Human
Environment and Design

Michigan State University 204 Human Ecology Building East Lansing Michigan 48824-1030

> (517) 355-7712 FAX (517) 432-1058

Please read the directions for each section of the questionnaire and respond to each statement using the appropriate scale. Please answer all of the questions in one section before moving on to the next section. When you have finished, return the questionnaire to the classroom teacher.

For the purpose of this study, we define clothing as any material object worn on or attached to the human body. This includes items of apparel and accessories. Apparel includes underwear, outerwear, and footwear. Accessories include such items as jewelry, eyeglasses or contact lenses, backpacks, purses, hats and other accessories for the hair, gloves, ties, umbrellas, orthodontic devices (such as dental braces or retainers), and electronic headphones worn on the body.

Thank you for your time and your willingness to participate in this study!

Sincerely,

M. Suzanne Sontag, Ph.D Professor and Project Director

In Duyane, Saty

Jongnam Lee, M.S.
Doctoral Candidate and
Graduate Research Assistant

# **SECTION I**

L DIRECTIONS: The first set of items is a list of statements that describe the way clothing may or may not relate to your self. Read each statement carefully and decide how often each statement is true of you. Then place a number between I and 6 in the space to the left of the statement according to the following scale.

- 1 = The statement is never or almost never true of me.
- 2 = The statement is usually not true of me.
- 3 = The statement is sometimes true of me.
- 4 = The statement is often true of me
- 5 = The statement is usually true of me.
- 6 = The statement is always or almost always true of me.

1	2	3	4	5	6
Never or almost never true of me	Usually not true of me	Sometimes true of me	Often true of me	Usually true of me	Always or almost always true of me

 1.	Clothes that make me feel comfortable give me a sense that I can handle anything with success.
 <b>2</b> .	It doesn't matter to me whether anybody likes what I wear.
 3.	People can learn a lot about my personality by looking at what I wear.
 <b>4</b> .	I wear clothes to fit my mood.
 <b>5</b> .	When I feel depressed about myself, I may choose something to wear to make me feel better.
 <b>6</b> .	The way I dress reflects how satisfied I am with my body.
 <b>7</b> .	Certain clothes make me feel good about myself.
 <b>8</b> .	How I look in my clothing is important because I want others to accept me.
 <b>9</b> .	The clothes I like to wear help me feel self-assured.
 10.	My clothing gives others an idea about my interests or activities.
 11.	I wear colors or styles that suit my personality.
 12.	I'm most satisfied with my clothing when I feel good about my body.
 13.	My self-confidence increases when I dress appropriately.
 14.	My clothing shows others how I think and feel about myself.
 15.	I don't care about impressing anyone with my clothing.
 16.	I look best in my clothing when I'm at the right weight for me.
17	I am esticited with muself no metter what clothing I weer

1	2	3	4	5	6
Never or almost never true of me	Usually not true of me	Sometimes true of me	Often true of me	Usually true of me	Always or almost always true of me

 18.	The type of clothing I wear reflects what I believe is important in life.
 19.	I try to project a certain image of myself to others through my clothing.
 <b>20</b> .	How I feel about my body does not affect what I choose to wear.
 21.	I try to buy clothing that makes me feel attractive.
 <b>22</b> .	The way I feel about myself comes from within, not from what I wear.
 <b>23</b> .	When I'm shopping, I can tell what clothes are most like me.
 <b>24</b> .	When I get dressed, I don't worry about what people will think of me.
 <b>25</b> .	When I don't like the way I look in my clothes, it is hard for me to think positively about myself.
 <b>26</b> .	What I wear is consistent with who I am.
 <b>27</b> .	Wearing comfortable clothing improves the way I feel about myself.
<b>28</b> .	I don't try to express anything about me to anyone through what I wear.
 <b>29</b> .	When I try on something new, I think about how people may use my appearance to label me as belonging to some group.
<b>30</b> .	I avoid certain styles or colors in clothing that do not enhance my body build or figure.
 31.	Dressing appropriately for the occasion is important to me.
 <b>32</b> .	I'm satisfied with the way I look in my clothing no matter what I weigh.
 <b>33</b> .	My clothing is a part of me, not just a simple possession.
 <b>34</b> .	I don't care whether my clothes give others information about me.
 <b>35</b> .	Taking time to dress up gives me a feeling of pride in how I look.
 <b>36</b> .	When I wear clothes that make me feel good, I am better able to talk with others.
 <b>37</b> .	When I am free to wear what I choose, I do not dress for anyone else.
 <b>38</b> .	·Clothes help me become the person I want to be.
 <b>39</b> .	I often wear certain clothing to let people know what kind of person I am.
 <b>40</b> .	When I'm dissatisfied with my body size, I use certain colors or styles to change its appearance.
41.	Dressing up makes me feel important.

1	2	3	4	5	6
Never or almost never true of me	Usually not true of me	Sometimes true of me	Often true of me	Usually true of me	Always or aimost always true of me

 <b>42</b> .	When I look good in what I wear, I feel content with myself.
 <b>43</b> .	In some situations, I try to dress to make a good impression on others.
 <b>44</b> .	The clothes I wear help me to be who I am.
 <b>45</b> .	My clothing enhances my self-worth.
 <b>46</b> .	I want my clothes to make a statement about me without any need for words.
 <b>47</b> .	When I look good in my clothes, I feel good about myself.
 <b>48</b> .	I wear certain clothing styles to change the way my body looks.
 <b>49</b> .	I select clothing that tells others about my social status.
 <b>50</b> .	My clothing reflects how I feel about myself.
 51.	The way my clothing fits affects the way I feel about my body.
 <b>52</b> .	Good quality clothes that look good on me make me feel competent.
 <b>53</b> .	When I feel good about myself, I take care in getting dressed.
 <b>54</b> .	It matters to me that people make judgments about the type of person I am by the way I dress.
 <b>55</b> .	What I wear has nothing to do with who I really am.
 <b>56</b> .	When I dress appropriately for the occasion, I feel comfortable with myself.
 <b>57</b> .	The colors or styles I wear tell others about my mood.
 <b>58</b> .	It bothers me when people treat me differently because of what I am wearing.
 <b>59</b> .	When I'm dissatisfied with a part of my body, I wear clothing that draws attention away from it.
 <b>60</b> .	The way I dress is important in giving me a sense of being in control of my life.
 61.	I choose clothes that accent the parts of my body that I like.
 <b>62</b> .	I am a certain type of person, and my clothes reflect that.
 <b>63</b> .	Certain clothing brands make me feel like I'm worth a great deal.
 <b>64</b> .	What I wear and the way I wear it show others my attitudes.
 <b>65</b> .	I feel good about myself when I have something new to wear.
66.	I like to receive compliments on the clothing I wear.

	1	2	3	4	5	6
alm	Never or most never rue of me	Usually not true of me	Sometimes true of me	Often true of me	Usually true of me	Always or almost always true of me

 <b>67</b> .	My clothes do not affect how I feel about myself.
 <b>68</b> .	Through my clothing, I can show my values to others.
 <b>69</b> .	The shape my body is in has very little to do with my satisfaction with my clothes.
 <b>70</b> .	I care about what other people think of how I look in my clothes.
 71.	I have a certain way of dressing that suits me.
 <b>72</b> .	My clothing does not add anything to my opinion of myself.
 <b>73</b> .	The way I dress expresses my social or political views.
 <b>74</b> .	When I buy clothing that looks good on me, I feel satisfied with my body.
 <b>75</b> .	When I change roles, I prefer to change my clothing.
 <b>76</b> .	I'm careful in wearing certain styles or brands of clothing because they affect how people respect me.
<b>77</b> .	When I feel good about what I am wearing, then I have confidence in myself.
 <b>78</b> .	I feel better about myself when I am well dressed.

#### **SECTION II**

II. DIRECTIONS: For each item number, first decide which side of the sentence best describes the kind of teenager that is most like you, the left side or the right side. After you go to that side of the sentence, decide whether that is only sort of true for you, or really true for you. Thus, for each item number, place a checkmark in one box on either side of the sentence. Don't place a checkmark in the boxes on both sides, just the one side most like you. Be sure to look at the two examples below.

#### SAMPLE ITEMS

Realty true for me	Sort of true for me				Sort of true for me	Really true for me
		Some teenagers like to go to movies in their spare time	BUT	Other teenagers would rather go to sports events.		
		Some teenagers usually do the right thing	BUT	Other teenagers often don't do what they know is right.		
1		Some teenagers feel that if they are roman- tically interested in someone, the person will like them back	BUT	Other teenagers worry that when they like someone romantically, that person won't like them back.		
		Some teenagers are not happy with the way they look	BUT	Other teenagers are happy with the way they look.		
3		Some teenagers find it hard to make friends	BUT	For other teenagers it's pretty easy.		
		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.		
<sup>5</sup>		Some teenagers are often disappointed with themselves	BUT	Other teenagers are pretty pleased with themselves.		
<b>°</b> П		Some teenagers wish their body was different	BUT	Other teenagers like their body the way it is.		

Really true for me	Sort of true for me				Sort of true for me	Really true for me
<sup>7</sup>		Some teenagers don't like the way they are leading their life	BUT	Other teenagers do like the way they are leading their life.		
*		Some teenagers are pretty slow in finishing their school work	BUT	Other teenagers can do their school work more quickly.		
<b>^</b>		Some teenagers are not dating the people they are really attracted to	BUT	Other teenagers are dating those people they are attracted to.		
10		Some teenagers have a lot of friends.	BUT	Other teenagers don't have very many friends.		
11		Some teenagers are happy with themselves most of the time	BUT	Other teenagers are often not happy with themselves.		
12		Some teenagers wish their physical appearance was different	BUT	Other teenagers like their appearance the way it is.		
13		Some teenagers do very well at their classwork	BUT	Other teenagers don't do very well at their classwork.		
14		Some teenagers are very hard to like	BUT	Other teenagers are really easy to like.		
15		Some teenagers feel people their age will be romantic- ally attracted to them	BUT	Other teenagers worry about whether people their age will be attracted to them		
16		Some teenagers have trouble figuring out the answers in school	BUT	Other teenagers almost always can figure out the answers.		

Really true for me	Sort of true for me				Sort of true for me	Really true for me
17		Some teenagers like the kind of person they are	BUT	Other teenagers often wish they were someone else.		
18		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.		
19		Some teenagers are popular with others their age	BUT	Other teenagers are not very popular.		
20		Some teenagers think that they are good looking	BUT	Other teenagers think that they are not very good looking.		
21		Some teenagers feel that they are socially accepted	BUT	Other teenagers wished that more people their age accepted them.		
22		Some teenagers usually don't go out with the people they would really like to date	BUT	Other teenagers do go out with the people they really want to date.		
23		Some teenagers really like their looks	BUT	Other teenagers wish they looked different.		
24		Some teenagers feel that they are pretty intelligent	BUT	Other teenagers question whether they are intelligent.		
25		Some teenagers are very happy being the way they are	BUT	Other teenagers wish they were different.		

## **SECTION III**

III. DIRECTIONS: These questions relate to your satisfaction or dissatisfaction with your clothing. Please read each question carefully. Circle the number in the row that best represents how often you feel or think the way expressed in each of the following statements. For example, circle 1 if you never feel or think the way expressed, circle 3 if you sometimes feel or think the way expressed.

		Newer	Selde			All	\$/
		/≥	/ &	/ &	<u> </u>	/₹	/
1.	My friends like my clothes.	1	2	3	4	5	
<b>2</b> .	My clothes are cheaper than my classmates' clothes.	1	2	3	4	5	
3.	My clothes look like they have been worn many times.	1	2	3	4	5	
4.	My friends and classmates have more appropriate clothes for group activities and dating than I do.	1	2	3	4	5	
<b>5</b> .	My winter clothes are not warm enough.	1	2	3	4	5	
<b>6</b> .	I think that my family does not have enough money to buy me all the clothes that I need.	1	2	3	4	5	
<b>7</b> .	I feel poor and shabby because of my clothes.	1	2	3	4	5	
8.	I must wear clothes that I don't like because I don't have anything else to wear.	1	2	3	4	5	
9.	I feel like I continually wear the same items of clothing.	1	2	3	4	5	
10.	I think I dress as well as my classmates.	1	2	3	4	5	
11.	I do not attend parties and other social gatherings because I do not have the proper clothes to wear.	1	2	3	4	5	
12.	I think my clothes are poorly constructed.	1	2	3	4	5	
13.	My clothes are completely up to date and fashionable.	1	2	3	4	5	
14.	I don't have the kind of clothing I would like to wear.	1	2	3	4	5	
15.	I am able to purchase clothing fashions and fads that are popular at my school.	1	2	3	4	5	
16.	I think I need more clothes; I do not have enough to wear.	1	2	3	4	5	
17.	The colors of my clothes flatter me.	1	2	3	4	5	
18.	My friends spend more money on their clothes than I can afford.	1	2	3	4	5	
19.	My clothes are as nice as my friends' clothes.	1	2	3	4	5	

# **SECTION IV**

IV. DIRECTIONS: The following questions are designed to let us know more about you and your family's background. Please read each question carefully, and mark with an X the ONE response or write your answer on a line. For number 6, circle the ONE response for each parent living in your household.

1.	Which of the following adult(s) live in the same household with you mostly?  Both natural, adoptive or foster parents  Mother and Step-father  Father and Step-mother  Mother or foster mother, but no adult male  Father or foster father, but no adult female  Other, Describe
	Does not apply to me
2.	Is your father (or other male guardian) and/or your mother (or other female guardian) working now at a paid job?
	Father (or male guardian) Mother (or female guardian)
	Yes
	No
	worker, farmer, teacher)? Answer all that apply to you (the person(s) for whom you marked Yes in number 2).  Father (or other male guardian)
	Mother (or other female guardian)
4.	What are his or her most important activities or duties? (for example: keeping account books, filing, selling cars, operating printing press, finishing concrete, teaching fifth graders)? Answer all that apply to you (the person(s) for whom you marked Yes in number 2).
	Father (or other male guardian)
	Mother (or other female guardian)
<b>5</b> .	What kind of business or industry is this (for example: T.V. and radio manufacturing, retail shoe store, automobile manufacturing, State Labor Department, farm)? Answer all that apply to you (the person(s) for whom you marked <i>Yes</i> in number 2).
	Father (or other male guardian)
	Mother (or other female guardian)

(stepmother or other female guardian) completed?	(CIRCLE ONE)	(CIRCLE ONE
	Father	Mother
	(or male	(or female
	guardian)	guardian)
Less than high school diploma	······ 01 ······	O1
High school diploma	02	02
Vocational, trade, or business school after high school		
Less than two years	03	03
Two years or more		
College program		
Less than two years of college	05	05
Two or more years of college (including two year college	ege) 06	06
Finished college (four- or five-year degree)	07	07
Master's degree or equivalent		08
Ph.D., M.D., or other advanced professional degree	09	09
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, as No decrease	al family income compa	ared to before? If ye
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, ar	al family income compa	ared to before? If ye
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, asNo decreaseNoticeable decreaseVery substantial decrease	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, ar No decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded on the live with your family and are financially independent total personal incomeNo unusually large demands	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, arNo decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded or health costs, purchase of a new home, college to do not live with your family and are financially independent total personal income. No unusually large demandsNo unusually large demandsNo unusually large demands	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, asNo decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded on the live with your family and are financially independent total personal income. No unusually large demandsNo unusually large demandsNoticeable demands	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, asNo decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded and in health costs, purchase of a new home, college to do not live with your family and are financially independent total personal income. No unusually large demandsNoticeable demands	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, asNo decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded on the live with your family and are financially independent total personal income. No unusually large demandsNo unusually large demandsNoticeable demands	al family income companies with respect to your manner with respect to your manner with a second or total family incuition or birth of a new	our personal income ome? For example, family member? If
In the past two years, has there been a decrease in your tot not live with your family and are financially independent, asNo decreaseSlight decreaseNoticeable decreaseVery substantial decreaseDon't know  In the past two years, have there been unusually large demanded and in health costs, purchase of a new home, college to do not live with your family and are financially independent total personal income. No unusually large demandsNoticeable demands	al family income companismer with respect to your ands on total family incuition or birth of a new answer with respect to	our personal income ome? For example, family member? If o large demands on

10.	On average, how much money do you earn weekly fruse as you wish (for example, an odd job, a part-time	
11.	On average, how much money do you get from your to use as you wish (for example, allowance, payment	
	<u>\$</u>	
12.	What is your grade in school?	
_	9th grade	
_	10th grade	
_	1 1th grade	
_	12th grade	
13.	What is your age as of your last birthday?	
_	14 or under	
	15 years	
	16 years	
	17 years	
	18 years	
	19 years	
_	20 or older	
14.	What is your sex?	
	Female	
_	Male	
15.	What is your ethnic background?	
	White/Caucasian American/Non-hispanic	
	Black/African American/Non-hispanic	
_	Hispanic American	
	American Indian	
	Asian American or Pacific Islander American	
	American of mixed ethnicity (two or more of above)	
_		Please specify
_	Foreign	
	Please specify	

# APPENDIX E

RESULTS OF RELIABILITY ANALYSIS
FOR ITEMS ON EACH DIMENSION OF PCS

#### **APPENDIX E**

# RESULTS OF RELIABILITY ANALYSIS FOR ITEMS ON EACH DIMENSION OF PCS

Table E-1 - Results of the Reliability Analysis on the Clothing in Relation to Self as Structure Dimension of PCS (N = 180)

No. Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
4. I wear clothes to fit my mood.	3.59	1.61	.30	.85
11. I wear colors or styles that suit my personality.	4.00	1.55	.47	.84
18. The type of clothing I wear reflects what I believe is important in life.	2.74	.1.30	.49	.84
23. When I'm shopping, I can tell what clothes are most like me.	4.65	1.27	.35	.85
26. What I wear is consistent with who I am.	3.79	1.41	.57	.83
33. My clothing is a part of me, not just a simple possession.	3.31	1.42	.62	.83
38. Clothes help me become the person I want to be.	2.87	1.32	.62	.83
44. The clothes I wear help me to be who I am.	3.34	1.45	.65	.83
50. My clothing reflects how I feel about myself.	2.89	1.31	.60	.83
55. What I wear has nothing to do with who I really am.*	3.84	1.63	.34	.85
62. I am a certain type of person, and my clothes reflect that.	3.22	1.59	.69	.82
71. I have a certain way of dressing that suits me.	4.43	1.26	.41	.84
73. The way I dress expresses my social or political views.	2.18	1.35	.49	.84

Note. Cronbach Alpha = .8490 (for 13 items as a set)

Scores on the items with asterisks were reversed before data analysis.

Table E-2 - Results of the Reliability Analysis on the Clothing in Relation to Self as Process—Communication of Self to Others Dimension of PCS (N = 182)

No. Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
People can learn a lot about my personality by looking at what I wear.	3.50	1.50	.47	.83
10. My clothing gives others an idea about my interests or activities.	3.42	1.52	.43	.83
14. My clothing shows others how I think and feel about myself.	3.26	1.54	.51	.83
19. I try to project a certain image of myself to others through my clothing.	3.18	1.40	.69	.82
28. I don't try to express anything about me to anyone through what I wear.*	3.79	1.43	.42	.83
34. I don't care whether my clothes give others information about me.*	3.33	1.49	.15	.85
39. I often wear certain clothing to let people know what kind of person I am.	2.90	1.39	.68	.82
46. I want my clothes to make a statement about me without any need for words.	3.07	1.43	.64	.82
49. I select clothing that tells others about my social status.	2.48	1.35	.53	.83
57. The colors or styles I wear tell others about my mood.	2.81	1.49	.34	.84
64. What I wear and the way I wear it show others my attitudes.	3.07	1.45	.68	.82
68. Through my clothing, I can show my values to others.	2.55	1.21	.48	.83
75. When I change roles, I prefer to change my clothing.	2.81	1.50	.44	.83

Note. Cronbach Alpha = .8411 (for 13 items as a set)

Scores on the items with asterisks were reversed before data analysis.

Table E-3 - Results of the Reliability Analysis on the Clothing in Relation to Self as
Process—Response to Judgments of Others Dimension of PCS (N = 181)

No	. Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
2.	It doesn't matter to me whether anybody likes what I wear.*	3.09	1.52	.55	.82
8.	How I look in my clothing is important because I want others to accept me.	2.96	1.58	.67	.82
	I don't care about impressing anyone with my clothing.*	3.34	1.62	.66	.82
24.	When I get dressed, I don't worry about what people will think of me.*	3.27	1.51	.61	.82
<b>29</b> .	When I try on something new, I think about how people may use my appearance to label me as belonging to some group.	2.66	1.53	.37	.84
31.	Dressing appropriately for the occasion is important to me.	4.64	1.29	.31	.84
37.	When I am free to wear what I choose, I do not dress for anyone else.*	2.71	1.44	.45	.83
43.	In some situations, I try to dress to make a good impression on others.	4.23	1.41	.49	.83
54.	It matters to me that people make judgments about the type of person I am by the way I dress.	2.84	1.51	. 54	.83
58.	It bothers me when people treat me differently because of what I am wearing.	3.56	1.76	.07	.86
66.	I like to receive compliments on the clothing I wear.	4.75	1.41	.41	.83
70.	I care about what other people think of how I look in my clothes.	3.04	1.51	.75	.81
76.	I'm careful in wearing certain styles or brands of clothing because they affect how people respect me.	2.45	1.51	.55	.82

Note. Cronbach Alpha = .8399 (for 13 items as a set).

Scores on the items with asterisks were reversed before data analysis.

Table E-4 - Results of the Reliability Analysis on the Clothing in Relation to Self-esteem—Evaluative Process Dominant Dimension of PCS (N = 182)

No. Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
Clothes that make me feel comfortable give me a sense that I can handle anything with success.	3.81	1.36	.41	.89
The clothes I like to wear help me feel self-assured.	3.54	1.34	.61	.88
13. My self-confidence increases when I dress appropriately.	3.85	1.59	.68	.88
21. I try to buy clothing that makes me feel attractive.	3.82	1.59	.61	.88
25. When I don't like the way I look in my clothe it is hard for me to think positively about my		1.51	.52	.89
36. When I wear clothes that make me feel god am better able to talk with others.	d, I 3.62	1.67	.65	.88
41. Dressing up makes me feel important.	3.53	1.64	.67	.88
45. My clothing enhances my self-worth.	2.97	1.46	.59	.89
52. Good quality clothes that look good on me make me feel competent.	3.48	1.53	.70	.88
60. The way I dress is important in giving me a sense of being in control of my life.	2.97	1.44	.55	.89
63. Certain clothing brands make me feel like l' worth a great deal.	m 2.73	1.62	.53	.89
72. My clothing does not add anything to my opinion of myself.*	3.73	1.50	.44	.89
77. When I feel good about what I am wearing, then I have confidence in myself.	3.95	1.55	.70	.88

Note. Cronbach Alpha = .8935 (for 13 items as a set)

Scores on the items with asterisks were reversed before data analysis.

Table E-5 - Results of the Reliability Analysis on the Clothing in Relation to Selfesteem—Affective Process Dominant Dimension of PCS (N = 182)

No. Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
When I feel depressed about myself, I may choose something to wear to make me feel better.	2.69	1.51	.35	.87
Certain clothes make me feel good about myself.	4.12	1.49	.66	.85
17. I am satisfied with myself no matter what clothing I wear.	3.27	1.52	.34	.87
22. The way I feel about myself comes from within, not from what I wear.*	2.59	1.43	.34	.87
27. Wearing comfortable clothing improves the way I feel about myself.	3.72	1.30	.41	.87
35. Taking time to dress up gives me a feeling of pride in how I look.	4.12	1.49	.50	.86
42. When I look good in what I wear, I feel content with myself.	4.31	1.35	.73	.85
47. When I look good in my clothes, I feel good about myself.	4.26	1.53	.75	.85
53. When I feel good about myself, I take care in getting dressed.	3.59	1.58	.74	.85
58. When I dress appropriately for the occasion, I feel comfortable with myself.	4.52	1.22	.58	.86
65. I feel good about myself when I have something new to wear.	4.02	1.42	.66	.85
67. My clothes do not affect how I feel about myself.*	3.70	1.50	.29	.87
78. I feel better about myself when I am well dressed.	3.97	1.60	.75	.85

Note. Cronbach Alpha = .8699 (for 13 items as a set)

Scores on the items with asterisks were reversed before data analysis.

Table E-6 - Results of the Reliability Analysis on the Clothing in Relation to Body Image and Body Cathexis Dimension of PCS (N = 181)

No.	Item	Mean	SD	Corrected Item-Total Correlation	Alpha if Item deleted
6. The wa	ay I dress reflects how satisfied I am with dy.	3.31	1.65	.56	.89
	ost satisfied with my clothing when I feel about my body.	3.65	1.71	.65	.89
	best in my clothing when I'm at the right for me.	3.64	1.75	.62	.89
ľ	feel about my body does not affect what se to wear.*	3.65	1.61	.47	.90
	certain styles or colors in clothing that enhance my body build or figure.	3.19	1.69	.55	.89
	sfied with the way I look in my clothing ter what I weigh.*	3.60	1.62	.48	.89
	I'm dissatisfied with my body size, I use a colors or styles to change its appearance.	2.72	1.68	.61	.89
	certain clothing styles to change the way dy looks.	2.91	1.47	.67	.89
	ay my clothing fits affects the way I feel my body.	3.25	1.53	.73	.88
	I'm dissatisfied with a part of my body, I lothing that draws attention away from it.	3.94	1.74	.70	.88.
61. I choos that I I	se clothes that accent the parts of my body ike.	3.05	1.67	.62	.89
	nape my body is in has very little to do with lisfaction with my clothes.*	3.61	1.63	.46	.90
	I buy clothing that looks good on me, I feel and with my body.	3.79	1.56	.66	.89

Note. Cronbach Alpha = .8968

Scores on the items with asterisks were reversed before data analysis.

## APPENDIX F

PEARSON CORRELATION MATRICES

# **APPENDIX F**

# **PEARSON CORRELATION MATRICES**

Table F-1 - Key to Variable Abbreviation in Pearson Correlation Matrices: Table F-2 to F-4

<u> </u>	
Abbreviation	Description of Variables
SCHOLAS	Self-perception Scholastic Competence
SOCIAL	Social Acceptance
PHYSIC	Physical Appearance
ROMANT	Romantic Appeal
SELFWRT	Self-Worth
PCSDIM1	Proximity of Clothing to Self Clothing in Relation to Self as Structure
PCSDIM2	Clothing in Relation to Self as Process—Communication of Self to Others
PCSDIM3	Clothing in Relation to Self as Process—Responses to Judgment of Others
PCSDIM4	Clothing in Relation to Self-esteem—Evaluative dominant Process
PCSDIM5	Clothing in Relation to Self-esteem—Affective dominant Process
PCSDIM6	Clothing in Relation to Body Image and Body Cathexis
CDINABL	Clothing Deprivation Clothing Deprivation : Inability to Buy
CDRPEER	Clothing Deprivation : Relative to Peers
FECOSTR	Family Economic Stress
FSCECST	Family Socioeconomic Status

Table F-2 - Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-Worth, Six dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Total Participants.

ı																															
CDINABL	(153)	(153)	(153)	(152)	(153)	(153)	(153)	(153)	(153)	(153)	(153)	(157)	. 533	.273	248																
PCSDIM6	(151)	(151)	(151)	(150)	(151)	(154)	(154)	(154)	(154)	(154)	(154)	013	223	.183	097																
PCSDIM5	(151)	(151)	(151)	(150)	(151)	(154)	(154)	(154)	(154)	(154)	.740	018	338	002	007																
PCSDIM4	(151)	(151)	(151)	(150)	(151)	(154)	(154)	(154)	(154)	668.	.728	.035	304	.050	024																
PCSDIM3	(151)	(151)	(151)	(150)	(151)	(154)	(154)	(154)	.730	669.	.560	.007	219	.001	.018																
PCSDIM2	(151)	(151)	(151)	(150)	(151)	(154)	(154)	.559	.664	.586	.458	.051	188	.113	046																
PCSDIM1	(151)	(151)	(151)	(150)	(151)	(154)	.830	.398	. 602	.568	.367	800.	237	.085	034																
SELFWRT	(154)	(154)	(154)	(153)	(154)	.057	001	069	023	052	194	238	249	•	680.																
ROMANT	(153)	(153)	(153)	(153)	. 239	.083	.040	056	.026	025	066	167	172	.088	009	H															
PHYSIC	(154)	(154)	(154)	.420	. 637	.120	.019	109	860	154	399	175	223	008	.117	FSCECST	(140)	(140)	(140)	(139)	(140)	(141)	Ŧ	(141)	ͺ	(141)	(141)	(143)	(143)	(103)	144
SOCIAL	(154)	(154)	.316	. 455	. 298	022	020	012	.042	.043	009	153	276	.209	.008	FECOSTR	(103)	(103)	(103)	(102)	(103)	(104)	(104)	(104)	(104)	(104)	(104)	(107)	(107)	(101)	215
SCHOLAS	(154)	. 226	. 293	.135	.410	.079	060.	.187	.029	.042	024	293	188	087	.233	CDRPEER	(153)	(153)	(153)	(152)	(153)	(153)	(153)	(153)	(153)	(153)	(153)	(157)	(157)	.133	115
	SCHOLAS	SOCIAL	PHYSIC	ROMANT	SELFWRT	<b>PCSDIM1</b>	PCSDIM2	PCSDIM3	PCSDIM4	PCSDIM5	PCSDIM6	CDINABL	CDRPEER	FECOSTR	FSCECST		SCHOLAS	SOCIAL	PHYSIC	ROMANT	SELFWRT	PCSDIM1	PCSDIM2	PCSDIM3	PCSDIM4	PCSDIM5	PCSDIM6	CDINABL	CDRPEER	FECOSTR	FSCECST

Note. Numbers within parentheses in upper triangle represent the pairwise sample size.

Table F-3 - Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-Worth, Six dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Female Participants.

CDINABL	(82) (82) (82) (82) (82) (82) (82) (82)	
PCSDIM6	(82) (82) (81) (81) (83) (83) (83) (83) (83) (83) (83) (83	
PCSDIMS	(82) (82) (82) (81) (83) (83) (83) (83) (83) (83) (83) (83	
PCSDIM4	(82) (82) (81) (81) (83) (83) (83) (83) (83) (83) (83) (93) (93) (93) (93) (93) (93) (93) (9	
PCSDIM3	(82) (82) (82) (81) (83) (83) (83) (83) (83) (83) (83) (83	
PCSDIM2	(82) (82) (82) (81) (83) (83) (83) (83) (83) (83) (83) (83	
PCSDIM1	(82) (82) (82) (81) (83) .882 .463 .728 .510 .028 .174	
SELFWRT	(83) (83) (83) (82) (83) .150 .032 .032 .134 .134 .280 .280	
ROMANT	(82) (82) (82) (82) .285 .193 .081 051 052 174 174	E.
PHYSIC	(83) (83) (83) (83) 	FSCECST (77) (77) (77) (77) (77) (77) (77) (77
SOCIAL	(83) (83) .381 .471 .008 -008 -008 -012 -1128 .333	53) (53) (53) (53) (53) (54) (54) (54) (54) (54) (54) (54) (54
SCHOLAS	(83) .309 .273 .150 .150 .125 .082 .082 .0129 .119	CDRPEER (82) (82) (82) (82) (82) (82) (82) (82)
	SCHOLAS SOCIAL PHYSIC ROMANT SELFWRT PCSDIM1 PCSDIM2 PCSDIM3 PCSDIM4 PCSDIM6 CDINABL CDRPEER	SCHOLAS SOCIAL PHYSIC ROMANT SELFWRT PCSDIM1 PCSDIM2 PCSDIM3 PCSDIM3 PCSDIM5 CCSDIM5 CCSDIM6 CDRPEER

Note. Numbers within parentheses in upper triangle represent the pairwise sample size.

Table F-4 - Lower Triangular Pearson Correlation Matrix of Four Domains of Self-concept, Self-Worth, Six dimensions of PCS, Two Factors of Clothing Deprivation, Family Economic Stress and Family Socioeconomic Status for Male Participants.

	SCHOLAS	SOCIAL	PHYSIC	ROMANT	SELFWRT	PCSDIM1	PCSDIM2	PCSDIM3	PCSDIM4	PCSDIMS	PCSDIM6	CDINABL
SCHOLAS	(71)	(11)	(11)	(71)	(11)	(69)	(69)	(69)	(69)	(69)	(69)	(71)
SOCIAL	.138	(11)	(11)	(11)	(11)	(69)	(69)	(69)	(69)	(69)	(69)	(71)
PHYSIC	.362	.282	(11)	(71)	(11)	(69)	(69)	(69)	(69)	(69)	(69)	(71)
ROMANT	. 123	.448	.344	(71)	(11)	(69)	(69)	(69)	(69)	(69)	(69)	(71)
SELFWRT	.405	.223	.670	. 146	(11)	(69)	(69)	(69)	(69)	(69)	(69)	(71)
PCSDIM1	.044	042	.032	061	059	(11)	(71)	(11)	(71)	(71)	(71)	(71)
PCSDIM2	.043	.012	073	013	080	.742	(11)	(71)	(11)	(71)	(11)	(11)
<b>PCSDIM3</b>	.111	.083	161	.102	200	. 289	.491	(71)	(11)	(11)	(71)	(11)
PCSDIM4	042	.135	197	.117	148	.430	.579	.775	(11)	(11)	(71)	(71)
PCSDIM5	017	.143	194	.065	174	. 462	. 539	.753	.867	(71)	(11)	(11)
PCSDIM6		.035	458	990.	300	.259	.518	. 582	.751	. 690	(71)	(71)
CDINABL	376	171	235	180	257	009	.046	.081	960.	.021	.087	(74)
CDRPEER	265	439	342	236	331	210	182	195	294	333	063	.524
FECOSTR	138	.062	188	118	188	115	.117	.019	008	093	.134	.164
FSCECST	.273	600.	.182	013	.154	173	323	195	153	136	269	192
	CDRPEER	FECOSTR	FSCECST									
SCHOLAS	(71)	(20)	(63)									
SOCIAL	(12)	(20)	(63)									
PHYSIC	(71)	(20)	(63)									
ROMANT	(71)	(20)	(63)									
SELFWRT	(11)	(20)	(63)									
<b>PCSDIM1</b>	(71)	(20)	(64)									
PCSDIM2	(11)	(20)	(64)									
PCSDIM3	(71)	(20)	(64)									
PCSDIM4	(71)	(20)	(64)									
PCSDIM5	(71)	(20)	(64)									
PCSDIM6	(11)	(20)	(64)									
CDINABL	(74)	(23)	(99)									
CDRPEER	(74)	(23)	(99)									
FECOSTR	.176	(23)	(20)									
FSCECST	133	126	(99)									

Note. Numbers within parentheses in upper triangle represent the pairwise sample size.

## APPENDIX G

MULTIPLE REGRESSION TABLES FOR THE PREDICTION OF
CLOTHING DEPRIVATION BY PCS, FAMILY ECONOMIC STRESS,
FAMILY SOCIOECONOMIC STATUS AND GENDER

# APPENDIX G

# MULTIPLE REGRESSION TABLES FOR THE PREDICTION OF CLOTHING DEPRIVATION BY PCS, FAMILY ECONOMIC STRESS, FAMILY SOCIOECONOMIC STATUS AND GENDER

Table G.1 - Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender and the Six dimensions of PCS

		Dependent	Dependent Variables	
Predictors	Clothing deprivation: Inability to buy Unstandardized Standardized Regression coefficients Regression coefficient (B)	n: Inability to buy Standardized Regression coefficients (8")	Clothing deprivation relative to peers Unstandardized Standardized Regression coefficients Regression coefficient (B)	on relative to peers Standardized Regression coefficients (B*)
Family economic stress	1.773	.299	.315	.114
Family socioeconomic status	068	168	018	100
Gender	.516	.035	2.051	.298
PCS dimension 1	.027	.039	.016	.048
PCS dimension 2	.039	.057	.01	.034
PCS dimension 3	.021	.032	.010	.032
PCS dimension 4	.113	.203	021	082
PCS dimension 5	074	120	113	391
PCS dimension 6	092	175	.062	.252
	R² = .162 Adj. R² = .079	j. <i>R</i> ²= .079	R2 = .190 Adj. R2 = .110	dj. <i>R</i> ² = .110

Note. N after listwise deletion of missing data = 101

Table G.2 - Summary of Results of Regression for Clothing Deprivation on Family Economic Stress, Family Socioeconomic Status, Gender and the Dimensions of PCS Excluding Dimension 6 or the Combination of Dimension 4 and 5

	Deper Clothing deprivation: Inability to buy	Dependent Variable	Variable Clothing dendicate	
Predictors	Unstandardized Regression coefficients (B)	Standardized Regression coefficients (8")	Chouning ueprivate Unstandardized Regression coefficients (B)	Unstandardized Standardized  Onession coefficients Regression coefficients  (B*)
Regression without PCS				
dimension 6				
Family economic stress	1.732	.289	426	154
Family socioeconomic status	064	159	- 023	- 122
Gender	1.744	811	1601	233
PCS dimension 1	075	108	- 67	740
PCS dimension 3	0.05	338	2000	250
PCS combination of		8	770.	6.0.
dimension 4 & dimension 5	024	040	-083	1288
	= .149	Adj R <sup>2</sup> = .095	= 166	Adi R <sup>2</sup> = 112
Regression without PCS				!
Combination of dimension 4 & 5				
Family economic stress	1.809	305	439	158
Family socioeconomic status	088	170	021	- 111
Gender	984	290	2 0 54	000
PCS dimension 1	075	107		
PCS dimension 3	040	720	020 	F80
PCS dimension 6		20.	033	111
		125	.005	.022
	R = .155 Adj /	Adj <i>R</i> * = .101	$R^2 = .139 \text{ Adj } R^2 = .084$	R² = .084

<u>Note.</u> N after listwise deletion of missing data = 101



### REFERENCES

- Aiken, L. R. (1963). The relationship of dress to selected measures of personality in undergraduate women. <u>Journal of Social Psychology</u>, <u>59</u>, 119-128.
- Aikens, V. (1976). <u>Development of a perception measure as a basis for</u>
  <u>determining the relation of self-concept and clothing</u>. Unpublished doctoral dissertation, Texas Woman's University.
- Allen, M. J., & Yen, W. M. (1979). <u>Introduction to measurement theory</u>. Montery, CA: Brooks/Cole Publishing Company.
- Andrews, F. M., & Withey, S. B. (1976). <u>Social indicators of well-being</u>. New York: Plenum Press.
- Baggs, N. (1988). Clothing interest, self-esteem, body satisfaction and fashion opinion leadership compared with weight of college females.

  Unpublished doctoral dissertation, The Florida State University.
- Berry, W. D., & Feldman, S. (1985). <u>Multiple regression in practice</u>. Newbury Park. CA: Sage Publications. Inc.
- Bloch, P. (1981). Involvement beyond the purchase process: Conceptual issues and empirical investigation. <u>Proceedings of the Association for Consumer Research</u>, 413-417.
- Brawley, M. P. (1971). <u>Feelings of clothing deprivation as related to self-concept and peer acceptance among black and white fourth grade girls</u>. Unpublished master's thesis, The University of Tennessee.
- Brewton, B. J. (1971). The relationship between feelings of clothing deprivation, self-concept, and peer acceptance among fourth grade black male students from three socioeconomic levels. Unpublished master's thesis, The University of Tennessee.
- Bubolz, M. M. (1994, November). <u>Integration in home economics and human ecology</u>. Paper presented at the International Symposium in Commemoration of the 30th Anniversary of the College of Human Ecology, Yonsei University, Seoul, Korea.
- Bubolz, M. M., Eicher, S. J., & Sontag, M. S. (1979). The human ecosystem: A

- model. Journal of Home Economics, 71, 28-31.
- Bubolz, M. M., & Sontag, M. S. (1993). Human ecology theory. In P. G. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm & S. K. Steinmetz (Eds.), Sourcebook of family theories and methods: A contextual approach (419-448). New York: Plenum Press.
- Buckley, H. M. (1988). A conceptual framework for research in apparel merchandising: An ecosystem approach. In R. Kean (Ed.), <u>Theory building in apparel merchandising</u> (pp. 22-25). Lincoln, Nebraska: University of Nebraska.
- Buckley, H. M., & Schmerbauch, D. (1990). Predicting apparel selection:

  Congruence between self-concept and perceived apparel symbols.

  ACPTC proceedings: Combined Central, Eastern, and Western Regional Meetings, 60.
- Burns, R. B. (1979). <u>The self concept in theory, measurement and behavior</u>. New York: Longman Inc.
- Byrne, B. M., & Shavelson, R. J. (1986). On the structure of adolescent self-concept. <u>Journal of Educational Psychology</u>, <u>78</u>(6), 474-481.
- Callis, C. (1982). Appearance programs with female chronic psychiatric hospital patients: A comparison of six-week and nine week treatment interventions. <u>Journal of Rehabilitation</u>, <u>48</u>(4), 34-39.
- Callen, K. S. (1992). Clothing deprivation: Influence on self-esteem and perceptions of school climate for middle school female students.

  Unpublished master thesis, The Verginia Polytechnic Institute and State University, Blacksburg.
- Casselman-Dickson, M. A., & Damhorst, M. L. (1993). Female bicyclists and interest in dress: Validation with multiple measures. <u>Clothing and Textile Research Journal</u>, <u>11</u>(4), 7-17.
- Cheek, W. K. (1978). Clothing deprivation, clothing importance, and selfconcept of low socioeconomic fourth grade students enrolled in two types of schools. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Cohen, J. (1977). <u>Statistical power analysis for the behavioral sciences</u>. New York: Academic Press.

- Colquett, J. W. (1980). <u>Clothing selection of adolescent boys</u>. Unpublished doctoral dissertation, The Florida State University.
- Cox, D. (1990). When consumer behavior goes bad: An investigation of adolescent shoplifting. <u>Journal of Consumer Research</u>, <u>17(2)</u>, 149-159.
- Creekmore, A. M. (1963). <u>Clothing behaviors and their relation to general values and to the striving for basic needs</u>. Unpublished doctoral dissertation, Pennsylvania State University, University Park.
- Creekmore, A. M. (1974). Clothing related to body satisfaction and perceived peer self (Research Rep. No. 239). East Lansing: Michigan State University, Agricultural Experiment Station.
- Creekmore, A. M. (1980). Clothing and personal attractiveness of adolescents related to conformity, to clothing mode, peer acceptance, and leadership potential. <u>Home Economics Research Journal</u>, 8(3), 203-215.
- Cuneo, A. Z. (1995). No fear wears its attitude: Company looks beyond niche to battle licensed sportswear. Advertising Age, 66(6), 44.
- Davis, L. L. (1985). Perceived somatotype, body-cathexis, and attitudes toward clothing among college females. <u>Perceptual and Motor Skills</u>, <u>61</u>, 1199-1205.
- Devellis, R. F. (1991). <u>Scale development: Theory and application</u>. Newbury Park, CA: Sage Publication, Inc.
- Dickey, L. E. (1967). <u>Projection of the self through judgments of clothed-figures and its relation to self-esteem, security-insecurity and to selected clothing behaviors</u>. Unpublished doctoral dissertation, The Pennsylvania State University.
- Dickstein, E. (1977). Self and self-esteem: Theoretical foundations and their implications for research. <u>Human Development</u>, <u>20</u>, 129-140.
- Dornoff, R. J., & Tatham, R. L. (1972). Congruence between personal image and store image. <u>Journal of the Market Research Society</u>, <u>14</u>(1), 45-52.
- Drake, M. F., & Ford, I. M. (1979). Adolescent clothing and adjustment. <u>Home Economics Research Journal</u>, 7(5), 283-291
- Dubler, M. L., & Gurel, L. M. (1984). Depression: Relationships to clothing and appearance self-concept. <u>Home Economics Research Journal</u>, <u>13(1)</u>, 21-26.

- Duncan, O. (1961). A socioeconomic index for all occupations. In A. J. Reiss, Jr. (Ed.), <u>Occupations and social status</u> (pp. 109-138). New York: Free Press.
- Edwards, M. C. (1971). The relationship between feelings of clothing deprivation, self-concept, and peer acceptance among low and middle socioeconomic status fourth grade white male students. Unpublished master's thesis, The University of Tennessee.
- Eicher, J. B. (1981). Influences of changing resources on clothing, textiles, and quality of life: Dressing for creativity, fun, and fantasy. <u>ACPTC Combined Proceedings</u>, 36-41.
- Eisele, J., Hertsgaard, D., & Light, H. K. (1986). Factors related to eating disorders in young adolescents girls. <u>Adolescence</u> 21(82), 283-290.
- Entwisle, D. R., & Astone, N. M. (1994). Some practical guidelines for measuring youth's race/ethnicity and socioeconomic status. Child Development, 65, 1521-1540.
- Ericksen, M. K., & Sirgy, M. J. (1989). Achievement motivation and clothing behavior: A self-image congruence analysis. <u>Journal of Social Behavior and Personality</u>, <u>4</u>(4), 307-326.
- Ericksen, M. K., & Sirgy, M. J. (1992). Employed females' clothing preference, self-image congruence, and career anchorage. <u>Journal of Applied Social Psychology</u>, 22(5), 408-422.
- Etherton, P. A., & Workman, J. E. (1996). Relationship of locus of control orientation to clothing satisfaction and clothing importance of selected fifth-grade students at three achievement levels. <u>Family and Consumer Sciences Research Journal</u>, 24(3), 293-313.
- Feingstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. <u>Journal of Consulting and Clinical Psychology</u>, 36, 1241-1250.
- Fiore, A. M. (1988). Effect of an image consulting program on the self esteem of women clients. Unpublished doctoral dissertation, The University of Minnesota, Minneapolis.
- Fisher, S. (1973). <u>Body consciousness: You are what you feel</u>. Englewood Clliffs, NJ: Prentice-Hill.

- Florkey, L. A. (1976). <u>Clothing attractiveness and personal attractiveness</u>
  related to social acceptance of adolescent boys and girls. Unpublished master's thesis, Michigan State University, East Lansing.
- Ford, I. M., & Drake, M. F. (1982). Attitudes toward clothing, body and self: A comparison of two groups. Home Economic Research Journal, 11(2), 189-196.
- Francis, S. K. (1990). Effects of economic stress on perceived clothing deprivation among high school students. <u>Clothing and Textiles Research Journal</u>, 8(4), 1-6.
- Francis, S. K. (1992). Effects of perceived clothing deprivation on high school students' social participation. <u>Clothing and Textiles Research Journal</u>, 10(2), 29-33.
- Francis, S. K., & Browne, B. (1992). Perceived clothing deprivation: Further evidence. <u>Perceptual and Motor Skills</u>, 75, 723-729.
- Francis, S. K., & Liu, Q. (1990). Effects of clothing values on perceived clothing deprivation among adolescents. <u>Perceptual and Motor Skills</u>, <u>71</u>, 1191-1199.
- Gavin, L. A., & Furman, W. (1989). Age differences in adolescents' perceptions of their peer groups. <u>Developmental Psychology</u>, <u>25</u>(5), 827-834.
- Gibbins, K. (1969). Communication aspects of women's clothing and their relation to fashionability. <u>British Journal of Social and Clinical Psychology</u>, 8, 301-312.
- Glass, G. V., & Hopkins, K. D. (1984). <u>Statistical methods in education and psychology (2nd ed.)</u>. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Goldsmith, R. E., Flynn, L. R., & Moore, M. A. (1996). The self-concept of fashion leaders. Clothing and Textiles Research Journal, 14(4), 243-248.
- Gutman, J., & Mills, M. K. (1982). Fashion life style, self-concept, shopping orientation, and store patronage: An integrative analysis. <u>Journal of Retailing</u>, <u>58</u>(2), 64-86.
- Hamachek, D. E. (1987). <u>Encounters with the self</u> (3rd ed.). New York: Holt, Rinehart and Winston.
- Hamilton, J., & Warden, J. (1966). The student's role in high school community and his clothing behavior. Journal of Home Economics, 58(10), 789-791.

- Hamilton, L. C. (1992). Regression with graphics: A second course in applied statistics. Belmont, CA: Wadworth, Inc.
- Harter, S. (1982). The perceived competence scale for children. <u>Child Development</u>, 53, 87-97.
- Harter, S. (1988). <u>Manual for the self-perception profile for adolescents</u>. University of Denver.
- Hook, N. C., & Paolucci, B. (1970). The family as an ecosystem. <u>Journal of Human Economics</u>, 62(5), 315-318.
- Hormuth, S. E. (1990). <u>The ecology of the self: Relocation and self-concept change</u>. New York: Cambridge University Press.
- Horn, M. J. (1965). The second skin. Boston: Houghton-Mifflin.
- Humphrey, C., Klaasen, M., & Creekmore A. M. (1971). Clothing and self-concept of adolescents. <u>Journal of Home Economics</u>, 63(4), 246-250.
- Ingels, S. J. (1987). National education longitudinal study of 1988: Field test report (Report No. TM 870 673). Chicago: National Opinion Research Center. (ERIC Document Reproduction Service No. ED 289 897).
- James, W. (1890). The principles of psychology. New York: Holt.
- Jenkins, G. D., & Taber, T. D. (1977). A Monte Carlo study of factors affecting three indices of composite scale reliability. <u>Journal of Applied Psychology</u>, 62(4), 392-398.
- Jensen, L. C. (1985). <u>Adolescence: Theories, research, applications</u>. St. Paul, MN: West Publishing Co.
- Jones, S. C. (1982). Self and interpersonal evaluations: Esteem theories versus consistency theories. In M. Rosenberg & H. B Kaplan. (Eds.), <u>Social psychology of the self-concept</u> (pp. 152-172). Arlinton Heights, IL: Harlan Davidson, Inc.
- Joyner, C. (1993). Clothing interest, self-esteem, health, and body satisfaction of women age 55 and older. Unpublished doctoral dissertation, The Florida State University, Tallahassee.
- Kaiser, S. (1997). <u>The social psychology of clothing; Symbolic appearances in</u> context (Rev. ed.). New York: Fairchild Publications.

- Kaiser, S. B., Freeman, C. M., & Chandler, J. L. (1993). Favorite clothes and gendered subjectivities: Multiple readings. In N. K. Denzine (Ed. ), <a href="Studies in symbolic interaction">Studies in symbolic interaction</a> (pp. 27-50). Greenwich, CT: Jai Press, Inc.
- Kate, N. T. (1995). American clean teens: Clothes don't make the man, but cleanliness may do it for teens. <u>American Demographics</u>, <u>17(1)</u>, 42-44.
- Kelly, E. A., Daigle, C. W., LaFleur, R. S., & Wilson, L. J. (1974). Adolescent dress and social participation. <u>Home Economics Research Journal</u>, <u>2</u>(3), 167-175.
- Kelly, E. A., & Eicher, J. B. (1970). A longitudinal analysis of popularity, group membership, and dress. <u>Journal of Home Economics</u>, <u>62</u>(4),246-250.
- Kelly, E. A., & Turner, D. N. (1970). Clothing awareness and feelings of deprivation and satisfaction among lower social class first-grade children. <u>Journal of Home Economics</u>, 62(4), 396-400.
- Kelson, T. R., Kearney-Cooke, A., & Lansky, L. M. (1990). Body-image and body-beautification among female college students. <u>Perceptual and Motor Skills, 71(1), 281-289.</u>
- Kerlinger, F. N. (1986). <u>Foundations of behavioral research</u> (3rd). Philadelphia: Harcourt Brace Jovanovich College Publishers.
- Kilsdonk, A. G. (1983). <u>Human ecology: Meaning and usage</u>. East Lansing: College of Human Ecology, Michigan State University.
- Kness, D. M. (1973). <u>Clothing deprivation-satisfaction: The development and validation of an instrument with three ethnic groups</u>. Unpublished doctoral dissertation, The Pennsylvania State University.
- Kness, D. M. (1983). Clothing deprivation feelings of three adolescent ethnic groups. <u>Adolescence</u>, <u>18</u>(71), 659-674.
- Koester, A. W., & May, J. K. (1985). Profiles of adolescents' clothing practices: Purchase, daily selection, and care. <u>Adolescence</u>, <u>20(77)</u>, 97-113.
- Kwon, Y. H. (1991). The influence of the perception of mood and self-consciousness on the selection of clothing. <u>Clothing and Textiles</u> Research Journal, 9(4), 41-46.
- Kwon, Y. H. (1994). Feeling toward one's clothing and self-perception of emotion, sociability, and work competency. Journal of Social Behavior

- and Personality, 9(1), 129-139.
- Kwon, Y. H., & Parham, E. S. (1994). Effects of state of fatness perception on weight conscious women's clothing practices. <u>Clothing and Textiles</u>
  <u>Research Journal</u>, 12(4), 16-21.
- LaBat, K. L., & DeLong, M. R. (1990). Body cathexis and satisfaction with fit of apparel. Clothing and Textiles Research Journal, 8(2), 43-48.
- Lawrence, B. R., & Plax, T. G. (1977). Clothing as communication. <u>Journal of Communication</u>, <u>27(2)</u>, 24-31.
- Lee, E. B, & Browne, L. A. (1995). Effects of television advertising on African American teenagers. <u>Journal of Black Studies</u>, <u>25</u>(5), 523-536.
- Lerner. R. M. (1986). <u>Concepts and theories of human development (2nd ed.)</u>. New York: Random House, Inc.
- Lerner, R. M., Iwawaki, S., Chihara, T., & Sorell, G. T. (1980). Self-concept, self-esteem, and body attitudes among Japanese male and female adolescents. Child Development, 51, 847-855.
- Lerner, R. M., Karabenick, S., & Stuart, J. L. (1973). Relations among physical attractiveness, body attitudes, and self-concept in male and female college students. <u>Journal of Psychology</u>, <u>85</u>, 119-129.
- Lerner, R. M., Orlos, J. B., & Knapp, J. R. (1976). Physical attractiveness, physical effectectiveness, and self-concept in late adolescents. <u>Adolescence</u>, <u>11</u>, 313-326
- Levin, J. D. (1992). Theories of the self. New York: Hemisphere Publishing Co.
- Lewis-Beck, M. S. (1989). <u>Applied regression: An introduction</u>. Newbury Park, CA: Sage Publications, Inc.
- Lewis, M. A., Dyer, C. L., & Moran, III, J. D. (1995 Spring). Parental and peer influences on the clothing purchases of female adolescent consumers as a function of discretionary income. <u>Journal of Family and Consumer Sciences</u>, 15-20.
- Liskey-Fitzwater, N., Moore, C. L., & Gurel, L. M. (1993). Clothing importance and self-perception of female adolescents with and without scoliosis.

  <u>Clothing and Textiles Research Journal</u>, <u>11</u>(3), 16-22.

- Littrell, M. B., & Eicher, J. B. (1973). Clothing opinions and the social acceptance process among adolescents. <u>Adolescence</u>, 8, 197-212.
- Liu, Q. (1987). Effects of clothing values on clothing deprivation among high school students. Unpublished master thesis, Oregon State University, Corvallis.
- Lucas, S. R. (1988, April). Methodological experiments of the NELS: 88 field test student survey. A paper presented at the AERA Annual Meeting in New Orleans.
- Lynn, M. L. (1990). <u>Proximity of clothing to self: Implications for the elderly consumer</u>. Unpublished master's thesis, University of Illinois at Urbana-Champaign, Urbana.
- Lynn, M. L., & Buckley, H. M. (1987). Proximity of clothing to self: Implications for the elderly consumer. <u>ACPTC Proceedings: Combined Central</u>, <u>Eastern</u>, and Western Regional Meetings, 51.
- Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. Journal of Personality and Social Psychology, 51(4), 858-866.
- Marsh, H. W. (1993). Self-esteem stability and responses to the stability of self scale. Journal of Research in Personality, 27, 253-269.
- Marsh, H. W., & O'Neill, R. (1984). Self description questionnaire III: The construct validity of multidimensional self-concept ratings by late adolescents. Journal of Educational Measurement, 21(2), 153-174.
- Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. <u>Educational Psychologist</u>, 20(3), 107-123.
- Maslow, A. (1973). <u>Dominance, self-esteem, self-actualization: Germinal paper of A. H. Maslow.</u> Monterey, CA: Brooks/Gole Pub. Co.
- Matthews, L. B. (1975). Improving the self-image of the socially disabled. <u>Journal of Home Economics</u>, <u>67</u>(3), 9-12.
- McKelvie, S. J. (1978). Graphic rating scales How many categories? <u>British</u> <u>Journal of Psychology</u>, <u>69</u>, 185-202.
- Mehrens, W. A., & Lehmann, I. J. (1984). <u>Measurement and evaluation in education and psychology</u> (3rd ed.). New York: Holt, Rinehart & Winston.
- Messick, S. (1989). Validity. In R. L. Linn (Ed. ), Educational measurement (3rd

- ed.), (pp. 13-103). NY: Macmillan Publishing Company.
- Michelman, J. D., Eicher, J. B., & Michelman, S. O. (1991). Adolescent dress, Part I: Dress and body marking of psychiatric outpatients and inpatients. <u>Adolescence</u>, <u>26</u> (102), 375-385.
- Michigan Education Directory (1996). Lansing: Michigan Education Directory, Inc.
- Miller, K. A. (1990). <u>Dress as symbol of the self and its relationship to selected behaviors</u>. Unpublished doctoral dissertation, University of Wisconsin-Madison.
- Miller, L. C., & Cox, C. L. (1982). For appearances' sake: Public self-consciousness and make-up. <u>Personality and Social Psychology Bulletin</u>, 8(4), 748-751.
- Moore, D. S., & McCabe, G. P. (1989). <u>Introduction to the practice of statistics</u>. New York, NY: W. H. Freeman and Company
- Morganosky, M., & Creekmore, A.M. (1981). Clothing influence in adolescent leadership roles. Home Economic Research Journal, 9(4), 356-362.
- Mulready, P. M., & Lamb, J. M. (1985). Cosmetics therapy for female chemotherapy patients. In R. M. Solomon (Ed.), <u>The psychology of fashion</u> (255-263). Lexington, MA: Lexington Books.
- Musa, K. E., & Roach, M. E. (1973). Adolescent appearance and self concept. Adolescence, 8(31), 385-394.
- Nakao, K., & Treas, J. (1994). Updating occupational prestige and socioeconomic scores: How the new measures measure up. In P. V. Marsden (Ed.), <u>Sociological Methodology</u>, <u>24</u>. Oxford; Basil Blackwell.
- Newton, A. (1976, September-October). Clothing: A positive part of the rehabilitation process. <u>Journal of Rehabilitation</u>, 18-22.
- Norum, P. S. (1992). A reassessment of age and gender specifications on household clothing expenditures: Development of age category guidelines for determining clothing allotments. <u>Clothing and Textiles</u> <u>Research Journal</u>, <u>11(1)</u>, 45-54.
- Norusis, M. J. (1993). SPSS for Windows. Chicago: SPSS Inc.

- Nunnally, J. C., & Bernstein, I. H. (1994). <u>Psychometric theory</u> (3rd ed.). New York: McGraw-Hill, Inc.
- O'Malley, P. M., & Bachman, J. G. (1983). Self-esteem: Change and stability between ages 13 and 23. <u>Developmental Psychology</u>, 19(2), 257-268.
- Osterlind, S. J. (1989). <u>Constructing test items.</u> Norwell, MA: Kluwer Academic Publishers.
- Pedersen, E. L. (1984). The ecological alternative: An option for the future. Clothing and Textiles Research Journal. 2(2), 22-24.
- Pedersen, E. L. (1989). Clothing: A basic need? <u>Home Economics Forum</u>, <u>3</u>(2), 18-19.
- Pedhazur, E. J. (1982). <u>Multiple regression in behavioral research (2nd ed.)</u>. New York: Holt, Rinehart & Winston.
- Perry, M. O., Schutz, H. G., & Rucker, M. H. (1983). Clothing interest, self-actualization, and demographic variables. <u>Home Economics Research</u> Journal, 11, 280-288.
- Polit, D. F. (1996). <u>Data analysis and statistics for nursing research.</u> Stamford, CT: Appleton & Lange.
- Reed, J. A. (1973). <u>Clothing as a symbolic indicator of the self.</u> Unpublished doctoral dissertation, Purdue University, West Lafayette.
- Rettig, K. D. (1981). Quality of life: Theory, indicators and goals. <u>ACPTC Combined Proceedings</u>, 9-22.
- Richman, C. L., Clark, M. L., & Brown, K. P. (1985). General and specific selfesteem in late adolescent students: Race × gender × SES effects. <u>Adolescence</u>, 20 (79), 555-566.
- Roach, M. E. (1960). The influence of social class on clothing practices and orientation at early adolescence: A study of clothing-related behavior of seventh grade girls. Unpublished doctoral dissertation, Michigan State University.
- Roach-Higgins, M. E. (1993). A social science of dress, 1947-1966: A personal view. ITAA Special Publication, 5, 2-23.
- Roach, M. E., & Eicher, J. B. (1973). <u>The visible self: perspectives on dress.</u> Englewood Cliffs: Prentice-Hall.

- Rook, D. W. (1985). Body cathexis and market segmentation. In M. R. Solomon, (Ed.), <u>The psychology of fashion</u> (pp. 255-263). Lexington, MA: Lexington Books.
- Roosa, M. W. (1980). A comparison of the childbearing and initial childrearing experiences of teenage and older mothers. Unpublished doctoral dissertation, Michigan State University, E. Lansing.
- Rosenberg, M., & Kaplan, H. B. (1982). <u>Social psychology of the self-concept</u>. Arlington Heights, IL: Harlan Davidson, Inc.
- Rosenthal, R., & Rosnow, R. (1991). <u>Essentials of behavioral research:</u> <u>Methods and data analysis (2nd ed)</u>. New York: McGraw-Hill, Inc.
- Schlater, J. D., & Sontag, M. S. (1994). Toward the measurement of human values. Family and Consumer Sciences Research Journal, 23(1), 4-25.
- Schlenker, B. R., & Weigold, M. F. (1990) Self-consciousness and self-presentation: Being autonomous versus appearing autonomous. <u>Journal of Personality and Social Psychology</u>, <u>59</u>(4), 820-828.
- Schmerbauch, D. A. (1993). <u>Perception of the psychological closeness of dress and self-esteem by early and late adolescents</u>. Unpublished master's thesis, University of Illinois at Urbana-Champaign.
- Shavelson, R. J. (1988). <u>Statistical reasoning for the behavioral sciences (2nd ed.)</u>. Boston, MA: Allyn and Bacon, Inc.
- Shim, S., & Kotsiopulos, A. (1990). Women's physical size, body-cathexis, and shopping for apparel. Perceptual and Motor Skills, 71, 1031-1042.
- Shim, S., Kotsiopulos, A., & Knoll, D. S. (1990). Short, average-height, tall, and big man: Body-cathexis, clothing and retail satisfactions, and clothing behavior. <u>Perceptual and Motor Skills</u>, <u>70</u>, 83-96.
- Shim, S., Kotsiopulos, A., & Knoll, D. S. (1991). Body cathexis, clothing attitude, and their relations to clothing and shopping behavior among male consumers. <u>Clothing and Textiles Research Journal</u>, 9(3), 35-44.
- Signorielli, N., McLeod, D., & Healy, E. (1994). Gender stereotypes in MTV commercials: The beat goes on. <u>Journal of Broadcasting and Electronic Media</u>, <u>38</u>(1), 91-101.

- Slocum, A. C. (1981). Clothing and perceived quality of life. <u>ACPTC Combined Proceedings</u>, 23-33.
- Smith, T. E., & Graham, P. B. (1995, November). Socioeconomic stratification in family research. <u>Journal of Marriage and the Family</u>, <u>57</u>, 930-940.
- Smucker, B. V. (1969). <u>Conformity to and awareness of the clothing mode</u>
  related to the peer acceptance of adolescent boys and girls. Unpublished
  master's thesis, Michigan State University.
- Smucker, B. V., & Creekmore, A. M. (1972). Adolescent's clothing conformity, awareness, and peer acceptance. <u>Home Economics Research Journal</u>, 1(2), 92-97.
- Sneaker peek (1993). Media week, 3(5). 27-29.
- Solomon, M. R. (1983). The role of products as social stimuli: A symbolic interactionism perspective. <u>Journal of Consumer Research</u>, <u>10</u>, 319-329.
- Sontag, M. S. (1978). <u>Clothing as an indicator of perceived quality of life</u>. Unpublished doctoral dissertation, Michigan State University.
- Sontag, M. S., & Bubolz, M. M. (1996). <u>Families on small farms: Case studies in human ecology</u>. E. Lansing: Michigan State University Press.
- Sontag, M. S., & Lee, J. N. (1994, October). <u>Toward a valid, reliable</u> <u>measurement instrument for proximity of clothing to self</u>. A paper presented at the annual meeting of the International Textile and Apparel Association, Minneapolis, MN.
- Sontag, M. S., & Schlater, J. D. (1982). Proximity of clothing to self: Evaluation of a concept. <u>Clothing and Textiles Research Journal</u>, 1, 1-8.
- Spector, P. E. (1992). <u>Summated rating scale construction</u>. Newbury Park, CA: Sage Publications, Inc.
- Steinberg, L. (1985). Adolescence. New York: Alfred A. Knopf, Inc.
- Stephens, D. L., Hill, R. P. & Hanson, C. (1994). The beauty myth and female consumers: The controversial role of advertising. <u>The Journal of Consumer Affairs</u>, 28(1), 137-153.
- Stevens, J. (1996). <u>Applied multivariate statistics for the social sciences (3rd ed.)</u>. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

- Stone, G. P. (1962). Appearance and the self. In A. M. Rose (Ed.). <u>Human</u> behavior and social process: An interactionist approach (pp. 86-118). Boston: Houghton Mifflin.
- Swanson, J. (1990, Winter). Teenagers as consummers. <u>Human Ecology</u> <u>Forum</u>, 24-27.
- Sweeney, M. M., & Zionts, P. (1989). The "second skin": Perceptions of disturbed and nondisturbed early adolescents on clothing, self-concept, and body image. <u>Adolescence</u>, <u>24</u>(94), 411-419.
- Tatsuoka, M. M., & Lohnes, P. R. (1988). <u>Multivariate analysis: Techniques for educational and psychological research</u> (2nd ed.). New York: Macmillan Publishing Company.
- Theberge, L., & Kernaleguen, A. (1979). Importance of cosmetics related to aspects of the self. Perceptual and Motor skills, 48, 827-830.
- Thomas, R. M. (1992). <u>Comparing theories of child development</u> (3rd ed. ). Belmont, CA: Wadsworth Publishing Company.
- Troelstrup, A. (1970). <u>The consumer in American society: Personal and family finance</u>. (4th ed.). New York: McGraw-Hill.
- U.S. Bureau of the Census (1982). 1980 Census of population: Alphabetical index of industries and occupations. Washington: The U.S. Government Printing Office.
- U.S. Bureau of the Census (1982). <u>1980 Census of population: Classified index of industries and occupation</u>. Washington: The U.S. Government Printing Office.
- U.S Bureau of Labor Statistics (1993). <u>Consumer Expenditure Survey, 1990-91</u>. Washington: The U. S. Government Printing Office.
- Vreeman, A. L. (1984). <u>Apparel purchase behavior: An investigation of apparel as a high involvement product</u>. Unpublished master's thesis, University of Illinois at Urbana-Champaign, Urbana.
- Westney, O. E. (1993). Human ecology theory: Implications for education, research, and practice. In P. G. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm, & S. K. Steinmetz (Eds.), <u>Sourcebook of family theories and methods: A contextual approach</u> (pp. 448-450). New York: Plenum Press.

- Williams, M. E. (1985). The ecological approach to clothing and textiles in practice. <u>ACPTC Proceedings: Combined Central, Eastern, and Western Regional Meetings</u>, 194-195.
- Zhang, Z., & Norton, M. J. T. (1995). Family members' expenditure for clothing categories. <u>Family and Consumer Sciences Research Journal</u>, <u>23</u>(3), 311-336.