

UNDERSTANDING TWEEN GIRLS' SELF PERCEPTION AND CLOTHING  
BEHAVIOR: A CONCEPTUAL FRAMEWORK

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UNDERSTANDING TWEEN GIRLS' SELF PERCEPTION AND CLOTHING  
BEHAVIOR: A CONCEPTUAL FRAMEWORK

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## VITA

Yukti Kamal Singh Sancheti, wife of Vikas Singhvi and daughter of Kamal Singh and Saroj Sancheti, was born September 25, 1982 in Abohar, Punjab (India). She attended National Institute of Fashion Technology (Delhi, India) from 2000 to 2003. She graduated as a best academic performer with a diploma in Fashion Design and Information Technology. In 2005 she finished her Bachelor of Science from Auburn University, Alabama with Fashion Design and Production major. She entered Graduated School at Auburn University in August 2005, and since then she has been working as a graduate teaching and research assistant.

DISSERTATION ABSTRACT

UNDERSTANDING TWEEN GIRLS' SELF PERCEPTION AND CLOTHING  
BEHAVIOR: A CONCEPTUAL FRAMEWORK

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Defined as children “in between” younger kids and teens, tweens have been called confident, high-tech, and market savvy (Simon, 2001). In this study, tween girls, were defined as ages 9 to 14 years. Tweens compose a multi-billion dollar market, impacting sales directly and indirectly. Clothing purchases garner a major portion of tweens' spendable income. How tweens relate to clothing is influenced by several factors. This research created a conceptual framework to examine factors affecting tween clothing behavior and self concepts. Factors of interest were social (peer and family influence), psychological (self-esteem, body image, body dissatisfaction and features of attractiveness), environmental (media exposure), physical (age and body size), and clothing attributes. It was proposed that these factors affect both self-perception and

clothing behavior. The research also aimed at understanding the physical and social-psychological dimensions of plus sized tween girls' clothing needs.

Data were collected through online surveys. Surveys were collected in pairs from mothers and their daughters between ages 9 and 14 years. Of the 1040 completed questionnaires, 1037 were found to be usable. Relationships proposed within framework were examined statistically. Data were analyzed looking at tweens as a total group, by size (normal or plus) and by age (9-11 or 12-14).

Mothers' behavior impacted their daughters' self perceptions and influenced their behavior as consumers. Peer influence increased with age, significantly for older girls' buying and wearing decisions. Tween segments differed significantly in most of the relationships, including the following: perceptions of satisfaction with body, body image, self-esteem and weight concerns; ratings of features of attractiveness; involvement with media; interaction with friends; peer and parental influence; and self reliance in buying and wearing decisions. When characterized by size, plus sized girls (compared with normal sized girls) were more dissatisfied with their bodies and had lower self perceptions. Older girls (compared to younger girls) were more dissatisfied with their bodies, had lower self perceptions, were less influenced by parents in buying and wearing decisions, and were more self-reliant. Among desirable clothing attributes, tween girls preferred clothes that looked best on them, fit them well and were comfortable.

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## CHAPTER I. INTRODUCTION

You've seen a tween. He's the one who spends hours researching on-line for a family vacation but is too cool to be seen with his family at Yellowstone. She's the 10-year-old who dresses like she just celebrated her sixteenth birthday. He is a fearless and untouchable teen-wannabe but is afraid to enter the basement after dark. She intentionally tosses dirty clothes to miss the hamper but goes out of her way to help an elderly neighbor up icy stairs (Simon, 2001).

Tweens, defined as children "in between" younger kids and teens, are an important consumer group. They are the most confident, high-tech, street smart and market savvy group of children in American history (Simon, 2001). Hopkins (2005) reported that tweens make up a \$335 billion market. Tween marketing at 360 youth (n.d.) indicated that American tweens independently spend \$51 billion and influence another \$170 spent on them. For example, "nearly two thirds of parents say that children have influenced their vehicle purchasing decision" (Simon, 2001). Thus, tweens impact the market in both direct and indirect ways. Kids influence the retail market directly with money they earn through allowances, chores and gifts from family members. However, deMesa (2005) commented that this economic power is primarily dependent on parents and other family members.

Apart from being a primary market, they are also called an influence market and future market (McNeal, 1999). Marketers are becoming aware of this fact and are directly

targeting tweens. This trend is captured by authors such as Lindstrom and Seybold (2003) in the book *BrandChild*, McNeal (1999) in *The kids market: Myths and realities*, Siegel, Coffey and Livingston (2004) in *The great Tween buying machine*, and Sutherland and Thompson (2003) in *Kidluence*. The studies in these books demonstrate the growing interest in tweens as a potential market.

The tween segmentation was recognized after the Second World War, but the term itself was coined in the 1990s by the clothing industry. Used mostly in industry and research discourse (Cook & Kaiser, 2004), Hall (1987) first used the term tween for children aged 9 to 15, who have “distinct characteristics and powers” (p.56). Ko (2001) defined tweens as children between ages 8 and 12 years. Some researchers include children as young as six in this segmentation (Neider & Figueroa, 2001).

Tweens are considered an interesting group to study because they are in a transitional phase. They are a little older than children and not yet fully matured as a teenager. Many girls hit puberty in their tween years and undergo several changes (Simon, 2001). Due to better nutrition, girls as young as 8 and 9 years old enter puberty, and thus experience early physical and emotional symptoms related to menarche (Blyth, Simmons & Zakin, 1985; Simon, 2001), along with the difficulties in achieving a balance between emotional and physical growth (Sutherland & Thompson, 2003). The article *Teens, tweens and body image* (n.d.) commented that “media influence, combined with peer pressure and the heightened self-consciousness of puberty, can create an unflattering image in the mirror that’s simply not what everyone else sees”.

In America, it has now become normal for girls to feel badly about their bodies, regardless of size (Kater, n.d.). Many consider themselves fat and their number one wish

is to be thinner. Although these are girls who think they are overweight when they are not, obesity has reached at an alarming level in young children. It has tripled from 5% in the 1980s to approximately 15% in the early 2000s (Ebbeling, Pawlak, & Ludwig, 2002; Freudenheim, 2005; Newman, 2004). Figure 1 depicts this trend of excessive weight gain in children and adolescents (National Center for Health Statistics, 2007).

Girls as young as age five are reported as being aware of dieting and weight issues (Abramovitz & Birch, 2000). Body weight and shape (Brodie, Bagley, & Slade, 1994; Cash & Pruzinsky, 2004) and pubertal timing (Blyth, Simmons, & Zakin, 1985) are often considered the predictors of body image. Body image, including perceptions of physical appearance, is the “most important component of an adolescent’s global self-esteem” (Cash & Pruzinsky, 2004, p.71). Negative body image is correlated with lowered self-esteem, eating disorders, body dissatisfaction and other clinical and psychological disorders.

Physical appearance and attractiveness have been found to have a positive relationship with self-esteem (Mathes & Kahn, 1975; O’Grady, 1989) and body image (Lennon, Rudd, Sloan, & Kim, 1994). A lower self-esteem score is associated with a negative body image and vice versa. Mathes and Kahn (1975) found a strong relationship between perceptions of attractiveness and the development of emotional problems. Adolescent girls, who perceive themselves to be unattractive, may become more self-conscious and have lower self-esteem and an unstable body image (Davies & Furnham, 1986). Unstable images may foster issues like eating disorders and psychological problems.

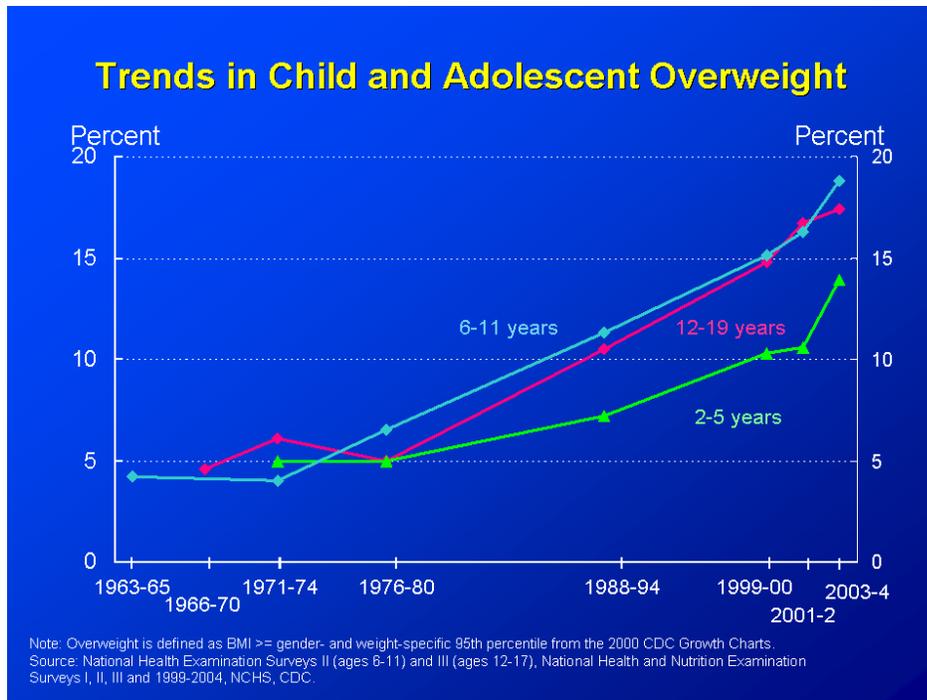


Figure 1. Prevalence of overweight among children and adolescents ages 2-19 years (National Center for Health Statistics, 2007).

Adolescence is a subject of interest to scholars in the fields of nutrition, psychology, sociology, health and fitness, and clothing and consumer behavior. Academic research has focused on issues related to weight concerns, eating disorders and dieting, body image, self-esteem, social acceptance, and conformity. Studies found that adolescence is a period of disturbed self-image (Simmons, Rosenberg, & Rosenberg, 1973; Sukumaran, Vickers, Yates, & Garralda, 2002). Researchers in the clothing field focused more on body image, self-esteem, social influences and gender roles. Lennon et al. (1999) found that low self-esteem is associated with negative body image. High self-esteem is associated with positive body image. The researchers also found that self-esteem was related to a non-traditional attitude toward gender roles.

Clothing is often referred to as a “second skin” (Horn & Gurel, 1981). It is also a mode of communication through which people express their personal identity, relationship with others, and varying circumstances of life (Damhorst, Miller-Spillman, & Michelman, 2005). Adolescents place great importance on clothing (Littrell & Eicher, 1973). The use of clothing is an important factor in social interactions (Francis, 1992; Kness, 1983). It plays an important role in peer acceptance. Littrell and Eicher (1973) suggested that clothing is more than a factor which differentiates individuals in peer friendship groups of adolescents, and thus becomes a source of identity and status related to group membership. Smucker and Creekmore (1972) commented that apparel use in the adolescent stage is marked by sameness in appearance due to the popularity of certain clothing items.

Clothing and appearance play an important part in the physical, cognitive, emotional, and social aspect of human development (Damhorst, Miller-Spillman, & Michelman, 2005). Since the use of dress is one of the ways to secure a place in a social group, clothing can help to ratify the self and improve self-esteem. Low self-concept is found to be related to high perceived clothing deprivation (Francis, 1992). Inversely, clothing deprivation or clothing dissatisfaction, related to issues of weight gain and body size, may further lower self-esteem and create an unstable body image. Clothing satisfaction is affected by self-esteem, social insecurity, age, and socio-economic status (Kness, 1983). Clothing helps individuals to be creative and expressive, meet perceptions of beauty and attractiveness and satisfy social and emotional needs (Sontag & Lee, 2004).

Retailers like Old Navy, J. C. Penny, Hot Topic cater to the needs of plus size tween customers. However, tween girls still have difficulty finding the right size clothes.

Also, with many tweens increasing in body size, sizing specifications have not kept pace with changing body sizes. Kang (2004) noted that overweight young American women want clothes similar to normal young women. They may experience feelings of clothing deprivation or dissatisfaction if they cannot find clothing that fits and has styling details similar to other tween apparel. Clothing choices are related to various psychological and social aspects in an individual's development, and these factors influence clothing purchase decisions.

Family influences the social, psychological and cognitive development of children. Among family members, mothers assume the most importance (Abramovitz & Birch, 2000) and have the most influence as to what clothes tweens buy (Lee, 2006; May & Koester, 1985). One reason is that at such a young age mothers often purchase the clothes or must accompany their tweens to a store.

Simon (2001) speculated that during the tween years peers assume greater importance. In their book *BrandChild*, Lindstrom and Seybold (2003) reported that peers had the power to strengthen or weaken the power of a brand. May and Koester (1985) found that peer influence increased with age and peers had the greatest influence on clothing purchases during the junior high years. Junior high school students use clothing in order to identify themselves with a peer group (Forney & Forney, 1995). Peer approval on tween girls' self-perception and clothing behavior is important during the adolescent years.

Tweens today are better informed and smarter than the previous generations thanks to different media modes, including magazines, television, movies, internet, music, and videogames, that affect the mental and the psychological development of

young children. Cohn-Sandler (n.d.) reported that nearly two-thirds of teens and tweens had televisions in their bedrooms. Adolescents use media images to learn about self-expression and self-image (Damhorst et al., 2005), and these images influence the clothing purchase decisions of young girls (May & Koester, 1985). There is a positive relationship between exposure to fashion magazines and appearance dissatisfaction and eating disorders (Kim & Lennon, 2007).

### Statement of Problem

Research has shown that tweens are an important consumer segment and a multibillion dollar market. Clothing purchases garner a major portion of tweens spendable income. Apparel producers recognize the growing market needs and opportunities of the tween market. However, these producers have failed to satisfy the needs of tween consumers, especially those of plus sized girls which may be different. It is important to study the needs and expectations of this changing market for both normal and plus size young tweens.

How tweens relate to clothing is determined by several factors such as peer groups, family, media, age and body size. The physical changes during these years make psychological factors like body image and self-esteem hard to ignore. Additionally, it is often observed that influence of media has multidimensional impacts both on clothing behavior and self-concept. Little research exists in the public domain with regard to behavior related to clothing choices for tween girls.

A conceptual framework can be defined as a set of coherent ideas organized in a way that help us understand an existing problem or behavior. It is build from certain set

of concepts and clarifies the relationships between these concepts and other variables. Though researchers have studied isolated concepts that appear to influence tween's behavior, none have suggested a conceptual framework to define elements contributing to understanding the multifaceted behavior of tweens as consumers.

### Purpose of Study

The purpose of this research was to create a conceptual framework to examine factors affecting tween clothing behavior and self concepts. Factors of interest in this study were social factors (peer and family influence), psychological factors (self-esteem, body image, body dissatisfaction and notions of attractiveness), environmental factors (media exposure), physical factors (age and body size), and clothing attributes. It is hypothesized that these factors affect both self-perception and clothing behavior in tween girls. Figure 2 proposes a conceptual framework for understanding tween girls as a market segment. The key points of this conceptual framework can be summarized as follows:

- Factors affecting tween consumers, as defined in this conceptual framework, are: social, psychological, environmental factors, physical, demographic and cultural, and clothing.
- Factors affecting the self perception of tween girls are: social, physical, environmental, demographic and cultural, and clothing.
- The psychological factors are inter-related. The relationship is mostly correlational and, therefore, is not directed in a particular direction.

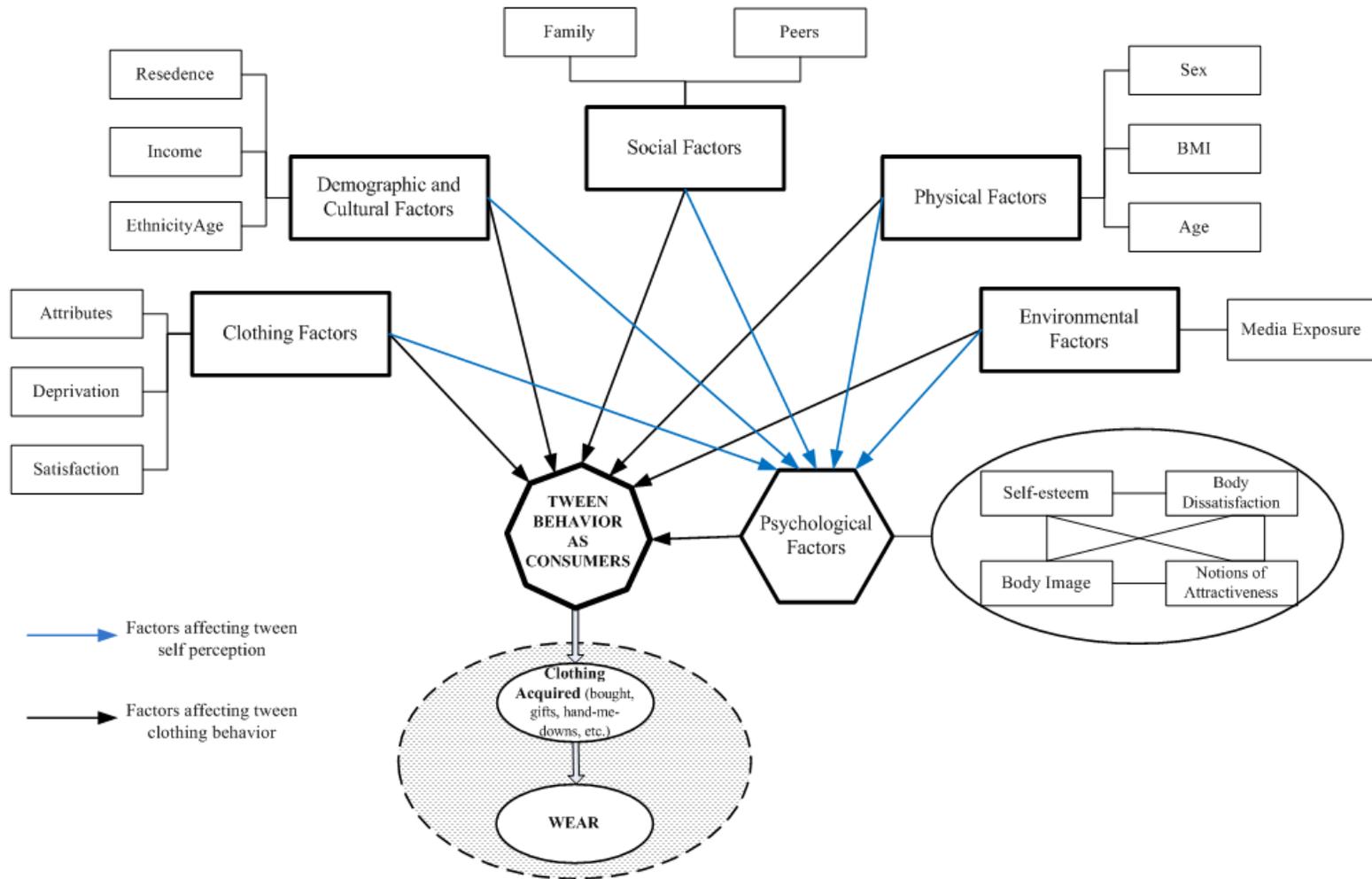


Figure 2. Factors<sup>1</sup> influencing self-perceptions of tweens and their development as potential consumers of clothing.

- For the factors affecting tween behavior as consumers, the effect can be direct or moderated by psychological factors.

This study investigated pairs of 9-14 year old tween girls ranging in size from normal to plus size and their mothers to explore a conceptual framework of tween girls' self-perception and clothing behavior, and was guided by the research questions listed below. Where mothers and daughters were studied as a pair, tween girls are addressed as *daughters*. The term *girls* will be used to address differences between tween girls based on size and age.

Tween girls' self-perception:

1. a. Is there a relationship between mothers' self-identified ideal body size for themselves and daughters' self-identified ideal body size for themselves?  
b. Does mothers' body dissatisfaction predict daughters' body dissatisfaction?
2. Is there a difference in mothers' identification of an ideal body size for their daughters and daughters' self-identified ideal body size for themselves?
3. Is there a difference in mothers' perceptions of their daughters' body weight concerns and daughters' own body weight concerns?
4. a. Is there a difference among girls' ratings of different features of attractiveness?  
b. Is there a difference between mothers' and daughters' ratings of features of attractiveness?

5. Is there a relationship between girls' self-esteem score and body dissatisfaction score?
6. Is there a relationship between girls' self-esteem score and their perception of body image?
7. Is there a relationship between girls' media exposure and their self-esteem score?
8. Is there a relationship between girls' media exposure and their body image?
9. Is there a relationship between peer diet concerns and body weight concerns?

Tween girls' clothing behavior:

10. Are there any differences among influentials (mother, father, sister, friend, self) in helping girls decide what clothes to purchase?
11. Are there any difference among influentials (mother, father, sister, friend, self) in helping girls decide what to wear?
12. Is there a relationship between girls' self-esteem and their purchase decision on own?
13. Is there a relationship between girls' self-esteem score and their perception of clothing deprivation?
14. Is there a relationship between girls' media exposure and their perception of clothing deprivation?
15. How strongly do media influence the clothing purchase decision of tween girls?

16. Is there a difference between mothers' and daughters' rankings for desired clothing attributes?

#### Definitions of Terms

The terms used in this study are defined as follows:

BMI — Body Mass Index is used to express the relationship between height and weight and is an indicator of body fat. It is calculated by the formula:  $\text{weight (lb)} / [\text{height (in)}]^2 \times 703$  (Centers for Disease Control and Prevention (CDC), 2007). For children and teens, BMI is “age and sex specific and is referred as BMI-for-age” (CDC, 2007).

Body Dissatisfaction — It is defined as “the disparity between estimated current body image and ideal image” (Fitzgibbon, Blackman, Avellone, 2000, p. 583). This study defines body dissatisfaction as the difference in the score of ideal figure and current figure selected from the nine line drawings of Stunkard (Stunkard, Sorensen, & Schulsinger, 1983).

Body Image — Body image is the mental image of one's body and how an individual perceives oneself (Jung & Lennon, 2003). Body image is more formally defined as “an internalized view of one's appearance that drives behavior” (Altabe & Thompson, 1996, p. 171). Body image is defined here as the perceived image formed by satisfaction with the body in terms of weight, height, figure development and looks (Blyth, Simmons, & Zakin, 1985).

Clothing Deprivation — It is defined as an individual's discontent with his/her clothing in relation to his/her peers; an individual's feelings he/her does not have enough

clothing to be satisfied (Kness, 1973, p. 35). This study further includes deprivation due to the inability to find clothes of the right sizes.

Media Exposure — Cash and Pruzinsky (2002) define media exposure as the number of hours spent watching television and reading magazines. This study adds the influence of other forms of mass media movies, songs, internet and videogames to this definition.

Normal Size — Normal sized tweens are defined as girls with a BMI score below the 85 percentile as expressed in BMI-for-age charts.

Plus Size — Plus sized tweens are defined as girls with a BMI score of 85 percentile or more as expressed in BMI-for-age charts.

Self-Esteem — Self-esteem is defined as “the individual’s global positive or negative attitude toward himself [or herself]” (Simmons, Rosenberg, & Rosenberg, 1973).

Tweens — Girls aged 9-14 years old

Younger Tweens — Tweens between ages 9 and 11 years.

Older Tweens — Tweens between ages 12 and 14 years.

## CHAPTER II. REVIEW OF LITERATURE

The purpose of this study was to develop and explore a conceptual framework to understand tween girls' self-perceptions and clothing behavior. Why individuals behave in a particular way is a complex issue. Several social and psychological theories explain the multidimensional nature related to why we do what we do. Similarly, clothing, extended as an exterior self, has multidimensional characteristics, and relates to many different aspects of an individual. The review of literature provided in this chapter will focus on the factors affecting the tween consumer's clothing behavior. Social and psychological theories can be used to explain these factors. First, the term, tween, and the importance of tweens as a consumer segment will be discussed. Second, the factors influencing tweens and the theories explaining those will be presented. These include social, psychological, environmental, physical, clothing, demographic and cultural factors. Additionally, issues related to body size are also covered in this literature review.

### Tweens

The term tween has its roots in the words subteen or preteen. Subteen/preteen emerged in trading terminology during the Second World War. The concept of subteen/preteen is derived from the word teen (Cook & Kaiser, 2004). 'Teen' or 'teenager' became a popular concept for marketers and media in the 1940s. This was later extended to include the word, tween. Marketers started to consider subteen worthy of a

category for commercials and age/size only in the 1950s (Cook & Kaiser, 2004). The word, tweens, appeared in industry in the 1980s. Academic researchers considered this term by the 1990s (Cook & Kaiser, 2004). However, now the tween generation has captured enormous attention and influenced companies and their brands (Lindstrom & Seybold, 2003).

Tweens are defined as children “in between” kids and teens. They are considered too old to be kids and too young to be included in the teen category. Tweens are defined anywhere between age six or seven and fifteen or sixteen. Different authors define them differently. Paterson (2003) defines tweens as children between 8 and 14 years of age. Hall (1987) defines them as children from nine to fifteen years old. Some define them as 8 to 14 or 8 to 12 or 9 to 12 years of age (deMesa, 2005). Some researchers also define tweens as being a “state of mind”. Siegel, Coffey, and Livingston (2004), who defined tween years beginning at 8 and ending at 12, commented:

This age group is markedly different from young kids and older teens in their cognitive, social, and physical development. Cognitively, they are emerging logical thinkers. Socially, they compare themselves to others and are motivated to determine what is wrong, what is in, and what’s out. Their friendships begin as mutual support and evolve to greater depth and intimacy. Physically, they grow like weeds – some 10 inches and 30 pounds almost overnight. Puberty begins their transition to becoming teenagers at about age 11 and along with these physical changes, their view of the world changes substantially (p. 27).

Siegel, Coffey and Livingstone (2004) defined tweens within a cognitive, social and physical context. This study will also look at tween clothing behavior with respect to social, physical and psychological development.

Even in the tween segmentation there exist subgroups, for tweens differ greatly from age to age and from boy to girl (Siegel et al., 2004). For example, where tween girls are concerned about losing weight and achieving a thin ideal figure, tween boys are more concerned about gaining muscular weight. With regards to tween girls, it is uncertain when they mature physically and psychologically to become a teenage girl and stop being a tween (Cook & Kaiser, 2004). Even though, the age range of the tween segment is just a few years, there is a significant difference in the mental framework of a child of age 8 and that of age 12. As Siegel et al. (2004) put it; a 12-year-old has experienced 50% more life than an 8 year old, which is similar to comparing a 60-and 40-year-old. That is why tweens can be divided into subgroups from 8 to 10 and from 11 to 12. Most researchers consider ages 10 and 11 as transitional years.

The present tween generation is very different. Current tweens are empowered with technology and are more connected with the world. They can be considered global citizens (Lindstrom & Seybold, 2003; Siegel et al., 2004). They are influenced by media and are the first generation to use the internet freely (Simon, 2001). They not only make decisions independently, but also influence decisions of their parents. During these years of tween development, peers assume great importance (Simon, 2001). Peers are influential for personal style, clothing, weight concerns, and even body image and self-esteem of tweens. In addition to peer influence, there is the familial influence that has been affecting the child's development since birth.

### *Importance of Tweens as Consumers*

With respect to physical developments and psychological changes, tweens have attracted the attention of several researchers in fields of psychology, sociology, nutrition and health, and fitness. Beyond these groups, tweens have become important to business and industry. Siegel, Coffey and Livingston (2004) said that one of the most important reasons to study tweens is that it is during these years that they are becoming familiar with and attached to brands. The 2003 Yankelovic Youth Monitor report stated that 71% of tweens stick to the brand they like (Siegel et al., 2004). Brands become important to tweens, and the relationship formed in these years helps to develop long-term relationships with particular brands (Lindstrom & Seybold, 2003; Paterson, 2005).

Another reason for tweens to be considered an important consumer segment is the tremendous buying power they possess. This power comes in two ways. The first is through money earned from allowances, birthday money and gifts from grandparents and other family members. Second, they influence everyday family spending (Sutherland & Thompson, 2003). Simon (2001) reported that nearly two-thirds of parents said their kids influenced a vehicle purchase decision. According to the article *Tween marketing at 360 youth* (n.d.), American tweens spend \$ 51 billion independently and another \$ 170 billion spent by their parents on them. Hopkins (2005) reported the tween market to be 335 billion dollars. McNeal (1999) identified kids as three potential markets. They are a primary market spending their own money; they influence the spending of their parents, and, finally, they are a future market that will grow up to be potential adult customers. Research shows that 2.7 million tweens spend more than 14 billion dollars annually only on clothing (Neider & Figueroa, 2001). *Women's Wear Daily* estimated the apparel retail

sales for tween girls to be 5.5 billion dollars in 2003 (Siegel et al., 2004). When this number was divided by the tween population, then 10.5 million, 525 dollars were spent by each tween girl (Siegel et al., 2004), demonstrating the importance of clothing for tween girls.

Tweens are an important market segment because they make up a significant share of the consumer market. Table 1 show the tween (8-12 years old) market share compared to other market segments. Tweens were twice the size of the Asian market segment and approximately two-thirds the size of Hispanics and African Americans. The projected number of tweens in 2009 is 26 million (deMesa, 2005). Such a large number makes it difficult to ignore the impact of the tween market segment.

Table 1

*Market Segments According to the U S Census Data (Siegel et al., 2004)*

Market Segments	Population (in millions)
Hispanics	35.3
African Americans	34.7
Asians	10.2
<b>U.S. Tweens</b>	<b>20.9</b>

Finally, tweens have a special need because they are neither small kids nor fully developed teens (Siegel et al., 2004). They want items specially targeted to them. Also, physical changes and shifting ideas during this developmental period create a vacuum, which tweens may try to fill with material items. Thus, developing years, size, immense

purchasing power, and specialized needs make tweens an important group for marketers and researchers. They cannot be taken for granted.

### Factors Influencing Tween Clothing Behavior and Self Perception

The factors influencing tween clothing purchase behavior can broadly be categorized as social, psychological, environmental, physical and demographic factors, and also include the characteristics of clothing. Social factors include family and peers; psychological factors include self-esteem, body image, body dissatisfaction and notions of attractiveness; environmental factors include media exposure; physical factors deal with age, BMI and sex, and demographic factors include income and ethnicity. The attributes of perceived satisfaction with and feelings of deprivation of clothing also affect clothing buying and wearing behaviors. These factors are all interrelated. For example, peers can influence body image, self-esteem, diet behavior, purchase and clothing use decisions. Weight or BMI often affects body image and self-esteem, and may stimulate a sense of clothing deprivation. Body image and self-esteem are strongly related to each other. These interrelationships take a complex form, which is depicted in Figure 3. However, for simplicity, the following sections isolate each of the factors.

#### *Social Factors Influencing Tweens*

Social agents like family and friends or peers greatly influence the psychological, emotional and personal development of an individual. Individuals, especially those aspiring to fit in, respond to the standards and norms of a reference group. Therefore, as one matures, the influence of family decreases and conformity to peer groups increases

(Kernan, 1973; Meyer & Anderson, 2000). Conformity means “adherence by an individual to group norms” (Michener, DeLamater, & Schwartz, 1990, p. 353). An individual is said to be conforming to the group when he or she behaves in accordance with group norms.

Group influence on an individual’s behavior can be seen in various forms. Deutsch and Gerard (1955) said that a reference group can exert influence in three primary ways: (1) normative compliance, (2) value expressiveness, and (c) informational influence (cited in Meyer & Anderson, 2000). Normative compliance occurs when an individual is motivated and influenced by a reference group in order to receive the positive outcomes and avoid negative outcomes (Michener et al., 1990). An example of normative compliant behavior would then be of tweens preference for clothing styles similar to their peers in order to fit in. Another form of influence, informational influence, occurs when an individual accepts information from the reference group (Michener et al., 1990). This form of influence may be used for obtaining product knowledge and social acceptance (Meyer & Anderson, 2000). An example of this influence would be seen in tweens asking opinions about clothing from their mothers, siblings or friends. Value expressiveness, though not a typical form of influence, is defined as an individual’s desire to enhance self-image. With this respect, value expressiveness can be explained by tweens seeking opinions or approval from their peer groups or family in order to enhance their self perceptions.

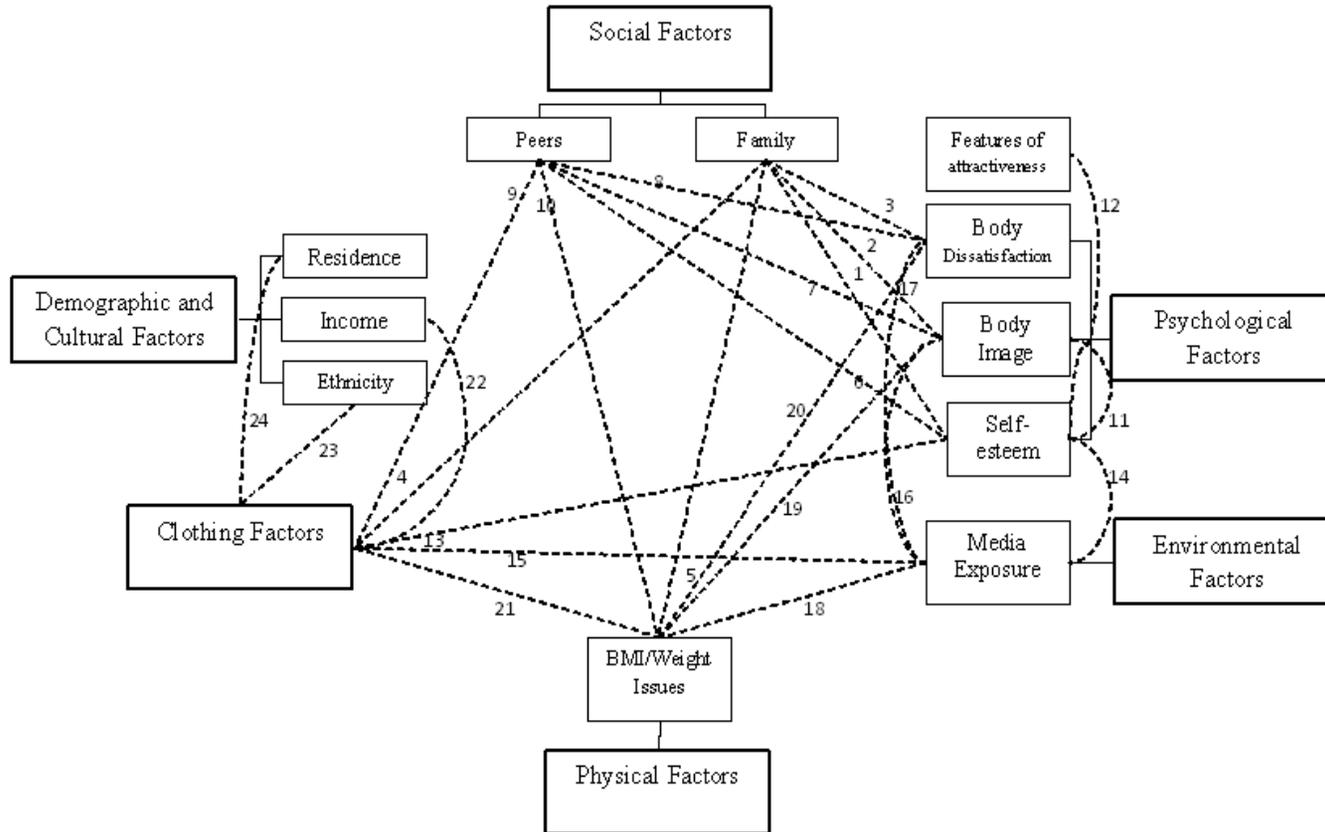


Figure 3. Interrelations<sup>2</sup> between factors affecting the tween consumers.

(Note: The numbers refer to the serial number of these relations explored by various studies in appendix A.)

Mothers' and peers' relationships with tween girls have been found to be important, especially in the following areas:

- Weight concerns (Abramovitz & Birch, 2000; Hill & Franklin, 1998; Johannsen, Johannsen, & Specker, 2006; Levine, Smolak & Hayden, 1994; Thelen & Cormier, 1995)
- Body image (Abramovitz & Birch, 2000; Cash & Pruzinsky, 2004; Curtis, 1991; Hill & Franklin, 1998; Levine & Smolak, 2004; Usmiani & Daniluk, 1997)
- Clothing (Hamilton & Warden, 1966; Kelley, Daigle, LaFleur & Wilson, 1974; Kernan, 1973)

### *Familial Influence*

Throughout their lifespan, children are influenced by their family members. Among father, mother, siblings and other family members, mothers usually have the most influence (Abramovitz & Birch, 2000). McGuire and McGuire (1987) found that girls mentioned their mothers twice as often as their fathers. Through their daily interactions, daughters learn values related to attraction, self image, body issues and clothing from their mothers. Mothers also contribute to the relationships that adolescents have with their peers (Gold & Yanof, 1985). There is often a close relationship between mothers and daughters, in both physical and psychological aspects (Usmiani & Daniluk, 1997). The following section of the literature review will explore the influence of mothers on daughters in terms of physical (weight and body related issues), psychological (body image) and clothing aspects.

*Mother-daughter relationship and weight issues.* Researchers have found that adolescent girls are influenced by the eating attitudes and behaviors (Johannsen, Johannsen, & Specker, 2006; Levine, Smolak, & Hayden, 1994) and dieting behavior (Abramovitz & Birch, 2000; Hill & Franklin, 1998; Thelen & Cormier, 1995) of their mothers. These studies also reported that the girls BMI and weight were often similar to their mothers' BMI and weight. This may be so due to biological traits inherent from their mothers or due to similarity in dieting and eating behaviors.

Johannsen et al. (2006) studied the influence of parents' eating behavior on their children's weight. BMI of 143 mothers and 68 fathers, representing parents of 148 children aged 3-5 years, was calculated from self-reported height and weight, and children's BMI and percentage fat was assessed by DXA<sup>3</sup>. They found that children's weight was related to their mothers' weight. Girls' BMI was greatly influenced by the parents BMI. They were at more risk of being overweight if their mothers were overweight. Also girls, whose parents reported being overweight as children, had a higher BMI. Finally, it was speculated that mothers exerted a strong influence over their children's weight and were more concerned about their eating behavior.

Mothers' may even mold the dieting behaviors and attitudes of their children (Levine et al., 1994). Mothers' dieting behavior proved to be a source of ideas, concepts and beliefs about dieting for young five-year old girls (Abramovitz & Birch, 2000). In their study, Abramovitz and Birch (2000) found that girls whose mothers dieted were twice as likely to have ideas and beliefs about dieting than girls whose mothers did not diet. In the study of two groups of 20 eleven-year old girls and their mothers, Hill and Franklin (1998) found that mothers of girls with higher dietary restraint rated their

daughters' attractiveness lower than other mothers. Mothers in their study were dissatisfied with their daughters' appearance. Thus, mothers not only spread the cultural norm of a thin ideal but also motivated their daughters to diet and reduce weight.

Thelen and Cormier (1995) reported that daughters' body weight and desire to be thinner was positively correlated with perceived encouragement from their parents for weight control. In the 118 families of 11-year olds in their study, BMI was significantly correlated with the desire to be thinner for mothers, fathers, and daughters. That means if the BMI was higher these individuals wished to be thinner. However, this was not the case for sons, whose BMI did not correlate with a desire to be thin. They also found that daughters' dieting frequency was positively correlated with their perceived encouragement from their mothers.

Apart from weight concerns and weight control behavior, direct communication from mothers may trigger a pool of other problems including eating disorders and disturbed body image. In their study, Levine et al. (1994) surveyed 385 girls of age 10 through 14 about eating behavior, body dissatisfaction and cues to be thinner from media, family and peers. Levine et al used two scales to measure the girls' perceptions of parents' attitudes toward weight and shape. The first scale, PARINV (Parental Investment), was a 4-item scale, calculated on a 5-point Likert scale, which measured girls' sense of how important slenderness was to their parents. The second scale, called MOMTHIN (Mothers' Investment in her own Thinness), consisted of three items and asked two questions concerning girls' perception of mothers' investment in their own thinness and one question about her mothers' dieting. The results of the data analysis showed that girls received cues from family that slenderness was an acceptable norm and

that it was achievable through dieting. Another interesting finding was that drive for thinness and disturbed eating patterns were strongly correlated with weight/shape teasing from family.

In addition to the reported negative influence of the mother-daughter relationship, it is also hypothesized (Barker & Galambos, 2003) that a stronger bond between parents and adolescents moderates the effect of body dissatisfaction. The study, done by Barker and Galambos (2003), found that mother and father acceptance was a significant predictor of body satisfaction for girls. If the girls perceived their mothers and fathers as more accepting, they were less dissatisfied with their bodies. These studies demonstrate the importance and the influence of mothers in forming the ideas about weight management and other eating attitudes and behaviors.

*Mother-daughter relationship and body image.* Body image, in general, refers to the picture of the body that one has in one's mental framework. Throughout the lifespan, different factors play an important role in forming a body image. Body image is an important factor in the psychological and personal development of adolescent girls (Levine & Smolak, 2004). Different developmental, social, cultural and interpersonal factors contribute to the shaping of body image and mothers play an important part.

Levine and Smolak (2004) commented that parents' attitudes and behaviors about their own body image are correlated with the attitude of their adolescent children. Negative verbal comments from family members have both long- and short-term effects on the body image of adolescents (Levine & Smolak, 2004). Parents have the power to inflict direct comments about their child's body, weight and shape. In addition to direct

comments, parents also influence children indirectly through concerns about their own weight and body issues (Smolak & Levine, 2001).

Usmiani and Daniluk (1997) examined the relationship of self-esteem and gender role identity with body image. They studied 82 mothers and their post-menarche daughters, and 31 mothers and their pre-menarche daughters. The importance of mother-daughter relationship in terms of identity development, body image and self-esteem was the focus of this study. They quoted that “the problem with female identity that most troubles us, and that is most disguised by our preoccupation with eating and body size and clothes, has a great deal to do with being a daughter and knowing that one’s life as a woman must inevitably reflect upon the life of one’s mother” (cited in Usmiani & Daniluk, 1997, p. 48).

Usmiani and Daniluk (1997) gave students from grades 7-11 three standardized instruments to measure the effect of gender role identity and self-esteem on body image. One of the instruments was the Self Image Questionnaire for Young Adolescents (SIQYA), which measured self image utilizing nine subscales of the Offer Self-Image Questionnaire. The results of the study suggested that self-esteem was a strong predictor of body image for the menstrual daughters but not so much for premenstrual daughters. Additionally, mothers’ body image scores positively correlated with their daughters’ body image scores for menstrual girls indicating that mothers’ with a better body image tended to have daughters with more positive images. Also, mothers’ body image perceptions of their daughters’ self-evaluated self-image became more prominent in the girls’ teenage years.

Curtis (1991) stressed the relationship between mothers' and daughters' self-concept. She investigated 36 mother-daughter pairs in an exploratory study that compared mothers and their at-risk for delinquency early adolescent daughters between the ages 11 and 15. Correlation analysis showed a significant correlation between mothers' and daughters' self-concept scores. Multiple regression analysis found that three of four factors of mothers' self-concept predicted daughters' self-concept. The four factors were general pathology, global self-concepts, external self-judgment and internal self-judgment. Of these internal self-judgment did not predict daughter's self-concepts. This relationship demonstrated an overlap between the mothers' and daughters' self-concept.

*Mother-daughter relationship and clothing.* From birth parents, especially mothers, buy clothes and dress their children in order to conform to societal obligations (Damhorst, 2005; Roach, 1965). Parents dress their children to conform to "socio economic, gender, religion, and other role expectations" (Damhorst, 2005, p. 263). Since parents act as a purchasing agent, they play a dominating role in introducing gender to children through gender-specific clothes. Roach (1965) noted that family is a major agent of socialization because of the close contact an individual feels in his or her "formative and receptive years" (p. 82). Horn and Gurel (1981) also stressed the extent of parental influence on children. They said,

Very early in life the child imitates the parent of the same sex, thereby learning the appropriate attitudes, values, and behaviors. The parents may be observed most easily in the children's game of "playing house". The child dons the attire of the mother or the father, and in affect becomes the mother or father. The play

costume most frequently chosen was that of a parent of the same sex that is little girls dressed in mother's clothes, and little boys in daddy's (p. 207).

Even when children reach adolescence, mothers play an important part in clothing behavior as many of them have to be driven to shops and malls. Mothers also influence the purchase of expensive clothes for special occasions. Buying behavior was investigated in 24 tweenage girls who were interviewed by Grant and Stephen (2005) in four focus groups. They studied the influence of parents, peers and media on buying behavior. The findings were that mothers were very influential in choosing clothes for schools and special occasions. Also, the girls constantly sought advice from their mothers about price and quality.

Influence of mothers on clothing purchase decisions was researched by May and Koester (1985). Four hundred and ninety Oregon 4-H members, ranging from age 9-19, were surveyed. The subjects were divided into three groups: Juniors (9-12), Intermediates (13-15), and Seniors (16-19). The clothing practices survey was developed in order to examine the clothing purchase practices of adolescents. Fourteen of 34 questions concerned clothing and were answered on a 5-point Likert scale from never, sometimes, half the time, usually to always. The study found parents influenced adolescents in choosing clothes, making the final decision for purchase, shopping with them and also helping them monetarily. However, this influence seemed to decrease with age. Parental influence was the greatest for juniors, and decreased from "half the time" or "usually" for juniors to "half the time" or "sometimes" for seniors.

Daughters in Lee's (2006) study reported that mothers exerted greatest influence for what to buy. Also mothers had the greatest influence on daughters in helping them

decide what to wear. These scales were scored from 1 (never) to 5 (always) for all the influentials. Daughters' responses were further compared according to younger and older group and normal and plus sizes. Similar to May and Koester's (1985) study, Lee (2006) also found that younger tweens were more likely to be influenced by their mothers in deciding what to wear than were older tweens.

Mothers constantly play an important role in the overall development of their children. The above literature demonstrates the physical, emotional and psychological closeness of the daughters to their mothers. This makes them an important influential in clothing purchases.

### *Peer Influence*

As children start going to school, peers rather than parents assume greater importance. The influence is seen in areas of style and clothing. Also, self-concept is influenced by the peer group to which tweens belong (Simon, 2001). The following sections focus on peer influence on weight concerns, body image and clothing behavior.

*Peer influence and weight issues.* During the early years of school, children are not as influenced by friends or peers as they are later. In the formative years of adolescence, peers' opinions and comments can have a dramatic effect on psychological and social development. Levine and Smolak (2004) found that a significant number of girls talked about weight, shape and dieting with their friends. Apart from taking direct encouragement for dieting and indirect comments about shape and size, adolescent girls exchanged views about dieting and weight control with their friends. Levine and Smolak also observed that it was quite common among girls to have "fat talk" and worry about being "fat".

Levine et al. (1994) studied peer influence on eating attitudes and behavior through two measures. One of them was PEERDIET; it consisted of three questions about girls' perceptions of weight, shape, and dieting. For example, girls were asked, "how often do you and your friends talk about weight, weight loss, and dieting?" (p. 478). Another measure was PEERTEASE and consisted of a single question: "How often do the kids at your school tease you about being fat". All questions were answered on the basis of a 5-point Likert-type scale from 1 (never) through 5 (all the time). The results from PEERDIET showed a small contribution in all the criterion variables (i.e. investment in thinness, eating disturbance, weight management and body dissatisfaction) except body dissatisfaction. PEERTEASE ranked first in variance of body dissatisfaction.

Peer influence on dieting and appearance was recently investigated by Sinton and Birch (2006). In this study, 173, 11-year old girls were surveyed to examine the effects of individual and sociocultural influences on appearance schemas and body dissatisfaction. Appearance Schema Inventory (ASI) was used to assess the importance of appearance in their lives. An inventory of peer influences on eating concerns was used to find the frequency of girls' interaction with peers regarding weight and appearance issues. A total of five questions with responses ranging from 1 (never) through 5 (a lot) were asked. Internal consistency for this sample was  $\alpha = .80$ . The results showed that as the girls had more interactions with peers, both body dissatisfaction and appearance schemas increased. Interaction with other girls accounted for 13% of the variance in weight and body concerns. The study supported the view that girls did interact with other girls about appearance and weight and that peers strengthened the desire for thinness.

The dieting behavior of 318 boys and girls in grades three through six was studied by Maloney, McGuire, Daniels and Specker (1989). Two questionnaires were used. A children's version of the Eating Attitude Test (CHEAT) was used to measure dieting behaviors, food preoccupation, bulimia and concerns about being overweight. This was a 26-item, six-point questionnaire. The other was a 16-item demographic and dieting questionnaire. To measure the peer influence on dieting two questions were asked: "have you ever had a friend on a diet to lose weight" and "would your friends like you more if you were thinner?" More than half the girls expressed a desire to be thinner, and this was more than for boys. Even though the peer pressure to diet was not stronger for this age group, 15% of the children reported that their friends would like them more if they were thinner. Also, higher CHEAT scores were associated with the belief that friends would like them more if they were thinner.

Like the above studies Littleton and Ollendick (2003) did a literature review on body satisfaction and disordered eating. They explored several factors among which included social factors, peer relationship and education. This review proposed that peer influence plays an important role in development of body dissatisfaction, and weight and dieting concern.

*Peer influence and body image.* Peer influence is seen as one of the powerful determinants of body image in adolescence. It is through social interactions that children as young as age five are aware if they are overweight and whether or not they should feel negatively about it (Smolak, 2004). Peer messages may adversely affect body image perception. These messages, according to Smolak, come from comments from peers

about weight and shape, and through discussions about body shape, weight concerns and weight control techniques.

The role of peers in body image concerns in young girls was studied by Dohnt and Tiggemann (2006). One hundred and twenty-eight girls aged 5-8 years were selected from four private schools. Body image was assessed through two measures: body dissatisfaction and appearance satisfaction. Body dissatisfaction was calculated from the difference in the ratings of current and ideal figures from the girls' version of the Children's Figure Rating scale developed by Tiggemann and Wilson-Barrett (1998) (See Figure-4). Appearance satisfaction was again a pictorial scale of perceived competence/social acceptance. This scale consisted of two pictures. The question related to first picture asked "are you *always happy* (4 points) or *usually happy* (3 points) with the way you look". The question related to second picture asked "are you *usually not happy* (2 points) or *always not happy* (1 point) with the way you look?"

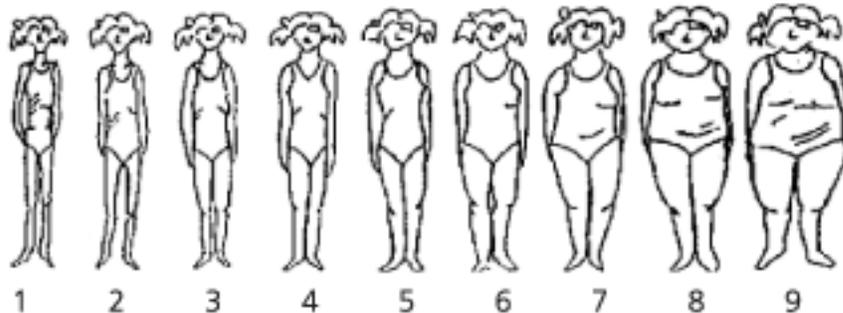


Figure 4. Girls' version of the Children's Figure Rating Scale (Tiggemann & Pennington, 1990).

Three aspects of peer influence measures, perceived peer body dissatisfaction, peer discussions, and peer imitation, were answered by the subjects. Peer body dissatisfaction was calculated using ratings of line drawings. Peer discussion was calculated using a 3-point Likert-type scale with questions, like, “do you and your friends talk about the way pop stars look.” Imitation was calculated through questions concerning the girls desire to be like their peers. All questions were preceded by a brief pictorial discussion. The results indicated that peer discussion and imitation were significantly related to each other. The perceived peer body dissatisfaction score was the strongest predictor of girls’ own body dissatisfaction and also dieting awareness. If the friends desired a thinner ideal figure, the girls, too, desired a thinner ideal figure.

Apart from the direct discussions and comments, peers influenced body image perceptions through their own shape and size. These discussions tend to affect body image perceptions negatively. Grogan (1999) interviewed adolescent girls and reported that thinner friends than self can influence a negative body image in young adolescent girls and make them envious of their friends.

*Peer influence and clothing.* Research has shown that as adolescents grow up, parental influence on clothing purchases decreases while peer influence increases (Damhorst, 2005; Kernan, 1973; May & Koester, 1985; Roach & Eicher, 1965). Clothing plays an important role for adolescents in peer group participation (Forney & Forney, 1995; Hamilton & Warden, 1966; Kelley, Good & Walter., 1974) and acceptance (Kelley et al., 1974; Kness, 1983; Littrell & Eicher, 1973; Smucker & Creekmore, 1972).

Peers become an important source of information and influence for clothing behavior, for tweenage girls, and are often more important than parents. Kernan (1973)

commented that “clothing and cosmetic fashions likely are considered by adolescent girls as shibboleths – their proof of togetherness with high school girls and the life style... [making them] complaint shadows of older girls” (p. 349). The increase of peer influence on clothing purchase practice was further established by May and Koester (1985). This influence included going shopping and choosing clothes. Friends and peers were rated as the top source (about 37%) of fashion information for tweens (Hardt & Craig, 2005).

During adolescence, the desire to belong to an identifiable peer group is often expressed through clothing, hairstyle and behavior. Such is the importance and the need for conformity that even in 1895 Durkheim observed, “If I do not submit to the conventions of society, if in my dress I do not confirm to the customs observed in my country and in my class, the ridicule I provoke, the social isolation in which I am kept, produce, although in an attenuated form, the same effects as a punishment in the strict sense of the word” (Kelley & Eicher, 1970, p. 246). From their four-year longitudinal study, Kelley and Eicher concluded that appearance and clothing was an important factor for teenagers in their choice of friendship.

Peer conformity with regards to clothing was explored in a study by Smucker and Creekmore (1972). One hundred and twenty-one boys and 110 girls from a high school sophomore class were surveyed and observed. The questionnaire was concerned with what “most were wearing.” This study confirmed that awareness of and conformity to clothing was highly related to peer acceptance. The relationship between clothing awareness and conformity to clothing was significant and influenced by environmental factors such as income level, differing views and freedom in selection.

Student roles in high school communities and their clothing behaviors were studied by Hamilton and Warden (1966). This study of 294 high school juniors stressed the importance of clothing in peer groups. The questionnaire was developed on the basis of interviews with student leaders and teachers. Students were divided into three groups: acceptable, nonacceptable and a tendency toward nonacceptable. Acceptable dress, as defined by the interviewees, was the one that conformed to the clothing worn by a majority of students. This study found that peer influence was seen more for junior girls rather than boys. The results, also, indicated that clothing behavior played an important role in conformity-individuality conflict for students, and girls with extreme clothing behavior were reported to be ignored by their peers.

Peer pressure and popularity of certain clothing items result in a sameness of clothing and appearance. Forney and Forney (1995) reported that clothing decisions concerning gang dressing and fashionability highly depended on a friend's advice. Similarity in clothing practices was further affirmed by Kelley et al. (1974). This study related social interaction to dress among eighth grade students. Of the 324 working and lower social class African-American and Caucasian adolescents, it was also reported that about 18% of them said they would join social groups if they had special dress.

Peer influence in clothing not only provokes the need for conformity, it also can create feelings of clothing deprivation or satisfaction. As defined by Kness (1973), clothing deprivation is "an individual's discontent with his/her clothing in relation to his/her peers; an individual feels he/she does not have enough clothing to be satisfied" (p. 662). Kness defined clothing satisfaction as contentment with clothing, again in relation to peers. On the basis of these definitions of clothing deprivation and clothing

satisfaction, Francis (1992) studied the effects on social participation for 336 high school students enrolled in the 9<sup>th</sup>-12<sup>th</sup> grade at six high schools (ages 13 to 20).

Francis's questionnaire consisted of two scales. The Perceived Adolescent Relationship scale measured social participation and consisted of two subscales: Social Competence and Social Participation. Each item was measured on a 7-point Likert-type scale. The Perceived Clothing Deprivation scale measured independent variables and consisted of two subscales: Inability to Buy and Clothing Deprivation Relative to Peers. Questions used a 5-point Likert-type scale. The inability to buy was concerned with the inability to buy clothes, and also the inability to buy the desired quality and quantity. The clothing deprivation scale measured concern with clothing in comparison to peers. Results of this study were consistent with the notion that clothing deprivation is related to social participation. For both inability to buy and clothing deprivation relative to peers, high perceived clothing deprivation was related to both social competence and social participation. Francis also speculated that low self-concept was associated with both clothing deprivation and low social participation.

### *Psychological Factors Influencing Tweens*

A cognitive approach can be used to explain why people behave in a certain way, why some images influence some people more than others, and other such psychological issues. *Cognitive theory* emphasizes the organization and processing of concepts and beliefs and their effects on self-judgment (Michener et al., 1990). Self-schemas that are important in information processing are “cognitive generalization about the self” (Jung, Lennon & Rudd, 2001, p. 173).

Higgins (1987) identified three domains of self: (a) the *actual* self, (b) the *ideal* self, and (c) the *ought* self. The actual self is the representation of self that one thinks they actually possess. The ideal self is the representation that one wishes to possess. The ought self is the representation that one thinks they should or ought to possess. *Self-discrepancy* theory postulates that discrepancies exist when there are disparities between these selves (Higgins, 1987). For example, if an individual perceived their ideal body size to be thinner or heavier than their actual body size, body image disparity exists. According to Jung et al. (2001), cultural standards of beauty further foster discrepancies between the actual and the ideal self or actual and ought selves.

Factors related to self-concept indirectly influence the buying behavior of an individual. Decisions about buying and wearing clothing are often governed by factors such as body dissatisfaction, body image, self-esteem and notions of attractions. In the section below, the effects of body dissatisfaction, body image and self-esteem on tween development are discussed. Also, addressed is the effect of these psychological factors on tween clothing behavior.

### *Body Dissatisfaction*

Body dissatisfaction, in the literal sense, means dissatisfaction with one's own body. Barker and Galambos (2003) defined body dissatisfaction as the "effective component of the multi-dimensional construct of body image, that is, how individuals feel about their bodies" (p. 141). Body dissatisfaction is the subjective negative evaluation of the body (Presnell, Bearman, & Stice, 2004) and may be calculated by the difference between ratings of current body image and ideal body image (Fitzgibbon et al., 2000).

Body dissatisfaction is associated with disordered eating, emotional distress, preoccupation with appearance and other serious measures like unnecessary surgeries. This dissatisfaction with appearance and body is said to increase with age (Davies & Furnham, 1986). Satisfaction with nine body parts was studied for four age groups of British female adolescents (Davies & Furnham, 1986). A total of 182 girls, ranging from age 11 through 18 years, were surveyed. Body satisfaction/dissatisfaction was assessed by positive or negative statements about bust, waist and hips. The girls were also asked to rank nine body features according to the amount of distress caused and finally an open-ended question asked if they were satisfied with their body.

Analysis showed that dissatisfaction increased with age, particularly with hips which increased from 22 to 62 percent. For the nine body features, older girls became more concerned with body parts while the pre-pubescent girls showed distress caused by such features as teeth and feet. The study also found that as girls become proportionately heavy they become less satisfied with their waist and hips.

The Body Shape Satisfaction scale (Pingitore, Spring, & Garfield, 1997; Secord & Jourard, 1953) was used by Neumark-Sztainer, Goeden, Story and Wall (2004) and included a five-point, Likert-type scale measuring satisfaction with height, weight, body shape, waist, hips, thighs, stomach, face, body build, and shoulders. Neumark-Sztainer et al. measured these satisfaction scores with physical and sedentary activities. The subjects included 4,746 boys and girls 11-18 years old. More girls than boys were dissatisfied with their bodies. Associations between body dissatisfaction and physical activities were not significant but lower levels of body satisfaction were not associated with higher levels of physical activity levels.

Research has identified various risks (Barker & Galambos, 2003; Presnell et al., 2004) and resource (Barker & Galambos, 2003) factors for body dissatisfaction in adolescence. Risk factors can be broadly divided into social, physical and interpersonal factors. Social risks such as peer and family influence and teasing have already been discussed in the previous section of this literature review.

Physical risk factors for body dissatisfaction are weight or body mass index BMI (Barker & Galambos, 2003; Fitzgibbon et al., 2000; Presnell et al., 2004), pubertal status and figure management behavior. Interpersonal risk factors, according to Presnell et al. (2004), include such emotional factors as perceived lack of support from friends and families, and a negative effect caused by negative mood. They studied 531 adolescent boys and girls of ages 16-19 years. In this study, they investigated the probable risk factors for increased body dissatisfaction. Independent variables like perceived pressure to be thin (from family, peers, dating partners, and media), thin-ideal internalization, adiposity, social support and negative affectivity were tested against body dissatisfaction. The study found that risk factors were different for boys and girls. Increased body mass resulted in increased body dissatisfaction for girls, but not so much for boys. Among the risk factors, only perceived pressure to be thin from peers was a significant predictor of body dissatisfaction in the combined sample.

Both risk and resource factors for body dissatisfaction were also examined by Barker and Galambos (2003) for 170 boys and girls of grades 7<sup>th</sup> and 10<sup>th</sup>. These students were participants of a three year longitudinal study. The risk factors for this study included physical factors (puberty, BMI, and figure management) and contextual experiences (appearance related teasing and social involvement). The resource factors

included perceived acceptance from parents, attendance at religious activities and involvement in sports. It was hypothesized that resource factors would mediate the effect of risk factors on body dissatisfaction. Girls, in this study, were more dissatisfied with their bodies than boys. Among physical factors, BMI and figure management predicted greater body dissatisfaction. For example, a higher BMI predicted greater body dissatisfaction. Appearance related teasing was a stronger predictor for contextual factors. These results were similar to the study done by Levine et al. (1994), who also reported that weight and appearance related teasing resulted in increased body dissatisfaction.

*Body dissatisfaction and clothing.* Attachments, like clothes, to the body communicate messages about each person and society at large (Miller-Spillman, 2005). The proximity of clothing to the body lays the ground for the relationship between body dissatisfaction and clothing behavior. Therefore, it can be argued that there might be a relationship between body dissatisfaction and clothing.

Lee's (2006) study focused on the relationship between tween girls' body dissatisfaction and clothing decision factors regarding what clothes to wear. A body dissatisfaction score was determined using the Stunkard scale (Stunkard, Sorensen & Schulsinger, 1983) by calculating the difference between the perceived ideal and current body size. The study reported a negative correlation between body dissatisfaction and girls' interest in choosing clothes on the basis of level of comfort. As the body dissatisfaction increased, the girls rated comfort above other factors. Also, Lee noted that plus size girls were generally more dissatisfied with their bodies than normal sized girls and rated comfort higher than normal girls.

## *Body Image*

Even though there is little difference between body satisfaction/dissatisfaction and body image, this study defines these two terms separately. Whereas body dissatisfaction is the discrepancy between current and ideal body size, body image is a person's perceptions and views about one's physical self (Cash & Fleming, 2002; Grogan, 1999). The definition of body image has come to encompass different elements and become a multidimensional phenomenon (Pruzinsky & Cash, 2004). Schilder identified three elements of body image: "body size estimation (perceptions), evaluations of body attractiveness (thoughts) and emotions associated with body shape and size (feelings)" (Grogan, 1999, p. 1). However, Thompson, Heinberg, Altabe and Tantleff-Dunn (1999) defined 16 other terms related to some component of body image. These are: "weight satisfaction, size perception accuracy, body dissatisfaction, appearance evaluation, appearance orientation, body esteem, body concern, body dysphoria, body dysmorphia, body schema, body percept, body distortion, body image, body image disturbance and body image disorder" (p. 10).

Altabe and Thompson (1996) defined body image as an "internalized view of one's appearance that drives behavior and influences information processes" (p. 171). They used a combination of Higgins's (1987) self-discrepancy theory and Markus's (1977) self-schema theory to interpret body image as internalized self-representation. They hypothesized that body image would resemble self schema and activate the emotional trigger that caused self-discrepancy. The study was conducted in three waves to see if body image acted like a cognitive structure. The first study was done with 117 undergraduate girls ranging from age 18 through 41 years. Three measures were used

including a physical appearance selves questionnaire, body image measures and mood measures. Sixty-four female undergraduates participated in the second study. This study tested the hypothesis that body image has “information processing consequences” (p. 178). Finally, the third study was conducted with 102 students. This study reported that activities like reading fashion magazine, watching a movie, etc could result in a negative mood and increase body image distress. To summarize, body image was found to have the following properties: first, depression and anxiety stemmed from the activation of body image schema. Second, social engagements enhanced negative body image schema and resulted in mood shifts. And third, the characteristic of body image was its stability, which suggested a well-defined mental representations.

Self-schema and self-discrepancy as explanations of body image were further studied by Jung, Lennon and Rudd (2001). Eighty-eight college women participated in a two part experiment that investigated the effect of discrepancy between perceived actual and ideal self on body image, mood and self-esteem. In the first part of the study the participants responded to two appearance related questionnaires: Body Ideals Questionnaire (Cash & Szymanski, 1995) and Appearance Schemas Inventory (Cash & Labarge, 1996). The follow-up study was conducted on the basis of 16-photos shown as a stimulus. Participants responded to the following measures:

- The Joy and Distress subscales from the Differential emotions Scale (Izard, 1972) to measure positive or negative mood
- The Visual Analogue Scales VAS (Heinberg & Thompson, 1992) to measure the mood distress, body dissatisfaction and overall appearance dissatisfaction

- Janis-Field Self-Esteem Scale (Eagly, 1967; Janis & Field, 1959) to measure the social self-esteem
- Rosenberg's (1965) self-esteem scale to measure global self-worth
- Two scales (appearance evaluation and appearance orientation) from Multidimensional Body-Self Relations Questionnaires MBSRQ

Results showed that appearance self-discrepancy related to all measures of body image. This is to say that women with a discrepant view of their body had higher body image dissatisfaction. Also, women with a discrepant body view scored lower in both measures of self-esteem: social and global.

Pruzinsky and Cash (2004) used the term “body images” in order to “convey the construct’s complexity and inherent multidimensionality” (p. 7). This multidimensionality of body image can be predicted by various constructs. These include:

- Familial influence (Curtis, 1991; Levine et al., 1994; Usmiani & Daniluk, 1997).
- Peer influence (Dohnt & Tiggemann, 2006).
- Media and other cultural influence (Dohnt & Tiggemann, 2006; Heinberg & Thompson, 1995; McCabe & Ricciardelli, 2003; Tiggemann, Verri, & Scaravaggi, 2005).
- Pubertal timing (Blyth, Simmons, & Zakin, 1985; Brodie, Bradley & Slade (1994).
- BMI (Brodie, et al., 1994; Fitzgibbon, Blackman, & Avellone, 2000).

The relationship between family and body image and between peers and body image has been discussed in previous sections. Literature supports the hypothesis that

media is one of the important influentials on body image. Different modes of media like fashion magazines (Altabe & Thompson, 1996; Tiggemann et al., 2005), television (Heinberg & Thompson, 1995), and movies (Altabe & Thompson, 1996) affect body image perceptions. Media influence on body image will be addressed in more detail later in this review of literature.

Puberty affects body image negatively. As girls enter menarche they are more dissatisfied with their bodies. Freedman (1984) observed that

Puberty transforms a girl into a woman without her consent; it betrays her by making her both more and less feminine at the same time. The hormones that inflate her breasts, also layer her thighs with “unsightly” fat, and lower her legs with “superfluous” hair. The size, contours, smells and texture of an adult woman contradict the soft, sweet childish aspects of feminine beauty standards emphasized in the media (cited in Stephens, Hill, & Hanson, 1994, p. 144).

The effect of pubertal timing on body image and self-esteem were studied by Blyth, Simmons and Zakin (1985). Sixth graders from different school settings were asked to participate. Two hundred and twenty-five girls were selected and followed from seventh through tenth grade. Girls were interviewed and surveyed about their onset of menarche, and body image satisfaction and self-esteem. Four questions measured the satisfaction with body image. First, their satisfaction with three aspects of their bodies, height, weight and figure management, were rated. These were rated on a 4-point Likert-type scale from “not at all happy” to “very happy”. A second scale asked about perceived satisfaction with overall looks. This was rated from “not at all good looking” to “very good looking”. There was a significant difference among early, middle and late maturers

on their ratings of different aspects of body image. A preference for thinness was evident from the results of this study. Early maturing girls, who were comparatively heavier than late maturing girls, were less satisfied with their weight. Late maturing girls were generally more satisfied with their weight.

Brodie et al. (1994) reported contradictory results in their study. Perceived and ideal body image was studied in 59 pre- and 41 post-menarche girls. Mean age of pre-menarche girls was 9.3 and for post-menarche girls was 14.1. Body image was identified through (a) distorting mirror image and (b) 12 female body silhouette pictures. In addition to the pictorial measures, a body satisfaction scale was also used. Subjects rated 16 body parts on the basis of 5-point Likert-type scale from 1 (very happy) to 5 (very unhappy). Eight of the body parts involved facial features and the remaining ones involved parts of the body. No significant difference was found between pre- and post-menarche girls in their preference for a thinner body. An explanatory reason for these results might be the influence of the culturally accepted preference for a thinner body.

This study also reported a difference in the dissatisfaction with their non-head body parts. As the BMI for post-menarche girls increased, so did their dissatisfaction with body parts. The relationship of BMI and body image discrepancy was tested across three ethnic groups by Fitzgibbon, Blackman and Avellone (2000). Data were collected from 389 women representing Caucasian, Hispanic and African-Americans. Height and weight were collected for each participant. Nine line drawings by Stunkard et al. (1983) were used to calculate body image discrepancy. A positive relationship between BMI and body image discrepancy was reported. Caucasian women reported body image

discrepancy at a lower BMI (24.6) than Hispanics (28.5) and African0Americans (29.2). Thus, body image discrepancy varied in the three ethnic groups.

The relationship between BMI and body image discrepancy was also studied in adolescent girls and boys of 13-14 years of age. Wills, Backett-Milburn, Gregory and Lawton (2005) interviewed 36 teenagers half of whom were classified as obese or overweight and with the remaining half classified as normal weight. Contrary to the existing literature this study reported that not all overweight children considered themselves fat. These teenagers expressed positivity with their body shape and size.

*Body image and clothing.* Body image and clothes are both multidimensional concepts. Both are influenced by cognitive, social and cultural factors. Clothes as “second skin” have been said to be an extension to self and considered the closest to the environment (Horn & Gurel, 1981). People have used clothing as a medium of communication and also self-expression. With respect to body image clothing may influence people differently. When fit is an issue, clothes may confound the process of body image development (Kaiser, 1997).

Little research exists on the relationship between body image and clothing. However, the inherent characteristics of these terms make it an interesting relationship to explore. When there is body image discrepancy, clothing may be used as a coping strategy. Throughout the history of dress, one can see clothing used for hiding and conversely for revealing body parts. Researchers have suggested the use of selected clothing in order to achieve higher satisfaction with the clothed body (Kaiser, 1997; Rudd & Lennon, 1994). Kaiser (1997) provided an example of large jackets or other loosely fitted items worn with an intention of hiding certain body parts. In a study conducted by

Chattaraman and Rudd (2006), the relationship between aspects of body image and aesthetic attribute preference in clothing was explored. Through an internet survey of 199 female undergraduate students, they found that body image had a negative linear relation with aesthetic preference in styling. This implied that students with a lower body image preferred clothes that provided greater body coverage and vice versa.

### *Self-Esteem*

Self-esteem is a psychological concept that develops in the formative years. It is the attitude and feelings of an individual towards oneself. According to Simmons, Rosenberg and Rosenberg (1973), self-esteem is one of the important dimensions of self-image and is defined as “the individual’s global positive or negative attitude toward himself” (p. 554). Bee also defined self-esteem as a part of self-concept or self-image (Sukumaran et al., 2003). Karmos and Karmos (1979) defined self-esteem as a value and favorable opinion towards oneself (cited in Daters, 1990).

Assessment of self-esteem depends on how an individual evaluates himself/herself. Positive evaluation conveys higher self-esteem whereas negative evaluation conveys lower self-esteem. Various researchers have developed different scales to measure self-esteem. One of the most widely used self-esteem scales is the Rosenberg Self-Esteem Scale (Rosenberg, 1965). It was developed to acquire a unidimensional measure of global self-esteem in adolescents and adults. Rosenberg used a ten-item scale to measure self-esteem. This scale was based on Guttman’s scale with questions for individuals with high self-esteem as well as individuals with low self-esteem. The questions had four choices ranging from “strongly agree” to “strongly

disagree”. Rosenberg’s self-esteem scale has stood up to the challenges of rigorous validity and reliability tests.

Simmons, Rosenberg and Rosenberg (1973) used a modified version of Rosenberg Self-Esteem Scale to measure global self-esteem as a construct of self-image in 1,917 urban school children. The children ranged from ages 8-15 years. This study measured self-esteem on global and specific levels. The self-esteem measurement assumed eight individual characteristics: smart, good looking, truthful, good at sports, well-behaved, hard-working, helpful, and good at making jokes. The modified children’s version of Rosenberg self-esteem scale was based on a six-item Guttman scale. This scale had a 90.2% co-efficient of reproducibility, and a high trait, construct and face validity. An example of the type of questions follows:

One kid told me, “I am no good.” Do you ever feel like this?

*Yes*

*No*

If you circled Yes, Do you feel like, “I am no good”

*A lot*

*A little*

A low score indicated a low self-esteem. This study found that 12-14 year olds had lower self-esteem than 8-11 year olds.

Rosenberg (1989) identified two connotations of self-esteem. One connotation involved high self-esteem and the other was where a person thinks he/she is “good enough”. This means an adolescent might be contented with him/her and still considers himself/herself average (Rosenberg, 1989). Rosenberg considered high self-esteem as an expression of being “good enough”. According to Rosenberg, individuals with high self-esteem would demonstrate the following characteristics:

The individual respects himself, considers himself worth, he does not necessarily consider himself better than others, but he definitely does not consider himself worse, he does not feel that he is the ultimate in perfection but, on the contrary, recognizes his limitations and expects to grow and improve (Rosenberg, 1989, p. 31).

The Harter Self-Esteem Questionnaire (1985) is another measurement available to assess self-esteem. This questionnaire was designed for children aged 8-15 and measures multiple domains of self-esteem. The Self Perception Profile for Children, in addition to global self-concept, contains five specific domains: scholastic competence, social acceptance, athletic competence, and physical appearance. Questions in the scale were developed in a “structured alternative format” where the child was first asked to choose the quality and then the level that was true for them. For example: “some kids often forget what they learn BUT other kids can remember easily”. Children first associated with the kind of kid they were and then answered if it was “really true” for them or “sort of true” for them. A total of 36 questions were asked, six for each domain. The internal consistency reliability scores for each group, based on Cronbach’s Alpha, were acceptable (between .71 to .84). This is comparatively lower than the reliability score of Rosenberg’s Self-Esteem Scale. Also, Harter’s questionnaire resulted in scores for six subscales, which makes it complex to use when self-esteem is studied with other constructs. Other popular scales like the Coopersmith Self-Esteem Inventory, the Piers-Harris Children’s Self-Concept Scale can be complex for respondents and in the latter case time consuming (Sukumaran et al., 2003).

Self-esteem is affected by various sources. Parents and peers are the major source of the formation of self-esteem (Gecas, 1972; Michener et al., 1990; Paterson, Pryor, & Field, 1995; Rosenberg, 1989). Michener et al. (1990) identified three categories. First was family experience, which looked at the parent-child relationship. Second was performance feedback that evaluated successes or failures of performances. And third, social comparison compared the successes or failures with set goals or others. Rosenberg (1989) mentioned social, cultural, contextual and interactional factors affecting self-concept, which is closely related to self-esteem. Social factors included family, peers, media and society.

Researchers investigated the relationship between self-esteem and other psychological constructs like body image (Lennon et al., 1999) and attractiveness (Mathes & Kahn, 1975; O'Grady, 1989). A positive relationship exists between body image and self-esteem. As body image scores become more positive, self-esteem scores increased and vice-a-versa. Rudd and Lennon's (1994) model was used by Lennon et al. (1999) to investigate the relationship between body image, attitude toward gender role and self-esteem in young college women. Self-esteem was measured through the Rosenberg Self-Esteem Inventory and body image was measured using the Multi-Dimensional Body Self Relations Questionnaire (MBSRQ) developed by Cash and his team members. Questionnaires were completed by 534 college women representing a mix of Korean, Singaporean, African –American and Caucasian-American women. Of the eleven body image subscales, seven were significant predictors of self-esteem, which meant that a positive body image score was symbolic of high self-esteem.

The relationship between physical attractiveness and self-esteem was studied by Mathes and Kahn (1975) in 211 undergraduate men and women. Physical attractiveness was positively correlated with self-esteem for women but not for men. Similar results were reported by O'Grady (1989). He, too, found a significant and positive correlation between attractiveness and social self-esteem for women but a negative correlation for men. This means that attractive women score higher on self-esteem scales.

*Self-esteem and clothing.* Self-esteem is an evaluative component, which is based on that part of the self that is responsible for judging, evaluating and responding to the self as an object. Clothing, too, is a personal component that communicates information and aids in the establishment of self-identity (Daters, 1990). Michener et al. (1990) listed four techniques to protect and enhance self-esteem. These were: manipulating appraisals, selective information processing, selective social comparison, and selective commitment to identities. Clothing then, as a part of individual's identity and a non-verbal communication symbol, could be related to self-esteem.

Creekmore (1974) identified two functions of clothing with relation to self-esteem (cited in Kaiser, 1997). She noted that clothing served an *adaptive function* when self-esteem was low and an *expressive function* when self-esteem was high. Stone (1962) identified four responses mobilized by clothing: identities placed, values appraised, moods appreciated and attitudes anticipated. He hypothesized that an individual clothed himself/herself for an audience whose response would in turn establish one's self. Secondly, he hypothesized that the self of a person is validated and/or established when the *programs* (responses made about the wearer of clothes by the wearer), and *reviews* (responses made about the wearer of clothes by others) coincide.

Research linking self-esteem to clothing is mostly correlation (Kaiser, 1997); which means that a relationship does exist between the two but it is hard to tell what predicts what. Self-esteem was the strongest factor affecting the relationship between the self-concept of adolescents and clothing uses in the study done by Humphrey, Klaasen and Creekmore (1971). Two dimensions of self-concept, self-esteem and instability, were studied in 270 girls and 240 boys of high school. The eight clothing uses identified were aesthetic, approval, attention, comfort, dependence, interest, management and modesty.

Pearson product correlation revealed that attention and aesthetic uses were both highly correlated with self-esteem in boys and girls, which meant that both boys and girls with higher self-esteem were interested in clothing and used it as a means of attraction. In addition, girls with higher self-esteem enjoyed experimenting with clothes and were concerned with selection and care of clothing. The findings of this study supported the hypothesis that “clothing is used both as a means of coping with environmental situations and a means of self-expression, since the boys and girls with high self-esteem were concerned with the same clothing uses as those with high instability at one point in time” (Humphrey et al., 1971, p. 249).

A Proximity of Clothing to Self (PCS) Scale was developed by Sontag and Lee (2004) to study the change in importance of clothing with relation to self-image, self-esteem, body image and body cathexis. This paper summarized the results of phase-one and phase-two of a multi-phased research study. The end of phase-two resulted in a four-factor, 24-item PCS scale for adolescents aged 14-20 years. These four factors measured clothing as a dimension in relation to self as structure, self as response to judgment of

others, the evaluative and affective processes of self-esteem, and body image and body cathexis.

In contrast to the above studies, Daters (1990) reported a lack of relationship between clothing comfort and the level of self-esteem in social, school and leisure situations. Daters (1990) used Wages (1974) definition to define comfort. According to Wages, clothing comfort is a complex process comprised of social, psychological and physical aspects. Moreover, the importance of comfort changes according to various situations in life. A random sample of 197 girls from 7<sup>th</sup> and 8<sup>th</sup> grades was selected from two schools in Nebraska school district. Newton's Clothing Comfort Dimensions, Importance by Situation and the Karmos and Karmos Sliding Pearson Test of Self-Esteem (see Figure 5) were used as instruments. This study reported that clothing comfort was more important in social and school situations and not so much in leisure situations. However, no difference was found in the self-esteem scores between girls who rated comfort as important and those who rated comfort as unimportant. Even though, Daters did not find a significant relationship between clothing comfort and self-esteem, self-esteem might still be related to other dimensions of clothing.

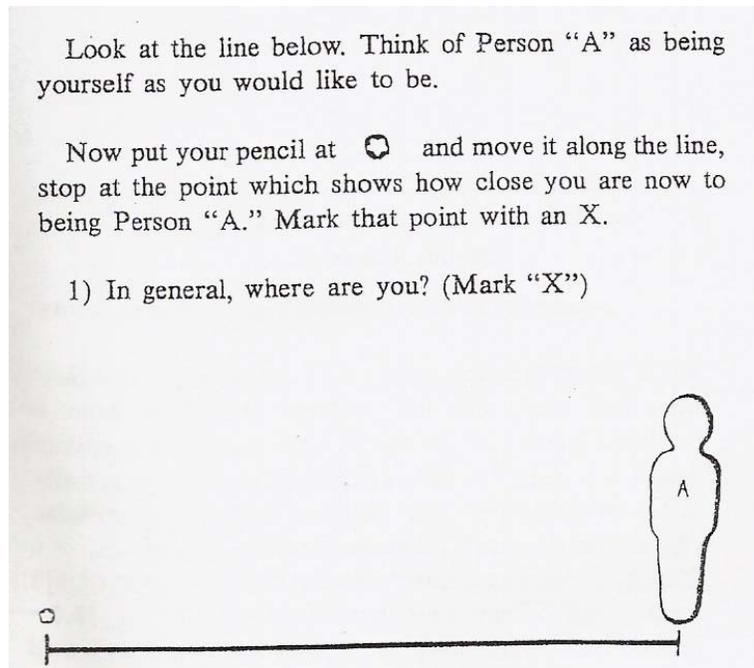


Figure 5. Sliding Person Test of Self-esteem (SPERT) (Daters, 1990)

### *Environmental Factors Influencing Tweens*

According to American Heritage Dictionary (n.d.), environment means “the totality of circumstances surrounding an organism or group of organisms, especially the complex of social and cultural conditions affecting the nature of an individual or community”. Thus environment could be considered a sum total of surrounding things, place and cultural norms. Roach-Higgins, Eicher and Johnson (1995) investigated cultural and time and place constructs that influence dress and identity. According to them, cultural constructs include technological resources, moral standards, health and hygiene, aesthetic expression and rituals. Time and place constructs included fashion, ethnic groups and cosmopolitanism. Cosmopolitan dress is a term reintroduced by Eicher that defines a dress worn across national boundaries (Roach-Higgins et al., 1995).

Information regarding past happenings, present developments and future possibilities are available through various modes of media. These modes of media reflect the accepted social norms at any given point in time. As discussed earlier individuals of all ages seek to conform to these set standards or the standards of their reference group. Based on this notion, individuals are seen as comparing themselves to the ambassadors of society and culture. This process can be explained by the *Social Comparison Theory*, which states that “individuals have a need to hold valid attitudes and beliefs about their environment and their own abilities” (Festinger, 1954, cited in Stroebe & Stroebe, 1996, p. 602).

Social comparison is both a self-evaluative and self-enhancing process. Self-evaluation is a process when individuals evaluate the validity of their opinions and abilities based on the opinions of others or through a comparison process (Stroebe & Stroebe, 1966). The outcomes of this comparison may lead to self-enhancement when one’s abilities compare well with others (Stroebe & Stroebe, 1996). According to this, the social comparison process will lead tweens to compare their bodies and clothes with the social agents portrayed in media. More positive comparisons will then lead to self-enhancement i.e. an increased self-esteem and a more positive body image. The impact of these sources on tween clothing behavior and self-concept are discussed below.

#### *Media Exposure*

Tweens today live in a technologically savvy world. They are better at using computer technology than the previous generations. Almost, two-thirds of teens and tweens have easy access to cable through the television in their bedrooms (Cohen-Sandler, n.d.), making television the number one influence (Siegel et al., 2004) and

source of brand information (Lindstrom & Seybold, 2003). Approximately 85% of tweens used television as a source of brand information (Lindstrom & Seybold, 2003). In addition to the old media (television, radio, magazines), tweens today are also influenced by taped shows, videos, movies, music videos, internet and digital cable (Siegel et al., 2004).

Contemporary U.S. media images portray unrealistically thin bodies and attractive characteristics as cultural standards of beauty (Damhorst, Miller-Spillman, & Michelman, 2005; Jung & Lennon, 2003). These ideals of beauty impact the psychological and physical development of young people. Adolescents use media images to learn about self-expression and self-image (Damhorst et al, 2005). Appearance related advertising contributed to increased body image disturbance in 139 women in a study by Heinberg and Thompson (1995). A Visual Analogue Scales (VAS) was used to measure changes in body satisfaction after viewing commercials. The study reported that media presented images of thinness negatively affected body satisfaction. This means that the more the subjects viewed appearance related commercials the more dissatisfied were they with their bodies, and they also had more body image disturbances.

Media influence was also a significant predictor of body image and dieting awareness in girls as young as six years in the study done by Dohnt and Tiggemann (2006). One hundred and twenty-eight girls responded to a questionnaire as a part of the study. Body image was measured through Body Dissatisfaction and Appearance Satisfaction. Television and magazines were looked at for media influence. Most of the girls watched television (84%) and looked at magazines (69%). Girls who watched more television especially music videos, were more aware, of dieting and desired a thinner

body. Reading women's magazines was negatively related to appearance satisfaction. However, this study did not relate media influence with the cognitive aspect of body image – body dissatisfaction. This lack of relationship might be due to the young age of these subjects.

Body dissatisfaction is significantly and inversely related to media exposure such that with greater media influence lower body satisfaction is found. Usually, females are more obsessed about their bodies (Cash, 2005) and this is reflected in and is promoted by advertisements in many women's magazine (Stephens et al., 1994). Hargreaves and Tiggemann (2003) reported that girls as young as 13 years, who viewed appearance related commercials, were more dissatisfied with their bodies. The result of this study supported the general hypothesis that attractiveness in advertized images lead to increased body dissatisfaction.

Sinton and Birch (2006) used the Multidimensional Media Influence Scale (MMIS) for their sample of pre-adolescent girls. They, too, found that awareness of media messages affected the appearance schemas of young girls, i.e. the satisfaction levels of their bodies and appearance related concerns. Media exposures affect both the current body ideals and predict future body ideals and dieting habits. Harrison and Hefner (2006) conducted a longitudinal study with 257 preadolescent girls aged 7-12 years. They predicted that both television viewing and magazine reading would predict future body ideals. Two studies were conducted one year apart. After controlling for age, race, perceived body size and current body ideals in wave one of the study, television viewing predicted body ideals in wave two. Thus, present media influence predicted future body ideals.

Not all modes of media influence adolescents equally. For example, Harrison and Hefner (2006) reported that among television and magazines, television predicted disordered eating in pre-adolescent girls. Correlation patterns of body dissatisfaction with television and magazines were different for 104 female undergraduates aged 17-26 years, in the study by Tiggemann (2003). She studied the effects of television and magazine exposure on body dissatisfaction, disordered eating, awareness and internalization of societal ideals. She found that while magazine reading was related more with internalization of thin ideals watching television was significantly and negatively associated with lower self-esteem and body satisfaction.

Contrary results were found by Kim and Lennon (2007) who reported that exposure to magazines, not television, was significantly associated with disordered eating and body dissatisfaction. They reasoned that it was probably due to the lack of focus on looks of women in television, unlike fashion magazines. The hypotheses, that media exposure (television and magazine) influenced body image, self-esteem and eating disorders, were tested with a convenience sample of 114 undergraduate women. A significant relationship between fashion magazine readability and eating disorders was reported. While television did not affect eating disorders, fashion magazines did not affect self-esteem.

*Media exposure and clothing.* Among various fashion sources media was the second most influential factor for tweens (23.6%). Among different modes of media magazines (13.7%) ranked the highest followed by television (6.4%), movies (2.0%) and the internet (1.5%) (Hardt & Craig, 2005). Tweens in the focus group of study conducted by Grant and Stephen (2005) listed advertising on television, fashion magazines and

movies as powerful source of fashion information. However, these tweens, who read and watched clothing advertisements, were more influenced by their friends and family.

Researchers have looked into the relationship of media influence and clothing buying behavior. May and Koester (1985) reported that media influence, even though minimal, was found to be an influential for survey respondents. The reason might be that these respondents looked at clothing advertisements more frequently than they actually bought clothes similar to advertisements. Media influence increased to “half the time” for senior and intermediate girls. Similar results were reported by Forney and Forney (1995). The respondents in their study chose clothes similar to that in clothing advertisements. However, these studies were done more than a decade ago. Easy access to a wide spectrum of media sources may result in a stronger influence on tween buying behavior.

As mentioned earlier, media images portray a thin ideal. This is especially true for clothing-related advertisements. This type of media exposure can create feelings of clothing deprivation. Clothing deprivation is especially a problem for plus sized girls due to their inability to find a particular style, color, fit or size in retail shops.

### *Physical Factors Influencing Tweens*

Behavior and attitudes of individuals can be explained, to an extent, by the role they are performing. Horn and Gurel (1981) defined role as a particular position occupied by an individual and the behavior associated with it. *Role Theory* is “based on the premise that people conform to norms defined by the expectations of others” (Michener et al., 1990, p. 29).

Age and sex are among the key variables of role theory. Differentiation on the basis of these two factors is a determinant of social behavior (Horn & Gurel, 1981). There are great differences in the cultural expectations and norms for boys and girls. Restrictions and freedoms in dress are defined by culture. In almost all cultures, there is a distinction in the dress of boys and girls i.e. gender roles are often depicted by the clothes.

From early childhood, children learn appropriate sex roles. Roles are also defined by age. For example, in childhood, one is expected to fulfill the role of a child, a student, a brother/sister or a friend. As one grows, one assumes new roles like that of a spouse, a parent, an employee. However, there is not a marked difference in clothing with regards to age (Horn & Gurel, 1981).

Factors such as age and gender help explain various cognitive, social and psychological aspects of an individual. With age also comes physical maturity that may result in weight gain and deposits of fat at unnecessary places. Hence size or weight is also related to cognitive and social development. In this section, the factors mentioned above are discussed in relation to self and clothing behavior.

### *Age*

As one proceeds from infancy to adolescence, one experiences a change in personality, behavior and attitude. For example, with age parental influence decreases and peer influence increases (Damhorst, 2005; Kernan, 1973). Also, as discussed in the previous sections, peer group conformity becomes more important for adolescents. Finally, pubertal changes brings with it increased dissatisfaction with body (Blyth et al., 1985; Brodie et al., 1994).

Davies and Furnham (1986) reported that, for their sample group of girls from age 12 to 18 years, satisfaction with various parts of body especially upper thighs and hips decreased with age. Also, different parts of the body produced distress for their different age groups at each stage. For example, where feet and teeth produced distress for younger girls, older girls were more dissatisfied with their body parts.

In an exploratory study, Brock (2007) reported some age-related findings. Forty-one tween girls, divided as younger tweens (age 9-11) and older tweens (age 12-14), differed in three areas: brand and store recognition and priority, style preferences, and body image. Older girls as compared to younger girls were involved with brand and store-specific shopping, expressed specific style preference and were less satisfied with their bodies.

Importance of clothing, both as means of conformity and socialization, increases with age (Damhorst et al., 2005). Significant age-related differences were found for clothing satisfaction in the study done by MacGillivray and Wilson (1997). The Clothing Use Scale developed by Humphrey et al. (1971) was administered to 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> graders. These respondents were labeled as early, middle and late adolescents. The authors reported that compared to early adolescents, late adolescents were more dissatisfied with their clothes and bodies. Results suggested that as one matures internalization of cultural standards of attractiveness become stronger.

### *Gender*

Research has suggested significant differences between males and females both in terms of clothing (MacGillivray & Wilson, 1997) and body concerns (Barker & Galambos, 2003; Mathes & Kahn, 1975; Presnell et al., 2004). Girls more than boys were

dissatisfied with their bodies, and more risk factors were identified for girls rather than boys (Barker & Galambos; Presnell et al., 2004). The nature of body dissatisfaction differs for girls and boys. Girls dissatisfied with their bodies want to be thinner whereas boys' dissatisfaction is often accompanied with a desire to heavier or muscular (Ricciardelli & McCabe, 2001).

An interesting point was reported by Hamilton and Warden (1966) regarding different influentials on clothing behavior. They found that girls were more influenced by their peers while boys were more influenced by their families. Girls, in the study of MacGillivray and Wilson (1997), showed greater concern about clothing approval, more dependence on clothing, and indicated more non-conformity in clothing use than boys. Boys also differed significantly in conformity meaning that they showed a greater tendency to imitate their peers. Thus, girls in this study showed a tendency to use clothing as a means of self-expression and also approval from their friends.

#### *Body Mass Index (BMI)*

As defined earlier, BMI is a measure that expresses the relationship between height and weight, and is age and sex specific for children and teens. With an upward trend in the levels of obesity in America (CDC, 2007; WHO, 2006) there is an increase in plus size consumers. That is to say there are more consumers with a higher BMI. Body mass index is said to be negatively correlated with body-image (Smolak, 2004). This means people with higher BMI are more dissatisfied with their bodies and vice versa. Brock (2007) studied the characteristics of plus and normal sized tweens in the context of apparel markets and also body image perceptions. She found some size-related results highlighting plus sized girls' dissatisfaction with clothing. Brock reported that plus sized

girls were unable to find clothing that they liked and that fit them. Also, plus sized girls were more dissatisfied with their bodies than normal sized girls. Therefore, when studying tweens it becomes more meaningful to divide them according to size i.e. normal size and plus size.

### *Clothing Factors Influencing Tweens*

Interaction and communication among humans is facilitated by words, gestures and symbols (Lal, 1995). Clothing is one such symbol. The basic assumption of *Symbolic Interaction Theory* is that people interpret the actions of others. Within the clothing context, this theory deals with both appearance management and appearance perception i.e. it is a two-way process (Kaiser, 1997). According to this view, it can be assumed that “humans create their own realities, in part, by managing appearance” (Kaiser, 1997, p. 41). Kaiser (1997) also argues that people use symbols to fit their line of actions and interpret meanings associated with it.

Another view suggested that a person’s self-concept is the result of both imagined and actual selves (Solomon, 1983). People evaluate roles and selves by products and thus products have some symbolism attached with them. Some of the postulates developed by Solomon explaining the symbolic value possessed by products are as follows:

The actors’ reflexive evaluation of the meaning assigned by others is influenced by the products with which the self is surrounded. This (real or imagined) appraisal by significant others is, in turn, incorporated into self-definitions (p. 323).

Product symbolism is generated at the societal level but may be consumed at the level of individual experience. Products are consumed both for their social meaning (as symbols) and for their private meaning (as signs) (p. 324).

Clothes as symbols constitute an integral part of one's appearance. Also, both social meaning and private meaning is attached with them. One other important theory describing the relation between selves and symbols is *Symbolic Self-Completion Theory* (Wicklund & Gollwitzer, 1982). This theory postulates that individuals experience self-incompletion when they perceive shortcoming with certain symbols. This will lead to compensation either in the form of substitution or addition of new products (Gollwitzer & Moskowitz, 1996, p. 371). With this view, clothing items can be said to complete a perceived self of an individual and provide meaning.

Clothing is referred to as a "second skin" (Horn & Gurel, 1981). Clothing started being used as a means of protection for primitive man and now has grown to be an inseparable part of individuals. Theorists looked into the specific use of clothing. Horn and Gurel (1981) listed four reasons to explain why people began to wear clothes. First is the modesty theory that explained modesty as a basic function of clothing. The second theory explained the use of clothing to attract attention. A third theory is related to the protection and utility aspect of clothing. And finally, the fourth theory included such aesthetic functions as: a sexual lure; indicator of status, bravery and skill; a means of identification of group membership; and as an extension to self.

In focus group interviews analyzed by Brock (2007), she found eight emerging themes for apparel preferences of tween girls. These were brand, color, comfort, fit, labeled size, quality, store-preference and style. Among these, fit was the theme most

supported by the content analysis. Also important was brand and store-specific apparel preferences. Finally, the style of the clothing was important. Modesty, price, consistent sizing, agreement with parent and fit were important apparel needs as described by tween girls.

Both intrinsic (fabric, style, size, ease) and extrinsic (peer group opinion, fashion, brand name, feeling good, feel in control, feeling of fit-in) factors played a role in the evaluation and expectation of fit in a study of 13-year old girls (deKlerk and Tselepis, 2007). A structured questionnaire was administered to girls that investigated

- What the respondents expected with regard to fit;
- How the respondents evaluated fit in practice; and
- Satisfaction with the various dimensions of fit (deKlerk & Tselepis, 2007 p. 418)

Results indicated that these tweens were concerned with both the functional aspect and emotional effect of fit. Since girls this young did not possess expertise in evaluating fit, functional and emotional effect were evaluated after purchase. It was when the respondents wore clothes that they were dissatisfied with fit.

The above discussion demonstrates that both intrinsic and extrinsic characteristics of clothing affect the psychological and emotional aspect of clothing. Inability to find clothing of the right style that fits may result in feelings of deprivation and dissatisfaction. Plus size tween girls are even more affected by this problem.

### *Cultural and Demographic Factors Influencing Tweens*

Culture is an interdisciplinary subject and is included in different areas like anthropology, sociology, consumer behavior, and cultural and ethnic studies. Different objects at different points in time provide meaning to cultural perspectives. Clothing is one such important object. Kaiser (1997) listed some basic assumptions in explaining the psychology behind clothing through a *cultural perspective*:

1. Collective values are produced and reproduced through cultural forms.
2. Cultural beliefs and values tend to be perpetuated when they are represented on a relatively conscious level.
3. People have the potential to transform their own realities by manipulating the objects in their cultural worlds.
4. Culture provides abstract pictures or representations of social life.
5. People use codes to decipher the meanings of cultural representations of social life (Kaiser, 1997, p. 49-53).

Clothing, when viewed through this perspective, is a product of cultural norms and values that transform one's identity to create a picture and provide meaning to social life.

Demographic factors (MacGillivray & Wilson, 1997) and cultural factors like income or social status, and ethnicity (Kaiser, 1997) affect the clothing behavior of an individual. Area and cultural norms associated with clothing affect the way individuals respond to each other. Also affected is people's attitude towards dress (Kaiser, 1997). Although several constructs such as physical attractiveness, social strata, time, fashion, national and international boundaries are subsumed under the broader context of

demography and culture this section will primarily focus on the effects of income, residence on tweens.

### *Income*

There is a two-way interaction between clothing and income. Dress is often used to represent the wealth and status of a family. And the income affects the type of clothing worn. Hamilton and Warden (1966) studied the clothing behaviors in a high school community. Students and faculty were interviewed about acceptable or unacceptable clothing in school. Based on those interviews, points were noted for further observations. One key finding was that clothing was affected by the economic level of the family. Also, employment of mothers had significant negative impact on clothing behavior of boys but not girls. More boys (58%) with unacceptable clothing had mothers employed outside home.

### *Residence*

The geographic location and climate often determine the type of clothing. And the assumption is that urban dwellers have a better and more extensive wardrobe than rural dwellers (Tate & Glisson, 1965). MacGillivray and Wilson (1997) checked differences for residential area in clothing use among early, middle and late adolescents. Significant differences between urban and rural adolescents were found on all clothing use factors except economic factors. Rural adolescents were less likely to use clothing for social approval and distinction than their urban counterparts, and were more into conforming clothing use. More homogeneity in rural populations makes them somewhat different than urban dwellers.

## *Ethnicity*

Ethnicity is visible through such physical traits like skin color, hair, facial features and additionally through cues like appearance and clothing style (Kaiser, 1997). Ethnicity also depicts one's group membership. In the study done by Forney and Forney (1995), ethnicity had some associations with gang dressing and was a means of group belonging. Some mechanisms used as a part of distinction were colors and hairstyles.

Ethnic differences and preferences are also visible in areas related to physical appearances. For example, many cultures in Africa prefer a full-figured female (Damhorst et al., 2005). On the contrary, Western cultures portray a thinner ideal. Relationship between BMI and body image discrepancy was tested for three ethnic groups in the study done by Fitzgibbon et al. (2000). The sample consisted of 389 Caucasian, Hispanic and African-American women. For all participants, height and weight was determined. They then filled out a Figure Rating Scale developed by Stunkard et al. (1983). Although the authors did not find any difference in the number of women reporting body image discrepancy in different groups, they did report that white women experienced discrepancies at a lower level compared to African-American and Hispanics. Thus, while studying body image and clothing behavior ethnicity is also an important factor to consider.

## Other Factors Influencing Tween Clothing Behavior

### *Obesity Epidemic*

One of the recent issues in the United States is a growing trend toward obesity. It is the first time in history when there are as many overfed people as there are underfed

(Newman, 2004). One out of every three Americans is obese, which is twice the number from three decades ago. Obesity in children has tripled from approximately 5% in 1980 to approximately 15% today (Ebbeling, Pawlak, & Ludwig, 2002; Freudenheim, 2005; Newman, 2004). Figure 1 in the previous chapter shows the growing trend of obesity in children and adolescence. The incidence of obesity has increased so much that the Centers for Disease Control and Prevention declared it an epidemic (Newman, 2004). By the year 2010, almost half the children in North and South America will be overweight (Kirka, 2006). These obesity statistics from different sources show an upward trend and no decrease in the number of overweight children.

Obesity has reached an alarming level in young children. Increased use of technology and the lack of physical activity made this problem even more severe. Obesity is associated with distorted body images and lowers self-esteem. In order to achieve the cultural ideal of thinness, there is a possibility of putting young adolescent girls at risk for disordered eating behavior (Levin et al., 1994).

Obesity brings with it other issues including meeting the clothing needs of a population that is changing in size. Plus size girls particularly have difficulty finding the right size in clothes with proper a fit, and that are also stylish and fashionable. Kang (2004) noted that overweight young American women want clothes similar to their normal sized counterparts. Retailers are recognizing this need (Canedy, 1997; James, 2001; Kang, 2004). Old Navy now offers plus size clothes for women (2007). J. C. Penny also caters to the needs of the plus size women's and also tween girls' market by offering special sizes (2006). Hot Topic from Torrid offers plus size apparel for women ages 15-30 (James, 2001). However, tweens still find it difficult to find the right clothes. Brock

(2007) reported an inability for tweens to find appropriate apparel in the market. There are gaps in research, both in the fields of apparel and education that define clothing preferences and variables affecting the purchase and wearing decision of tweens, especially that of plus sized tween girls.

### Summary

Tweens are defined as children “in between” little kids and teenagers. Since they hang between the two age groups, they often demonstrate a “split personality” (Siegel et al., 2004). Tweens can be further subdivided according to age, gender, race and physical growth. Today’s tweens are the most confident, optimistic, street smart and savvy group of consumers. This generation is “fashion conscious, fad-loving, and is filled with attitude” (“Tween culture”, n.d.)

They are influenced by media, technology and are better connected with the world around them. In the early stages of life they are more influenced by their mothers. But as they grow the influence of mothers weakens and that of peers increase. Peer conformity becomes important during adolescence. Psychological factors such as body image, body dissatisfaction and self-esteem influence the self-perspective and clothing behavior of adolescents.

Through a process of comparison, different modes of media may impact tweens adversely. Further, age and sex affect the behaviors and attitudes of tweens. Weight change as a result of physical growth is also inversely related to self-perceptions of youngsters. Cultural and demographic factors such as ethnicity, place of residence and income of family may also affect the clothing behavior of adolescents.

Clothing items are products with symbols associated with them. Both intrinsic and extrinsic attributes of clothing affect the emotional and psychological development of individuals. Among this fit affects the tweens most. Lack of fit may foster both feelings of deprivation and dissatisfaction with clothes.

## CHAPTER III. METHODOLOGY

This study was intended to create a conceptual framework that examines the factors affecting tween clothing behavior and the self-perception that guides this behavior. The survey instrument was developed, based on previous research and a literature review, to examine these factors. Tween girls, as defined by this research, are girls between ages 9 and 14 years. The reviewed literature highlighted the importance of mothers in physical, psychological and emotional growth and clothing decisions of their daughters. Therefore, mothers and their tween daughters were surveyed as pairs. This chapter provides an outline of the research methods used for sampling, instrumentation, and data analysis.

### Preliminary Studies

This study was part of a larger National Textile Center (NTC) funded research program aimed at investigating the physical, social-psychological and behavioral factors affecting the apparel choices of tween girls. The focus of the larger study was on sizing, consumer characteristics, and an understanding of physical shape and socio-psychological aspects of tween girls.

The first phase of the larger study consisted of focus group sessions of 41 mother-daughter pairs. The sample was divided into four age (younger and older) and size (normal and plus) specific groups. Each girl and mother had her body scanned. They also

filled out a questionnaire. The girls also participated in a short task of making collages of an outfit they would buy. The session ended with separate 1-1½ hour focus group interviews. In the end, mothers and daughters were each rewarded with a 75 dollar incentive.

Phase 2 of the study body scanned another 110 tween girls. This convenience sample was obtained through mall intercept by setting up a portable body scanner in the mall for three days. Height and weight were recorded, and the girls filled out a similar questionnaire as used in phase 1 of the study. Again, the girls were rewarded 25 dollars for participating in the study. Mothers were not body scanned, but they also filled out a questionnaire similar to phase 1.

This study, phase 3, aimed at a larger national sample of tween girls and their mothers. Similar questionnaires, as in phase 1 and 2, with revisions were completed online by mothers and their daughters. The mothers also self-reported the height and weight of themselves and their daughters.

### Sample Recruitment and Data Collection

In order to address the issues related to tween clothing behavior and their self perceptions, a large sample size was required. This study, which was the final phase of the multi-year tween research project, aimed at collecting a sample of at least 1000 pairs of tween girls aged 9-14 years and their mothers. A web-based research firm, Greenfield Online Inc.<sup>4</sup>, was used to program the research instrument, collect the data and code it into SPSS. This company was chosen because it is one of the largest online survey

respondent providers, and it offered quick and cost effective delivery of surveys. In addition, the company had access to a wide variety of subjects.

The survey respondents were qualified Greenfield community members, who received incentives to participate in online surveys and share their thoughts (Greenfield Online Inc., 2007). For this study, only female members with at least one daughter in the age range of 9-14 years were asked to participate. The first computer screen briefed the participants about the confidentiality of the information provided by them, and also that their answers would be used solely for research purposes. The second screen talked briefly about the purpose of the study. The following instructions appeared:

We are interested in learning about what girls aged 9-14 think, as well as what their mothers think, about clothing, appearance, and shopping experience.

If you have a daughter in either of these age groups (9-11 or 12-14) we would appreciate you and your daughter each completing a questionnaire. All of the answers you and she give us will be combined with other mothers' and daughters' responses to give us anonymous information.

Mothers completed the survey first, followed by their tween daughters. Questions appeared one by one on the screen. After completing each question, the participants clicked the *next* button on their screen to proceed further with the survey. An example of what the screen looked like is provided in Figure 6.

### Instruments

Two different but related questionnaires were administered to daughter and mother respondents. These questionnaires were modified from and items were added to

the questionnaires developed in phase 1 and also used in phase 2 of the research. An explanation of the two questionnaires follows.

*Daughter's Questionnaire*

In general, the questionnaire administered to tween girls focused on their clothing behavior and expectations, their activities, perceptions about their bodies and their self-esteem. A detailed description is provided in the subsequent sections.

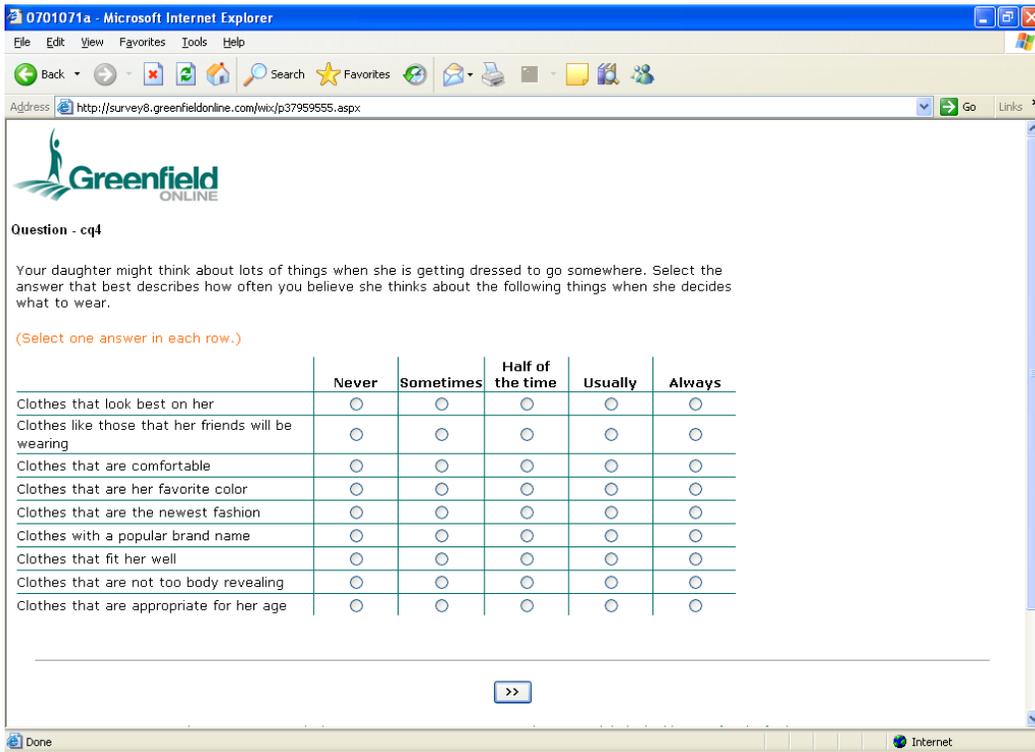


Figure 6. Appearance of the online survey screen.

*Part 1: Choosing clothes.* This section consisted of six questions concerned with clothing shopping behavior, clothing consumption patterns, attributes of clothing affecting tweens and clothing deprivation. The first five questions were adapted from May's (1982) Clothing Practices Survey that was developed to measure the clothing practices of Oregon 4-H members aged 9-19 years. This survey consisted of 34 questions,

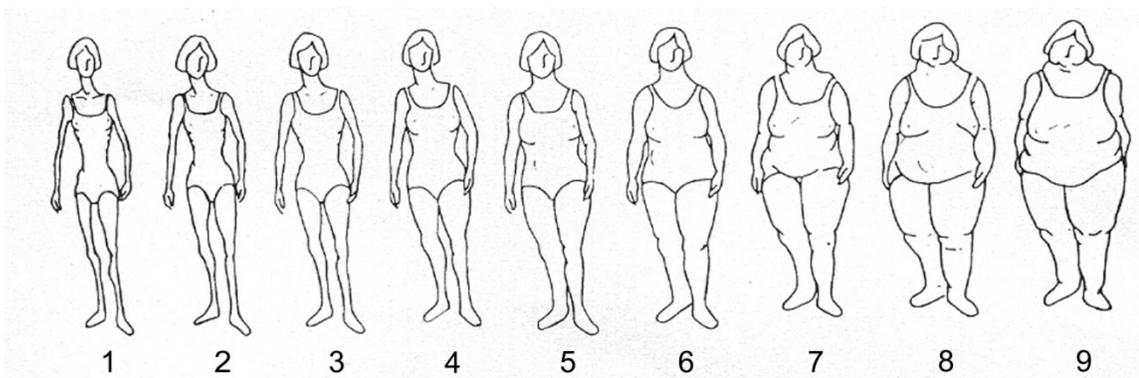
14 of which were concerned with clothing purchase practices. For example the daughter's questionnaire asked "Circle the answer that best describes how often each of the following people go with you when you shop for clothes." The options were: mother, father, sister(s), friend(s), I shop by myself. These items had the following scale: 1 (never), 2 (almost never), 3 (about half), 4 (usually), and 5 (all). The last question in this section, measuring clothing deprivation, was developed by the lead researchers at Auburn University.

*Part 2: You, your activities, and your girlfriends.* The second part of the questionnaire consisted of four constructs. The first question asked if the girls participated in sports. The second question evaluated their notions of attractiveness based on clothes, make-up, hair, being slender, nails, curvy body, looking "fit", nice smile, not being fat, jewelry, clear skin and other. These items were measured on a 5-point Likert-type scale from 1 (not important at all) to 5 (very important).

The third question was a four-item scale adapted from Levine et al.'s (1994) PEERDIET scale. This scale had a sufficient internal consistency ( $\alpha = .73$ ) and represented the girls' perceptions of the level of interest their friends showed in weight, dieting and shape. These items were rated on a 5-point scale as 1 (none), 2 (a few), 3 (about half), 4 (most), and 5 (all). For example, the question asked "How many of your friends would like to be thinner?"

The last question, developed by the lead researchers at Auburn University, was concerned with the time spent in doing activities other than sports. This measurement, named Media Exposure, included hours spent watching television, playing videogames, surfing internet, looking at fashion magazines and going to movie theaters.

*Part 3: Your body.* This part consisted of three constructs concerned with body dissatisfaction, body image perception and weight concerns. The first question, measuring body dissatisfaction, was based on Stunkard et al.'s (1983) Figure Rating Scale that consisted of nine line drawings of women from thin to heavy (see Figure 7). This measure had been used by several studies (Cohn, Adler, Irwin, Millstein, Kegels, & Stone, 1987; Fallon & Rozin, 1985; Thelen & Cormier, 1995). However, the wording of the questions was adopted from the body dissatisfaction scale from Levine et al. (1994). The questions were "Which drawing looks most like your own figure?" and "Which figure do you want to look like?" (p. 478). The former question measured the perceived current body shape and the latter measured the ideal body shape. Body dissatisfaction, as defined by the researchers, was then the difference between the ideal and the current body shape. Reliability and validity tests were conducted by Thompson and Altabe (1991). The researchers did not give the exact value but reported that this Figure Rating Scale had good test-retest reliability and validity. Also, the reliability is established through the extensive use of this scale (Cohn et al., 1987; Fallon & Rozin, 1985; Thelen & Cormier, 1995). These justifications were used in applying this measurement.



*Figure 7.* Figure Rating Scale (Stunkard et al., 1983).

The second question measured the perceived body image of tween girls. This question was adopted from Blyth et al.'s (1985) Satisfaction with Body Image scale. This scale consisted of four items. The first three items measured the satisfaction with height, weight, and figure development, and were rated on a 4-point scale ranging from 1 (not at all happy) to 4 (very happy). The fourth question measured satisfaction with overall looks on a 4-point scale from 1 (not at all good looking) to 4 (very good looking).

Four questions, adapted from the Demographic and Dieting Questionnaire developed by Maloney et al. (1989) were used to measure the daughter's self weight concerns. The original scale consisted of 16 items and measured children's ideas about family and self-dieting patterns, and also peer pressure to be thinner. These questions were measured in either yes or no.

*Part 4: Yourself.* This section measured the self-esteem of tween girls, and was adopted from the Rosenberg-Simmons Self-Esteem (RSSE) scale. This 6-item Guttman scale had a high reproducibility coefficient ( $\alpha = .902$ ). Also, this scale underwent severe validity tests. It had high trait validity, i.e. when validated against another measure of the same concept (Simmons et al., 1973); construct validity, meaning the theoretical predictions made about self-esteem were supported; face validity, meaning that it measured what it was meant to measure; and satisfied interchangeability criterion, i.e. it behaved in the same way as Rosenberg's (1965) Self-esteem scale. These justifications were sufficient to use this scale in the questionnaire.

#### *Mother's Questionnaire*

The mother's questionnaire consisted of similar questions as in the daughter's questionnaire. Additionally, it addressed their clothing behavior, clothing attitude of their

daughters and self-perception issues of mothers. A detailed description of this questionnaire is provided in the following sections.

*Part 1: Your daughter's clothes.* This section consisted of four questions and was focused on questions related to shopping behavior and the mother's point of view of the daughter's shopping behavior. First, the mothers were asked to list the type of stores used for buying clothes. These included: specialized clothing stores, department stores, mass merchandise chains, off-price chains, catalogues and websites. Two questions were answered to inform the payment source for their daughter's clothes. Next, they were rated on a 4-point scale how hard or easy it was to find various clothing items for their daughters. Finally, mothers were asked to rate the factors their daughters thought were important in clothes.

*Part 2: Your daughter's development.* This section was parallel to the daughter's questionnaire. The first question asked the mother's opinion of attractiveness factors for girls of their daughter's age. It had similar items as in the daughters' questionnaire and was rated on the same 5-point scale. Next, mothers indicated the perceived current body size and the ideal body size for their daughters. The third question asked if they were happy with their daughter's height, weight, figure development, and how good looking they thought their daughters were (Blyth et al., 1985). Finally, they were asked about their daughter's weight concerns (Maloney et al., 1989).

*Part 3: Yourself.* This section asked five questions about mother's feelings about clothes, body image, satisfaction with different body parts, and self-esteem. The first question, adopted from Pisut (1998), was focused on mother's feelings about clothes. This 5-item measure was rated on a 5-point scale from 1 (does not describe) to 5 (does

describe). Body dissatisfaction was measured in a similar fashion as girls using Stunkard et al.'s (1983) nine line drawings.

The next two questions referred to the mothers' perceived body image, and was adopted from the Multidimensional Body-Self Relations Questionnaire (MBSRQ) by Cash (1994). The self-reported weight scale was rated on a 5-point scale from 1 (very underweight) to 5 (very overweight). The satisfaction/dissatisfaction with body parts was also rated on a 5-point scale from 1 (very dissatisfied) to 5 (very satisfied). The following areas were measured: face, hair, lower torso, upper torso, muscle tone, weight, height and overall appearance. The MBRSQ scale was developed primarily for use with adults and adolescents above 15 years of age. Therefore, this measure was only used for mothers.

The last question of this part was the Rosenberg's (1965) Self-esteem scale. This 10-item scale was measured on a 4-point basis from 1 (strongly agree) to 5 (strongly disagree).

*Part 4: Demographics.* This last section of the questionnaire consisted of questions like age, marital status, ethnicity, level of education, occupation and income of mothers. Mothers self-reported their height and weight. In addition, they were asked about their daughter's age, height, weight, and the age of the onset of menarche.

### Analysis of Data

Data were analyzed to determine what factors influenced the clothing and self perceptions of tween girls. All the questions were further tested to check the differences in tween girls reporting relative to size and age. Detailed descriptions of data analysis for each research question are provided in the section below. Also, analysis of research

questions would be easier to understand and more meaningful if the variables of interest were more formally introduced. This section, therefore, also discusses how these variables were measured. Some measurements (such as peer diet concern, body dissatisfaction, body image) were calculated the way original authors did. Others (such as self-esteem, media influence, clothing deprivation) were calculated in a way that seemed most logical. Explanations for each measurement are provided before the related research question starts.

#### *Computing Body Dissatisfaction*

Body dissatisfaction is defined as the disparity between one's current figure and ideal body figure. The body dissatisfaction score was calculated as the difference between the ideal body size and perceived current body size using the Stunkard et al.'s (1983) nine line drawings. The formula through which body dissatisfaction was calculated is given below:

$$\text{Body Dissatisfaction} = |\text{Ideal Figure} - \text{Perceived Current Figure}|$$

Figure 8 depicts this process more clearly. This measure is named body dissatisfaction because both a desire to be thinner or heavier signifies dissatisfaction with one's body. Therefore, absolute values were used, as either a positive or a negative score indicated a deviation from being satisfied.



Figure 8. A hypothetical example of calculation of body dissatisfaction.

1. a. *Is there a relationship between mothers' self-identified ideal body size for themselves and daughters' self-identified ideal body size for themselves?*
- b. *Does mothers' body dissatisfaction predict daughters' body dissatisfaction?*

Stunkard et al.'s (1983) set of nine line drawings (ranging from 1 to 9) was used to address the first part of this question. Both mothers and daughters identified a number for their perceived ideal body size. A Pearson correlation was used to measure the strength of the relationship between mothers' ideal body size for themselves and girls' self ideal body size.

For the second part, the body dissatisfaction score was calculated as discussed above. A regression analysis was then performed between mothers' and daughters' body dissatisfaction. Mothers' body dissatisfaction scores were used as a predictor variable for the body dissatisfaction scores of daughters.

2. *Is there a difference in mothers' identification of an ideal body size for their daughters and daughters' self-identified ideal body size for themselves?*

Stunkard et al.'s (1983) set of nine line drawings was used again to address this research question. The mothers picked a number (from 1 to 9) that they thought was an ideal body size for their daughters, and the girls picked a number for their ideal body size for themselves. A paired sample *t*-test was conducted for the scores of mothers' ideal body size for girls their daughters' age and the girls' self ideal body size. Paired sample *t*-tests were conducted again to examine the difference between normal and plus, and younger and older tween girls' ideal body size and their mothers' ideal body size for girls their daughters' age.

3. *Is there a difference in mothers' perceptions of their daughters' body weight concerns and daughters' own body weight concerns?*

The responses for girls' body weight concerns came from four items of the last question of *Part 3: Your Body*. These were answered yes and no. Similarly, mothers' responses came from parallel eight items in the last question of *Part 2: Your Daughter's Development*. As the scale was dichotomous (answered either yes or no), non-parametric binomial tests were conducted to illustrate the relationship between mothers' perception of their daughters' body weight concerns and daughters' body weight concerns. The eight questions answered by mothers were paired with the related four questions of the daughters. Percentages of responses of both mothers and daughters were also checked according to groups defined by age and size. Lastly, logistic regression was used to see if mothers' weight concerns for their daughters predicted their daughters' own weight

concerns. Based on the scales used, four main areas of weight concerns were identified: desire to be thinner, desire to be heavier, desire to lose weight and desire to gain weight.

4. a. *Is there a difference among girls' ratings of different features of attractiveness?*

b. *Is there a difference between mothers' and daughters' ratings of features of attractiveness?*

Eleven factors listed as areas to be rated as to importance for attractiveness, in the second section of *Part 2: You, Your Activities, and Your Girl-friends*, were used for this question. These were clothes, make-up, hair, being slender, nails, curvy body, looking "fit", nice smile, not being fat, jewelry, and clear skin. Descriptive statistics were used for each notion of attractiveness to show their relative importance. The responses for normal and plus size girls and younger and older girls were compared using paired sample *t*-tests.

For the second part of this research question, mothers responded to these perceived features of attractiveness for their daughters in the first section of *Part 2: Your Daughter's Development*. First, descriptive statistics using the score of each factor were used to show the relative importance of each notion of attractiveness. Then paired sample *t*-test were conducted to compare the ratings of mothers and daughters, and further to compare the ratings of normal and plus, and younger and older tween daughters and their mothers.

#### *Computing Self-Esteem*

The Rosenberg-Simmons Self-esteem (RSSE) scale was used to measure tween girls' self-esteem. This RSSE scale is a Guttman scale and consisted of six items of which two were worded positively and four were worded negatively (for complete scale refer to Part 4 of Appendix B). The original authors, Rosenberg and Simmons (1972), did

not sum the responses to get a global self-esteem score. Instead, their score reflected the combination and weighing of different aspects of self-concept (Wylie, 1989). Each of the six items was scored dichotomously. This gave them a maximum score of six and a minimum score of zero. Another study conducted by Stager, Chassin and Young (1983) calculated the first five questions dichotomously and the last item on a 4-point scale. By doing this they achieved a minimum score of six and maximum score of 14. Both these methods of calculation failed to account for the second step of the four multi-level, negatively worded items, and thus the slight variances in self-esteem were not captured fully.

A Guttman scale is a cumulative scale and is based on the hypothesis that a positive response to one question will usually result in positive responses to other questions. However, not all questions in this self-esteem scale are dichotomous. Questions one and six are 3-point and 4-point scales respectively. Also, among the many disadvantages of a Guttman scale, it was a concern for this study that the scale position would not have been definite and the statistical analysis would have been difficult (Smith, 1960). Therefore, a total self-esteem score from all six items was calculated such that all the levels of each item were incorporated. The first item was coded on a 3-point scale: 1 (bad), 2 (both about the same) and 3 (good). An example of one of the four multi-leveled items follows:

One kid told me, "I am no good." Do you ever feel like this?

*Yes*

*No*

If you circled Yes, Do you feel like, "I am no good"

*A lot*

*A little*

For a question like this, coding was done in the following manner: no = 3, a little = 2 and a lot = 1. Since yes was answered through subsequent two items, “a lot” and “a little,” it was not coded separately. The last item was coded on a 4-point scale from 1 (not happy at all with the kind of person you are) to 4 (very happy with the kind of person you are). With the six items coded in this way, a minimum score of six and a maximum score of 19 was achieved. A low score represented low self-esteem and a higher score represented higher self-esteem.

Before using all six items to get a single self-esteem score, factor analysis was performed. The Kaiser-Meyer-Olkin (KMO) measure provided a good correlation score (.820) for the data. It showed that these variables were excellently correlated. A statistically significant Bartlett’s test of sphericity (.000) indicated enough correlation among the scale items to group them into one single self-esteem score. Since this study scored the items differently than earlier studies, reliabilities were run to ensure the internal consistency of the scale. These values are discussed in detail in the next chapter.

*5. Is there a relationship between girls’ self-esteem score and body dissatisfaction score?*

Six items from the RSSE scale (Simmons et al., 1973) that appeared in the last section, *Part 4: Yourself*, from the girls’ questionnaire were used for this research question. A total self-esteem score was calculated and used. Body dissatisfaction was calculated from Stunkard et al.’s (1983) nine line drawings.

A Pearson correlation between tween girls’ self-esteem score and body dissatisfaction was performed. To explore the differences among tween groups, Multivariate Analysis of Variance (MANOVA) was also performed for this question. The

dependent variables were tween girls' total self-esteem score and body dissatisfaction scores. The predictor variable, i.e. the independent variable, was normal and plus, and younger and older tween girls' groups.

### *Computing Body Image*

Blyth et al.'s (1985) Satisfaction with Body Image scale was used to measure the body image of tween girls. This scale consisted of four items that measured girls' satisfaction with three aspects of their bodies and overall looks. Blyth et al. (1985) examined inter-correlations between these dimensions and concluded that correlations were not high enough to justify combining the items for a single score. The Spearman's rank correlation values ( $r_s$ ) ranged from .21 to .51 (Blyth et al., 1985). The inter-correlations between these variables were examined in the current research. The  $r_s$  values were a little higher than Blyth et al.'s values, ranging from .32 to .68. However, because the original researchers considered the differences between these dimensions to be important for adolescent girls, this study also calculated body image through these four separate but related constructs.

#### *6. Is there a relationship between girls' self-esteem score and their perception of body image?*

The girls' perception of body image was measured by Blyth et al.'s (1985) Satisfaction with Body Image scale in the third section of *Part 3: Your Body*. This scale consisted of four items: satisfaction with height, weight, figure development, and how good looking they considered themselves to be. These were coded on a 4-point Likert-type scale. A total self-esteem score was calculated from *Part 4: Yourself* of the girls' questionnaire.

A Pearson product correlation and multiple regression between the total self-esteem score and each of the four items of satisfaction with perceived body image were performed to answer this question. The relationship was further examined through MANOVA with self-esteem and dimensions of body image as a dependent variables, and tween group as independent variables.

#### *Computing Media Exposure*

Questions were developed for the survey to address media exposure. The scale consisted of questions regarding time spent watching television, playing video games, the internet, looking at things to wear on the internet, and reading magazines. The first four items were rated on a 5-point scale from 1 (less than 1 hour) to 5 (more than 10 hours). The frequency of fashion magazine reading was scored from 1 (0) to 4 (more than 6).

Different studies have calculated media exposure in different ways. Some have used a total score for media exposure/influence (Heinberg & Thompson, 1995; Sinton & Birch, 2006), while others have measured media exposure as a combination of different mass media modes (Dohnt & Tiggemann, 2006; Harrison & Hefner, 2006; Kim & Lennon, 2007). This study also calculated media exposure as a result of influence from different media. The reasoning behind this was, first, because the items were rated on different scales. Second, doing so enabled one to see which of these modes of media predicted a stronger relationship with variables in question. Four different modes of media were identified: television, video games, internet, and fashion magazines.

#### *7. Is there a relationship between girls' media exposure and their self-esteem score?*

Total self-esteem score from the RSSE scale (Simmons et al., 1973) was again used here. Also, this research question was answered using the four different modes of

media, namely: television, video games, internet, and fashion magazines. As one of the (media exposure) scales was ordinal, Spearman's rank order correlation between the total self-esteem score and each of the media modes was performed. The relationship was further examined through multiple regression with self-esteem as a dependent variable, and different modes of media as independent variables. Descriptive statistics were derived on one item of media exposure: "When you are on internet what do you do," in order to determine for what purposes tween girls use the internet. Finally, a MANOVA was conducted to determine if there any differences existed among tween groups.

*8. Is there a relationship between girls' media exposure and their body image?*

For this research question, four modes of media (television, video games, internet, and magazines) and four areas of body image (height, weight, figure development, and overall looks) were used. Satisfaction with body image was measured on a 4-point scale through four items from the body image scale (Blyth et al., 1985). To test this relationship Spearman's rank order and canonical correlations were first performed. Multiple regression was performed to determine how well media exposure predicted body image. Items from the media exposure scale were used as predictor variables in order to predict satisfaction with various areas of body image. Finally, MANOVA was conducted to test group differences between these two variables.

*9. Is there a relationship between peer diet concerns and body weight concerns?*

The peer diet concern score came from the PEERDIET scale of Levine et al. (1994). The score ranged from 1 (none) to 5 (all) for the first three item and from 1 (never) to 5 (very often). This scale had four items: friends' desire to be thinner, friends' desire to be heavier, friends on diet and interaction with friends. Body weight concerns

were measured through questions adapted from the Demographic and the Dieting Questionnaire of Maloney et al. (1989).

Based on the scales used and literature review, the relationship was explored in three main areas of weight concerns: desire to be thinner, desire be heavier, and desire to lose weight. This was done, first, through a Pearson product correlation and then through multiple regression. Group differences in each of these areas were explored through MANOVA with items from peer diet concerns and body weight concerns as dependent variables and tween group as independent variable.

*10. Are there any differences among influentials (mother, father, sister, friend, self) in helping girls decide what clothes to purchase?*

Each of the options in question 2 from *Part 1: Choosing Clothes* was rated on a 5-point scale from 1 (never) to 5 (always). Descriptive statistics were performed to see the relative importance of each of these influential factors: mother, father, sister, friend and self. Independent sample *t*-tests were then performed to check the differences in response between normal and plus size girls and younger and older girls.

*11. Are there any differences among influentials (mother, father, sister, friend, self) in helping girls decide what clothes to wear?*

Each of the options in question 4 from *Part 1: Choosing Clothes* was rated on a 5-point scale from 1 (never) to 5 (always). Descriptive statistics were performed to see the relative importance of each of these influential factors: mother, father, sister, friend and self. Independent sample *t*-tests were performed to check the difference between normal and plus size girls and younger and older girls.

12. *Is there a relationship between girls' self-esteem score and their purchase decision on own?*

A total self-esteem score from the Rosenberg-Simmons's Self-esteem (RSSE) scale (Simmons et al., 1973) was used for this research question. The purchase decision score came from the part "I shop by myself" in question 2 of *Part 1: Choosing Clothes*. A Pearson product correlation and MANOVA was performed on the total self-esteem score and the purchase decision. Tween groups served as a predictor variable that was used to explore the differences in clothing purchase decision and self-esteem of tween girls.

#### *Computing Clothing Deprivation*

The lead researchers at Auburn University developed a 3-item scale that measured tween girls' clothing deprivation. The girls' answered how often they felt they did not have or could not get clothes that they liked, felt comfortable in, and looked good on them. The three options were: clothes for school, clothes for doing things with friends and dress-up clothes. These were measured on a 5-point scale from 1 (never) to 5 (always). In a previous study using the same scale, Lee (2006) calculated clothing deprivation as a total of these scores such that a minimum score of three and a maximum score of 15 were obtained. Following on Lee's work, this study, too, calculated a total score for clothing deprivation.

13. *Is there a relationship between girls' self-esteem score and their perception of clothing deprivation?*

The last question of *Part 1: Choosing Clothes* provided the clothing deprivation scores. The three clothing deprivation items were rated on a 5-point scale ranging from 1

(never) to 5 (always), and a total of these was used. The RSSE scale (Simmons et al., 1973) provided the total self-esteem score. A Pearson product correlation and MANOVA were used to identify the strength of this relationship, and explore differences among tween groups. Tween groups were treated as an independent variable, and clothing deprivation and self-esteem were the dependent variables.

*14. Is there a relationship between girls' media exposure and their perception of clothing deprivation?*

Exposures to four modes of media (television, video games, internet, and magazines) were measured through the media exposure scale in *Part 2: You, Your Activities, and Your Girlfriends* of the daughters' questionnaire. Again, clothing deprivation was calculated as a sum of the perceived clothing deprivation for school, going-out with friends, and dress-up clothes. A Spearman's rank order correlation and MANOVA were performed to determine the relationship between media involvement and clothing deprivation. Tween groups were used as a predictor for differences in media exposure and clothing deprivation in tween girls.

*15. How strongly do media influence the clothing purchase decision of tween girls?*

Question 3 in *Part 1: Choosing Clothes* from the daughters' questionnaire asked how often they brought clothes similar to that worn by different people. There were four options rated on a 5-point scale from 1 (never) to 5 (always). Two of these items were concerned with media: celebrities and clothes pictured in magazines. Media influence on purchase decisions was measured through these. First, descriptive statistics were performed to see the frequency of purchase decisions influenced by media. Second,

analysis was conducted through *t*-tests in order to examine the differences in media influence in normal and plus size, and younger and older tween girls.

*16. Is there a difference between mothers' and girls' rankings for desired clothing attributes?*

Both mothers and daughters will be asked the importance of 9 factors that tells which clothes to wear (from Part 1 of questionnaire). These are appeal, similarity to friend's clothes, comfort, color, fashionability, brand, fit, revealing, and age appropriateness. Descriptive statistics using the scoring for each item gave the importance of these clothing attributes for mothers and daughters. For further analysis, independent sample *t*-test were used to determine the difference between normal and plus size, younger and older girls and also between mothers and daughters.

### Summary

This research aimed at developing a conceptual framework to help understand tween girls' self-perception and clothing behavior. The influences of mothers were also studied. For this study a large sample, representing the U.S. population, completed an online survey. The research instrument consisted of two separate but related questionnaires, one each for mothers and their tween daughters. The daughters' (tween girls) questionnaire used scales that included clothing purchase decision, clothing attributes, clothing deprivation, features of attractiveness, peer weight concerns (PEERDIET), media influences, female size drawings (Stunkard et al., 1983), satisfaction with own body image (Blyth et al., 1985), weight concerns (ChEAT), and modified self-esteem scale for children (Simmons et al., 1973). The mothers' questionnaire used scales

related to shopping behavior, features of attractiveness, female size drawings (Stunkard et al., 1983), satisfaction with body image (Blyth et al., 1985), daughter's weight concerns (ChEAT), feelings about clothes (Pisut, 1998), perceived body image (MBRSQ), self-esteem (Rosenberg, 1965), and demographics.

## CHAPTER IV. DATA PRESENTATION AND ANALYSIS

The purpose of this study was to develop and explore a conceptual framework to understand tween girls' (girls aged 9 to 14 years) self perception and clothing behavior. Since mothers play an important part in a child's development, mothers and their tween daughters were studied as pairs. The data for this study were obtained through online surveys. This chapter provides a detailed sample description, discusses the reliability and validity of the scales used, presents the results of survey data analysis, and provides the statistical procedures performed for each research question. The research questions were analyzed using all of the tween girls as a group, and by segmenting this group according to size (normal and plus size) and age (younger and older).

### Sample Description

A total of 1040 pairs of completed mother and daughter questionnaires were returned by the company, Greenfield Online Inc. Mothers reported their own height and weight and that of their tween daughters. Instructions were provided in the questionnaire to write, e.g., 5.01 for height five feet one inch and 4.10 for height five feet ten inches. Even with instructions, some subjects entered 5.1 for height. This had to be interpreted as to whether it was five feet one inch or five feet ten inches. The cases were reviewed individually to decide which was the correct height. For instance, if one was a nine year old, it was assumed that she was five feet one inch. If she was 14, BMI was calculated with both heights to deduce which was a logical number. For example, if she was a 14

year old and the weight was 250 lbs, it was assumed that 5.1 stood for five feet ten inches. If however, her weight said 96 lbs, it was assumed that 5.1 meant five feet one inch. There were three subjects, for whom a determination could not be made. These entries were eliminated from the dataset, giving the final number of 1037 pairs of mother and daughter questionnaires.

For this study, tween girls were defined as girls in the age range of 9 to 14. Table 2 shows the demographics of the sample of tween girls. There were 199 girls of nine years, 160 girls of ten years, 159 girls of 11 years, 153 girls of 12 years, 172 girls of thirteen years, and 194 girls of fourteen years. The percentages of these age groups ranged from 14.8 to 19.2. Mean age for the whole group was 11.5 years. Mean age for mothers was 38.19 years.

Table 2

*Number of Girls of all Ages*

Age	Number	Percent
9	199	19.2
10	160	15.4
11	159	15.3
12	153	14.8
13	172	16.6
14	194	18.7
Total	1037	100

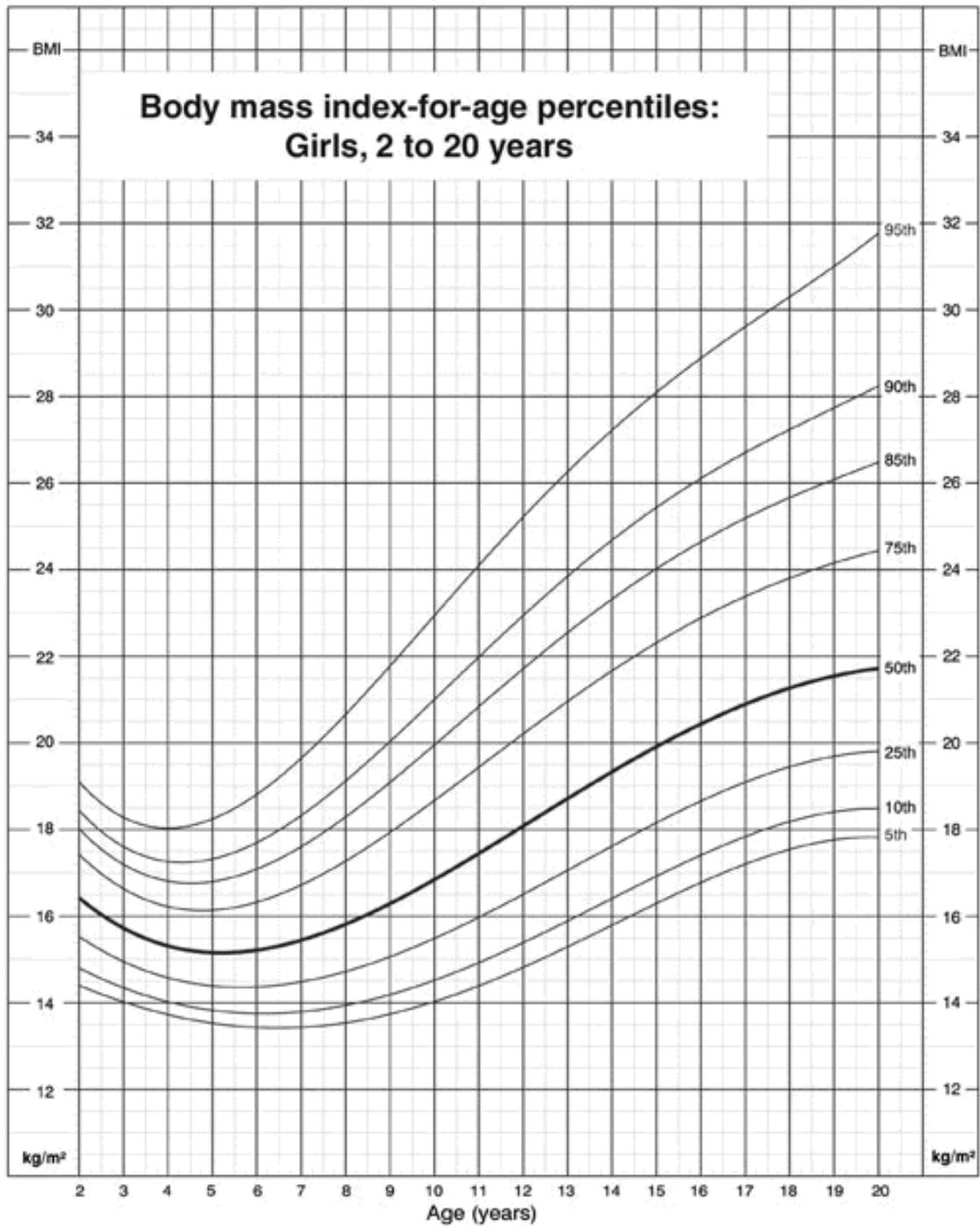


Figure 9. CDC (Center for Disease Control and Prevention) Growth Chart for Girls aged 2-20 years.

The imperial formula was used to calculate BMI. The weight of an individual in pounds was divided by the square of height in inches, and the ratio multiplied by 703. For children and teens age is a factor in interpreting BMI. Figure 9 shows BMI for age percentiles from the 5<sup>th</sup> to 95<sup>th</sup> percentiles. Table 3 presents four weight status categories applicable to this chart.

$$\text{Imperial formula for calculating BMI: } \frac{\text{Weight in lbs}}{\text{Height in inches}^2} * 703$$

Table 3

*BMI for Weight Status Categories and the Corresponding Percentiles (CDC, 2008)*

Weight Status Category	Percentile Range
Underweight	Less than the 5 <sup>th</sup> percentile
Healthy weight	5 <sup>th</sup> percentile to less than the 85 <sup>th</sup> percentile
At risk of overweight	85 <sup>th</sup> to less than the 95 <sup>th</sup> percentile
Overweight	Equal to or greater than the 95 <sup>th</sup> percentile

Instead of the four weight status categories (underweight, normal, at risk of overweight, overweight) defined by the CDC (2008), tween girls were defined as either normal size or plus size according to BMI. Girls up through the 84<sup>th</sup> percentile were labeled as normal size and girls at or above the 85<sup>th</sup> percentile were labeled as plus size. Table 4 shows the BMI scores for normal and plus size tween girls.

Table 4

*CDC BMI Range by Age (adopted from Lee, 2006)*

Age	BMI Range for Normal Size (up to 84 <sup>th</sup> percentile)	BMI Range for Plus Size (at or above 85 <sup>th</sup> percentile)
9	Less than 19.1	19.2 or higher
10	Less than 20.0	20.1 or higher
11	Less than 20.8	20.9 or higher
12	Less than 21.6	21.7 or higher
13	Less than 22.6	22.7 or higher
14	Less than 23.2	23.3 or higher

Table 5

*Girls' Ages by Size*

Age	Size		Total
	Normal	Plus	
9	106	93	199
10	71	89	160
11	103	56	159
12	101	52	153
13	119	53	172
14	124	70	194

Table 5 shows the grouping of girls in this sample by plus and normal sizes.

Among the nine year olds, there were 106 normal sized and 93 plus sized girls. Among ten year olds, there were 71 normal size and 89 plus sized girls. Among eleven year olds,

there were 103 normal sized and 53 plus sized girls. Among twelve year olds, these numbers were 101 and 51; among thirteen year olds these were 119 and 53; and among fourteen year olds these were 124 and 70.

Girls were further grouped by age: younger tweens and older tweens. Girls from ages 9 to 11 were labeled as younger tweens, and girls from ages 12 to 14 were labeled as older girls. The sample consisted of 50% younger tweens and 50% older tweens. Thus, the four groups of tween girls, as defined by age and size, were: normal sized younger girls, plus sized younger girls, normal sized older girls, and plus sized older girls. Table 6 illustrates these groupings.

Table 6

*Girls' Groups as Defined by Age and Size*

Age	Size		Total
	Normal	Plus	
	Frequency (%)	Frequency (%)	Frequency (%)
Younger	280 (27)	238 (23)	518 (50)
Older	344 (33.1)	175 (16.9)	519 (50)
Total	624 (60.1)	413 (39.3)	1037 (100)

The profiles of tween groups' ages and BMIs are provided in Table 7. The mean age for the entire group was 11.50, and their mean BMI was 21.31. Mean age of normal sized younger girls was 9.99 years, and mean BMI was 17.12. The BMI ranged from 9.64 to 20.80 for this age group. Mean age of plus sized younger tween girls was 9.84 years, and mean BMI was 25.07. This group had the widest range of BMI, which was 19.24-

48.82: a range of 29.58. Normal sized older tweens had a mean age of 13.07 years, mean BMI of 19.16 and a BMI range of 12.81-23.08. Mean age for plus sized older tweens was 13.10 years. Mean BMI for plus sized older tween girls was 27.14 and ranged from 21.96-43.57. Overall, the range of BMIs was wide, from 9.64 to 48.82. The minimum and the maximum values were extreme, and therefore frequency analysis was conducted to see if these were outliers. However, that was not the case; the values were progressive. The second largest value was 43.82, almost 5-points smaller than the maximum value. Taking out the two extreme values did not make any difference in the statistical analyses, and therefore they were not excluded.

Table 7

*Descriptive Statistics for Tween Groups*

Groups	Frequency (%)	Mean Age	Mean BMI	BMI Range
Normal sized younger tweens	280 (27)	9.99	17.12	9.64 – 20.80
Plus sized younger tweens	238 (23)	9.84	25.07	19.24 – 48.82
Normal size older tweens	344 (33.1)	13.07	19.16	12.81 – 23.08
Plus sized older tweens	175 (16.9)	13.10	27.14	21.96 – 43.57
Whole group	1037 (100)	11.50	21.31	9.64 – 48.82

School grades of subjects ranged from the 3<sup>rd</sup> to the 10<sup>th</sup>. As seen from Table 8, 59% of the girls were in grades 3<sup>rd</sup> through 6<sup>th</sup>, and about 40% of the girls were in grades 7<sup>th</sup> through 9<sup>th</sup>. The low frequency of 10<sup>th</sup> graders is not surprising as one would expect few in the 10<sup>th</sup> grade.

Table 8

*Girls' Grades in School*

Grade	Frequency	Percent	Cumulative Percent
3	119	11.5	11.5
4	168	16.2	27.7
5	166	16.0	43.7
6	159	15.3	59.0
7	154	14.9	73.9
8	164	15.8	89.7
9	100	9.6	99.3
10	7	.7	100.0
Total	1037	100.0	

Table 9

*Menarche*

Group	Had begun menstruating	Had not begun menstruating
Normal sized younger tweens	28	252
Plus sized younger tweens	35	203
Normal sized older tweens	270	74
Plus sized older tweens	150	25
Total Frequency (%)	487 (47)	550 (53)

Four hundred and eighty-seven tween girls that represented 47% of the total sample had started menstruating (Table 9). Approximately 53% of subjects had not

started menstruating. Table 9 summarizes whether or not the girls in the four groups had begun menstruating. Summary of the age of onset of menarche is listed in Table 10.

Table 10

*First Period Start Age by Group*

Age	Normal sized younger tweens Frequency (%)	Plus sized younger tweens Frequency (%)	Normal sized older tweens Frequency (%)	Plus sized older tweens Frequency (%)	Total
9	6 (2.1)	9 (3.8)	6 (1.7)	5 (2.9)	26 (5.3)
9 ½		1 (.4)	1 (.3)	1 (.6)	3 (.6)
10	10 (3.6)	13 (5.5)	12 (3.5)	13 (7.4)	48 (9.9)
10 ½	5 (1.8)	1 (.4)	11 (3.2)	8 (4.6)	25 (5.1)
11	5 (1.8)	10 (4.2)	43 (12.5)	37 (21.1)	95 (19.5)
11 ½	2 (.7)	1 (.4)	30 (8.7)	11 (6.3)	44 (9.0)
12			73 (21.2)	37 (21.1)	110 (23.2)
12 ½			32 (9.3)	11 (6.3)	43 (9.0)
13			46 (13.4)	16 (9.1)	62 (12.7)
13 ½			11 (3.2)	7 (4.0)	18 (3.7)
14			4 (1.2)	3 (1.7)	7 (1.4)
14 ½			1 (.3)	1 (.6)	2 (.4)
Total	28 (10.0)	35 (14.8)	270 (78.5)	150 (85.7)	487 (100)

About 10% of normal sized younger tweens had started menstruating. Among plus sized younger tweens 14.8% had started menstruating. Among normal sized older tweens 78.5% girls started menstruating, most of whom had their first period at the age of twelve (Table 10). Among plus sized older tweens, 85.7% had started menstruating, most

of whom had their first period either around age eleven (21.1%) or age twelve (21.1%). By the age thirteen, most of the tween girls (94.5%), had started menstruating (Table 10).

Table 11 summarizes the ethnic background of tween girls and their mothers and fathers. As seen in the table, the majority of the tween girls were Caucasians (74.2%), followed by African-Americans (8.0%), Hispanics (7.1%), Asians (4.8%) and Native Americans (1.4%). Forty-seven (4.5%) girls were biracial, i.e. their mothers' and fathers' ethnicity varied. This sample of tween girls can be described as representative of the U.S. population at large<sup>5</sup>. There were no biracial mothers and fathers. The majority of parents were Caucasians (77.3% Caucasian mothers and 76% Caucasian fathers).

Table 11

*Ethnicity*

Ethnicity	Tween Girls		Mothers		Fathers	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
African-American	83	8.0	89	8.6	97	9.4
Asian	50	4.8	60	5.8	54	5.2
Caucasian	769	74.2	802	77.3	788	76
Hispanic	74	7.1	69	6.7	80	7.7
Native American	14	1.4	17	1.6	18	1.7
Biracial	47	4.5				

Table 12 presents the information about tween girls' siblings. There were 253 girls (24.4%) who were a single child. One hundred and eighty-five girls (17.8%) had one or more sisters but no brothers. About 329 girls (31.7) had one or more brothers but no sisters. Two hundred and seventy girls (26.1%) had both brothers and sisters.

Table 12

*Tween Girls' Siblings*

Siblings	Frequency	Percent
No siblings	253	24.4
Sister(s), but no brothers	185	17.8
Brother(s), but no sisters	329	31.7
Sister(s) and brother(s)	270	26.1
Total	1037	100

As seen in Table 13, the majority of mothers were married (70.8%). About 14.7% of mothers were single, i.e. the tween girls lived in a single-parent home. About 13% of mothers were divorced, and 1.5% of mothers were widowed.

Table 13

*Mothers' Marital Status*

Marital Status	Frequency	Percent
Single	152	14.7
Married	734	70.8
Divorced	135	13
Widowed	16	1.5
Total	1037	100

Table 14 summarizes the information regarding the level of education of the mothers who participated in the study. From the table, it can be seen that about a fourth (26.8%) of mothers in this sample had a high school diploma. Of the total sample, 43.1%

of mothers had an associate's degree or some college experience but no degree. About 19.7% of mothers had a bachelor's degree, and a small number of mothers (7.2%) had a graduate or professional degree.

Table 14

*Mothers' Level of Education*

Level of Education	Frequency	Percent
Grade school	2	.2
Some high school, no diploma	31	3.0
High school diploma/GED	278	26.8
Some college, no degree	331	31.9
Associates degree	116	11.2
Bachelor's degree	204	19.7
Master's degree (e.g., MBA, MS, MFA)	51	4.9
Professional degree (e.g., MD, DDS, LLB)	17	1.6
Doctorate degree (PhD, EdD)	7	.7
Total	1037	100.0

Mothers' occupation is summarized in Table 15. The largest category (35.6%) was homemakers. The next biggest category was that of professionals (lawyer, accountant, teacher) who made up 14.1% of the sample, followed by middle management (9.7%), service worker (6.8%), salesperson (6.5%), and upper management (6.1%). A small number of mothers were either retired or were students. There were 14.9% who did something other than the occupations listed.

Table 15

*Mothers' Occupation*

Occupation	Frequency	Percent
Upper management/Proprietor/Owner	63	6.1
Middle management	101	9.7
Professional (Lawyer, Accountant, Teacher)	146	14.1
Sales	67	6.5
Service worker	70	6.8
Student	39	3.8
Homemaker	369	35.6
Retired	27	2.6
Other	155	14.9
Total	1037	100.0

The information about participants' family income is summarized in Table 16. Among them 55.9% of mothers had a single family income and 44.1% of mothers had a dual family income. The percentage of participants with a single family income ranging from \$25,000-\$49,999 was the highest (22.6%). Thirty-five mothers (3.4%) had family (single or dual) income over \$150,000, and there were 155 mothers (14.9%) who had family income (single or dual) less than \$24,999. A majority of the participants (60.3%) had a family income (single or dual) ranging from \$25,000-74,999.

Table 16

*Family Income*

Income	Single		Dual		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Under \$24,999	124	12.0	31	3.0	155	14.9
\$25,000 to \$49,999	234	22.6	130	12.5	364	35.1
\$50,000 to \$74,999	133	12.8	128	12.3	261	25.2
\$75,000 to \$99,999	55	5.3	93	9.0	148	14.3
\$100,000 to \$149,999	23	2.2	51	4.9	74	7.1
Over \$150,000	11	1.1	24	2.3	35	3.4
Total	580	55.9	457	44.1	1037	100.0

Shopping Behavior

Mothers answered questions related to clothing purchases for their daughters. They answered questions related to the stores from which they bought clothes, mode of payments for these clothes, and ease or difficulty in finding clothing items for their daughters. For the first part, mothers were provided with a list of types of stores and were asked to select the answer for how often they bought clothes for their daughters from these stores. For example one of the questions was: “How often do your daughter’s clothes come from specialized clothing stores like Limited Too, the Gap, Abercrombie, Express, Old Navy, American Eagle, Limited, Abercrombie & Fitch, G & G, or Rave?” These were answered on a 4-point scale: 1 (never), 2 (almost never), 3 (sometimes), and 4 (often).

Table 17

*Clothing Purchase at Different Types of Stores*

Type of Store	<i>M</i>	<i>SD</i>
Specialty stores	2.91	.972
Department stores	3.01	.892
Mass merchandise chains	3.48	.721
Off-price chains	2.69	.986
Catalogues	2.10	.975
Websites	2.14	1.029

Table 17 describes the group means of clothes purchased from different types of stores. Mothers and daughters purchased clothes from mass merchandise chains more frequently, followed by department stores and specialty stores. Catalogues and websites were among the least shopped options.

There were some differences between segments of mothers of younger tweens and mothers of older tweens in the type of stores visited. Table 18 shows that mothers of younger and older tweens differed significantly on their choice of stores, particularly for specialty stores and mass merchandise chains. Mothers of younger tweens shopped more frequently at mass merchandise stores while mothers of older tweens shopped more frequently at specialty stores.

Similarly, mothers of normal and plus sized tween girls differed significantly in their shopping frequencies at specialty stores and mass merchandise chains (Table 19). Mothers of normal sized tweens shopped more frequently at specialty stores while mothers of plus sized tween girls shopped more frequently at mass merchandise chains.

Table 18

*t-Test Results for Types of Stores Visited for Younger and Older Tweens*

Type of Store	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Specialty stores	2.78	.979	3.03	.949	-4.093	.000***
Department stores	3.02	.897	3.01	.889	.105	.917
Mass merchandise chains	3.57	.644	3.39	.781	4.055	.000***
Off-price chains	2.66	.992	2.73	.981	-1.175	.240
Catalogues	2.10	.971	2.09	.980	.162	.871
Websites	2.15	1.026	2.14	1.033	.215	.829

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Table 19

*t-Test Results for Types of Stores Visited for Normal and Plus Sized Tweens*

Type of Store	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Specialty stores	2.99	.954	2.79	.987	3.238	.001***
Department stores	3.03	.891	2.99	.895	.652	.514
Mass merchandise chains	3.44	.756	3.54	.662	-2.156	.031*
Off-price chains	2.68	.989	2.71	.984	-.402	.688
Catalogues	2.12	.959	2.06	.999	.990	.322
Websites	2.16	1.022	2.12	1.040	.576	.565

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Mothers also responded to the question: “Who pays for your daughter’s clothes?”

The choices included themselves and/or fathers and their daughters, and were scored on a

5-point scale from 1 (never) to 5 (always). The payments for clothes purchased were made mostly by parents. The average score of the payments made by parents was 4.55; that meant that on an average they either always or most of the time paid for the clothes purchased for their daughters (Table 20). The average score for the payments made by daughters was 2.00, meaning that on average the daughters almost never paid for the clothing purchased. There was little or no difference in these numbers among the tween groups classified as per age and size.

Table 20

*Payments for Clothing Purchased*

Payee	<i>M</i>	<i>SD</i>
Mothers and/or fathers	4.55	.651
Daughters	2.00	1.00

Lastly, the mothers responded to a question about how easy it was for them to shop for clothes that their daughters liked and that fit them. Different types of clothing items were provided and were answered on a 4-point scale from 1 (always hard to find) to 4 (always easy to find). This ease or difficulty in finding clothing items is presented in Table 21. Mean scores on different clothing items are provided for the whole group. On average finding tops was the easiest of all (3.29), followed by skirts (2.90), dresses (2.74), jeans (2.62), and pants (2.58).

Table 21

*Ease or Difficulty in Finding Clothing Items*

Clothing Items	<i>M</i>	<i>SD</i>
Jeans	2.62	1.062
Pants (except jeans)	2.58	.976
Skirts	2.90	.949
Tops	3.29	.862
Dresses	2.74	1.017

Table 22

*t-Test Results for Ease or Difficulty in Finding Clothing Items for Younger and Older Tweens*

Clothing Items	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> - test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Jeans	2.60	1.065	2.64	1.060	-.537	.591
Pants (except jeans)	2.64	.966	2.53	.984	1.802	.071
Skirts	2.96	.907	2.84	.907	1.996	.046*
Tops	3.33	.840	3.25	.882	1.596	.111
Dresses	2.86	.988	2.62	1.032	3.835	.000***

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Table 22 provides the results of mothers' responses about the ease or difficulty in finding clothes for younger and older tweens. The two groups were mostly similar in their responses. Differences emerged for finding dresses and skirts. Mothers of older

tweens found it harder to find dresses and skirts in right sizes and acceptable styles than the mothers of younger tweens.

Most importantly, there was a consistent difference in mothers' responses regarding the ease or difficulty of finding clothes for their daughters when segmented according to size. The means for finding all the types of clothing items for normal sized and plus sized tweens were significantly different (Table 23). Mothers of plus sized tween girls on average found it more difficult to shop for clothes that their tween daughters liked and that fit them.

Table 23

*t-Test Results for Ease or Difficulty in Finding Clothing Items for Normal and Plus Sized Tweens*

Clothing Items	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Jeans	2.73	1.040	2.46	1.075	4.048	.000***
Pants (except jeans)	2.67	.961	2.44	.983	3.712	.000***
Skirts	2.98	.933	2.77	.960	3.440	.001***
Tops	3.37	.821	3.17	.909	3.722	.000***
Dresses	2.81	1.011	2.65	1.020	2.530	.012*

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

### Reliability and Validity of Scales/Measures

This section discusses the reliability and validity analysis of the scales used by this study. These are discussed in the order the scales first appear in the research

questions. Reliability is the consistency with which the given set of variables measures what it is intended to measure (Hair, Black, Babin, Anderson & Tatham, 2006). The reliabilities of some of the scales used in this study (PEERDIET, Rosenberg's modified self-esteem) were already reported in the literature. Reliability analyses were also conducted for the other scales (features of attractiveness, body image, and clothing attributes) used in this study, which are discussed below.

Stunkard et al.'s (1983) Figure Rating Scale was used to measure perceived current body size, ideal body size, and calculate body dissatisfaction. This scale was used in Research Questions 1 and 2. Chapter 3 discussed in detail the reliability values and justifications for using this scale.

A features of attractiveness scale was used to answer Research Question 4. This question explored the desirable features considered attractive by both mothers and their tween daughters. A high Cronbach alpha of approximately .91 was yielded by this scale for tween girls. A similar Cronbach alpha of .90 was obtained for mothers' features of attractiveness scale.

The modified Rosenberg's self-esteem scale was used to answer Research Questions 5, 6, 7, 12 and 13. These questions examined the relationship between self-esteem and body dissatisfaction, perceptions of body image, media exposure, purchase decision and perceptions of clothing deprivation. Reliability for this scale yielded a Cronbach alpha of .77 which is lower than the high Cronbach alpha of .90 reported by Simmons et al. (1973). One of the reasons for this lower value might be that this study used the scale differently than the original authors. However, this value has still passed

the conventional cut-off value of .70 used as the criterion to establish acceptable reliability (Nunnally, 1970).

The reliability for the body image scale (Blyth et al., 1985), used in Research Questions 6 and 8, yielded a Cronbach alpha of .80. These questions explored the relationship between body image and self-esteem and body image and media exposure.

The PEERDIET scale (Levine et al., 1994) was used in Research Question 9, which examined the relationship between diet concerns of peers and tween girls' body weight concerns. Reliability for the PEERDIET scale yielded a Cronbach alpha of .81. This value is higher than the Cronbach alpha of .73 reported by Levine et al. (1994).

Lastly, the clothing attributes scale yielded a Cronbach alpha of .79, indicating an acceptable internal consistency. The clothing attributes scale was used in Research Question 16 that explored the tween girls' notions of desirable clothing attributes. This scale yielded a similar Cronbach alpha of .80 for mothers. The scale was used in the same research question that also explored mothers' perceptions of the desirable clothing attributes of their tween daughters. All the reliability values for different scales used in this study were above the cut-off value for acceptable reliability.

### Analysis of Research Questions

Detailed statistical analysis and the results for each research question are provided in this section. As a note, tween girls are referred to as *daughters* when results are interpreted as pairs of mothers and their tween daughters. Also, when comparison is made among the four tween groups (normal sized younger tweens, plus sized younger tweens, normal sized older tweens, and plus sized older tweens) the groups are referred as

*groups*, and when comparison is made between normal and plus sized girls and younger and older girls these are referred as *segments*.

*Research Question 1a: Is there a relationship between mothers' self-identified ideal body size for themselves and daughters' self-identified ideal body size for themselves?*

To analyze this research question, a Pearson correlation was performed between mothers' self-identified ideal body size and daughters' self-identified ideal body size. Stunkard et al.'s (1983) nine linear figures, numbered from 1 to 9, were used for this question. Both mothers and daughters picked a number they perceived to be ideal for themselves.

Table 24

*Mothers' Ideal Body Size for Themselves and Daughters' Ideal Body Size for Themselves*

	<i>M</i>	<i>SD</i>
Mothers	3.66	.886
Tween Girls (whole group)	2.96	.834
Normal sized younger tweens	2.83	.794
Plus sized younger tweens	3.07	.846
Normal sized older tweens	2.81	.780
Plus sized older tweens	3.29	.871

Means of mothers' and tween daughters' ideal body sizes is provided in Table 24. On average mothers desired a figure somewhere between figures three and four. The

average figure desired by tween girls was three. Normal sized girls comparatively, liked a thinner figure than plus size girls.

Correlation analysis revealed that the relationship between mothers' and daughters' ideal body size was positive and significant ( $r = .411$ ;  $p = .000$ ). The relationship between mothers' and daughters' self-identified ideal body sizes is represented through the correlation values in Table 25. All of the coefficients of correlation  $r$  values were positive and between .3 and .5. According to the widely recognized opinion of Cohen (1988), significant positive correlations in the range of .3 and .5 are moderate. Even with a moderate relationship this correlation was statistically significant at 0.001 levels. Therefore, it can be said that daughters of mothers who desire a thinner body size, wish a smaller body size too, and vice versa. However, the strength of this relationship is moderate. The relationship between plus sized older tweens' ideal body size for themselves and their mothers' ideal body size was the strongest (.468).

Table 25

*Relationship between Mothers' and Daughters' Self-identified Ideal Body Size.*

	$r$	$p$ value
Tween Girls (whole group)	.411	.000***
Normal sized younger tweens	.361	.000***
Plus sized younger tweens	.395	.000***
Normal sized older tweens	.370	.000***
Plus sized older tweens	.468	.000***

*Note. Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

*Research Question 1b: Does mothers' body dissatisfaction predict daughters' body dissatisfaction?*

Stunkard et al.'s (1983) nine line drawings were used to answer this part of Research Question 1. Both mothers and daughters picked a line drawing that represented themselves and the body size they wanted to have. As described in Chapter 3, body dissatisfaction was calculated as the difference between the ideal body size and the perceived body size. A body dissatisfaction score was calculated for both mothers and tween girls. Mothers' and daughters' mean scores are provided in Table 26.

Table 26

*Mothers' and Daughters' Body Dissatisfaction Scores*

	<i>M</i>	<i>SD</i>
Mothers	1.24	1.076
Tween Girls (whole group)	.75	1.008
Normal sized younger tweens	.44	.715
Plus sized younger tweens	.92	1.048
Normal sized older tweens	.52	.755
Plus sized older tweens	1.46	1.342

Statistical analysis highlighted a desire to be thinner among all the groups. Mothers wanted to be slightly more than a size smaller than their current body size (1.24). Normal sized younger girls were the most satisfied with their bodies (.44) whereas, plus sized older tweens were the most dissatisfied with their bodies (1.46). Overall, plus sized tween girls were more dissatisfied with their bodies as compared to

normal sized tween girls. Also, older girls were more dissatisfied with their bodies than younger girls.

Regression analysis revealed that mothers' body dissatisfaction scores positively influenced daughters' body dissatisfaction ( $b = .326$ ;  $R^2 = .106$ ;  $F = 122.783$ ;  $p = .000$ ). Regression analysis was performed to see if mothers' body dissatisfaction scores predicted daughters' body dissatisfaction scores. Table 27 summarizes the results of these analyses. Correlations between mothers' body dissatisfaction and daughters' body dissatisfaction were small to medium. When looking at the groups of tween girls, only plus sized girls' body dissatisfaction was moderately correlated with mothers' body dissatisfaction. About 20% of variance in plus sized older tween girls' body dissatisfaction was explained by mothers' body dissatisfaction. Only 3% of variance of normal sized girls' body dissatisfaction was explained by mothers' body dissatisfaction. However, all of the relationships between mothers' and daughters' body dissatisfaction scores were significant.

Table 27

*Regressing Mothers' Body Dissatisfaction on Daughters' Body Dissatisfaction*

	<i>b</i>	$R^2$	<i>F</i>	<i>p</i>
Tween Girls (whole group)	.326	.106	122.783	.000***
Normal sized younger tweens	.168	.028	8.057	.005**
Plus sized younger tweens	.398	.159	44.510	.000***
Normal sized older tweens	.176	.031	10.923	.001***
Plus sized older tweens	.444	.197	42.461	.000***

*Note: a) Predictor variable = Mothers' Body Dissatisfaction scores.*

*Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

*Research Question 2: Is there a difference in mothers' identification of an ideal body size for their daughters and daughters' self-identified ideal body size for themselves?*

Stunkard et al.'s (1983) line figures were used again as a stimulus to answer this research question. Mothers picked a number (from 1 to 9) that they thought was an ideal body size for their daughters. Daughters used the same visual aids and picked a number they thought was an ideal body size for them. To analyze the differences in the means of their responses, paired sample *t*-tests were performed.

Table 28

*t-Tests Results for Mothers' Identification of Ideal Body Size for their Daughters and Normal and Plus Sized Daughters' Self-identified Ideal Body Size*

	Daughters self-identified ideal body size			Mothers self-identified ideal body size for their daughters			Paired Samples <i>t</i> -test		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Whole group	1037	2.96	.834	1037	3.20	.800	10.332	1036	.000***
Normal sized group	624	2.82	.786	624	3.08	.777	8.533	623	.000***
Plus sized group	413	3.16	.863	413	3.39	.798	5.898	412	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

In answer to this research question, the paired sample *t*-test yielded statistically significant differences in mothers' identification of ideal body size for their daughters and daughters' self-identified ideal body size ( $t = ; p = .000$ ). Table 28 shows the mean scores and *p* values of the whole group and also of tween girls grouped according to size. Paired sample *t*-tests were also performed to further explore the difference between normal and plus size (Table 28) and younger and older (Table 29) tween girls. Differences between

mothers and normal sized girls and between mothers and plus sized girls were statistically significant and meaningful.

Also, differences between mothers' and younger girls' and between mothers' and older girls' identification of ideal body size were statistically significant and meaningful (Table 29). In all cases, mothers perceived a larger ideal body size for their daughters than the tween girls' perception of an ideal body size for themselves.

Table 29

*t-Tests Results for Mothers' Identification of Ideal Body Size for their Daughters and Younger and Older Sized Daughters' Self-identified Ideal Body Size*

	Daughters self-identified ideal body size			Mothers self-identified ideal body size for their daughters			Paired Samples <i>t</i> -test		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Whole group	1037	2.96	.834	1037	3.20	.800	10.332	1036	.000***
Younger group	518	2.94	.826	518	3.11	.797	5.370	517	.000***
Older group	519	2.97	.842	519	3.29	.794	9.185	518	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

*Research Question 3: Is there a difference in mothers' perceptions of their daughters' body weight concerns and daughters' own body weight concerns?*

Daughters' weight concerns were answered through four questions adapted from the Demographic and Dieting Questionnaire developed by Maloney et al. (1989).

Mothers answered similar and related questions. As these scales were dichotomous in nature (answered in either yes or no), non-parametric binomial tests were conducted to

illustrate the similarity/difference between mothers' perceptions of their daughters' weight concerns and daughters' weight concerns.

Non-parametric binomial tests revealed that there was significant level of agreement between mothers and daughters, i.e. mothers correctly perceived their daughters' body weight concerns. Table 30 summarizes mothers' and daughters' agreement on body weight concerns. Four questions from the daughters' questionnaire were paired with eight questions from the mothers' questionnaire, giving a total of eight question pairs. The results were significant, and these significant Phi values indicate that there was a significant level of agreement between mothers and daughters for all these eight pairs. One of the possible reasons for this significant relationship can be attributed to the large sample size.

Mothers' and daughters' responses for each question pair are summarized in detail in Tables 31, 34, 36, 39, 41, 44, 46 and 49. The following section has been divided into four categories based on the constructs used to measure body weight concerns. These are desire to be thinner, desire to be heavier, desire to lose weight and desire to gain weight.

Table 30

*Summary of Mothers' and Daughters' Agreement on Body Weight Concerns*

	Weight Concerns	Mothers and daughters responding Yes (%)	Mothers and daughters responding No (%)	Total Agreement (%)	Sig. (Phi)
Pair 1	Mother: Has your daughter ever wanted to be thinner? Daughter: Have you ever wanted to be thinner?	42	42.6	84.6	.000***
Pair 2	Mother: Have you ever wanted your daughter to be thinner? Daughter: Have you ever wanted to be thinner?	20.7	47.2	67.9	.000***
Pair 3	Mother: Has your daughter ever wanted to be heavier? Daughter: Have you ever wanted to be heavier?	5.5	89.5	95.0	.000***
Pair 4	Mother: Have you ever wanted your daughter to be heavier? Daughter: Have you ever wanted to be heavier?	4.2	85.5	89.7	.000***
Pair 5	Mother: Has your daughter ever tried to lose weight? Daughter: Have you ever tried to lose weight?	28.4	56.6	85.0	.000***
Pair 6	Mother: Have you ever wanted your daughter to lose weight? Daughter: Have you ever tried to lose weight?	14.8	58.1	72.9	.000***
Pair 7	Mother: Has your daughter ever tried to gain weight? Daughter: Have you ever tried to gain weight?	4.3	90.3	94.6	.000***
Pair 8	Mother: Have you ever wanted your daughter to gain weight? Daughter: Have you ever tried to gain weight?	3.7	86.5	90.2	.000***

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

*Desire to be Thinner*

Table 31 demonstrates a significant agreement between mothers and daughters for question pair 1. This pair examined daughters' desire to be thinner and mothers' recognition of their daughters' desire to be thinner. About 84.6% of mothers and daughters were in complete agreement of each other, i.e. 84.6% of mothers correctly perceived their daughters' desire to be thinner.

Table 31

*Summary of Responses to Question Pair 1*

		Daughters: Have you ever wanted to be thinner?		Total
		Yes	No	
Mothers: Has your daughter ever wanted to be thinner?	Yes	436 (42.0%)	66 (6.4%)	502 (48.4%)
	No	93 (9.0%)	442 (42.6%)	535 (51.6%)
Total		529 (51.0%)	508 (49.0%)	1037 (100.0%)

Phi = 0.000

Table 32

*Daughters' Responses for 'Have you ever wanted to be thinner': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	99 (35.4%)	181 (64.6%)	280 (100.0%)
Plus sized younger tweens	135 (56.7%)	103 (43.3%)	238 (100.0%)
Normal sized older tweens	155 (45.1%)	189 (54.9%)	344 (100.0%)
Plus sized older tweens	140 (80.0%)	35 (20.0%)	175 (100.0%)

Tables 32 and 33 summarize the responses for daughters' desire to be thinner and their mothers' recognition of this desire. Tween groups, as defined by age and size, are compared in these tables. About 80% of plus sized older girls wanted to be thinner, and 77% of their mothers believed this. Overall, more plus sized girls (66%) than normal sized girls wanted to be thinner. Similarly, older girls desired a thinner body more than younger girls. For the most part, mothers' responses were similar to their tween girls.

Table 33

*Mothers' Responses for 'Has your daughter ever wanted to be thinner': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	85 (30.4%)	195 (69.6%)	280 (100.0%)
Plus sized younger tweens	125 (52.5%)	113 (47.5%)	238 (100.0%)
Normal sized older tweens	156 (45.3%)	188 (54.7%)	344 (100.0%)
Plus sized older tweens	136 (77.7%)	39 (22.3%)	175 (100.0%)

Table 34

*Summary of Responses to Question Pair 2*

		Daughters: Have you ever wanted to be thinner?		Total
		Yes	No	
Mothers: Have you ever wanted your daughter to be thinner?	Yes	215 (20.7%)	19 (1.8%)	234 (22.6%)
	No	314 (30.3%)	489 (47.2%)	803 (77.4%)
Total		529 (51.0%)	508 (49.0%)	1037 (100.0%)

Phi = 0.000

Question pair 2 examined daughters' desire to be thinner and their mothers' desire for their daughters to be thinner. The responses for these questions are summarized in Table 34. Though the level of agreement was the lowest (67.9%: yes agreement 20.7% and no agreement 47.2%) for this question pair (from Table 30), it was statistically significant ( $p=0.000$ ). About 30% mothers did not want their daughters to be thinner, even when their daughters wanted to be thinner. Conversely, very few mothers (1.8%) wanted their daughters to be thinner when their daughters did not want to be thinner.

Table 35

*Mothers' Responses for 'Have you ever wanted your daughter to be thinner':*

*Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	28 (10.0%)	252 (90.0%)	280 (100.0%)
Plus sized younger tweens	79 (33.2%)	159 (66.8%)	238 (100.0%)
Normal sized older tweens	39 (11.3%)	305 (88.7%)	344 (100.0%)
Plus sized older tweens	88 (50.3%)	87 (49.7%)	175 (100.0%)

Table 35 summarizes the results of the question asked of mothers: Have you wanted your daughter to be thinner. About half of the mothers of plus sized older tween girls wanted their daughters to be thinner. More mothers of plus sized girls desired their daughters to be thinner than the mothers of normal sized girls.

To summarize, about half the girls expressed a desire to be thinner. Of these, 42% of the girls' mothers correctly perceived this desire. However, only 22.6% mothers

wanted their daughters to be thinner. More plus sized girls than more normal sized girls wanted a thinner body.

*Desire to be Heavier*

Responses to question pair 3 are summarized in Table 36. This question pair examined the daughters’ desire to be heavier and their mothers recognizing this desire. The relationship between their agreements was significant. Most of the girls did not want a heavier body (91.8%). About 95% mothers correctly perceived their daughters’ desire not to be heavier.

Table 36

*Summary of Responses to Question Pair 3*

		Daughters: Have you ever wanted to be heavier?		Total
		Yes	No	
Mothers: Has your daughter ever wanted to be heavier?	Yes	57 (5.5%)	24 (2.3%)	81 (7.8%)
	No	28 (2.7%)	928 (89.5%)	956 (92.2%)
Total		85 (8.2%)	952 (91.8%)	1037 (100.0%)

Phi = 0.000

Table 37 compares the grouped tween girls’ responses for wanting a heavier body. Similarly Table 38 compares their mothers’ responses. Most of the plus sized girls (95.4%) did not want a heavier body. Among the normal sized girls, only about 10% wanted a heavier body. Mothers’ and daughters’ responses were very similar. It is of interest that 13 plus sized younger girls wanted a heavier a body but 10 mothers

perceived that their daughters wanted to be heavier. There was not much difference in the responses of younger and older tween girls.

Table 37

*Daughters' Responses for 'Have you ever wanted to be heavier': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	31 (11.1%)	249 (88.9%)	280 (100.0%)
Plus sized younger tweens	13 (5.5%)	225 (94.5%)	238 (100.0%)
Normal sized older tweens	35 (10.2%)	309 (89.8%)	344 (100.0%)
Plus sized older tweens	6 (3.4%)	169 (96.6%)	175 (100.0%)

Table 38

*Mothers' Responses for 'Has your daughter ever wanted your daughter to be heavier': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	29 (10.4%)	251 (89.6%)	280 (100.0%)
Plus sized younger tweens	10 (4.2%)	228 (95.8%)	238 (100.0%)
Normal sized older tweens	34 (9.9%)	310 (90.1%)	344 (100.0%)
Plus sized older tweens	8 (4.6%)	167 (95.4%)	175 (100.0%)

Mothers' desire for their daughters to be heavy was compared with daughters' desire to be heavy (question pair 4). Their responses are summarized in Table 39. The agreement level between mothers and daughters, which was 89.7% (yes agreement 4.2%

and no agreement 85.5%), was significant. Only about 10% of mothers wanted their daughters to be heavier.

Table 39

*Summary of Responses to Question Pair 4*

		Daughters: Have you ever wanted to be heavier?		Total
		Yes	No	
Mothers: Have you ever wanted your daughter to be heavier?	Yes	44 (4.2%)	65 (6.3%)	109 (10.5%)
	No	41 (4.0%)	887 (85.5%)	928 (89.5%)
Total		85 (8.2%)	952 (91.8%)	1037 (100.0%)

Phi = 0.000

Table 40

*Mothers' Responses for 'Have you ever wanted your daughter to be heavier': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	41 (14.6%)	239 (85.4%)	280 (100.0%)
Plus sized younger tweens	15 (6.3%)	223 (93.7%)	238 (100.0%)
Normal sized older tweens	47 (13.7%)	297 (86.3%)	344 (100.0%)
Plus sized older tweens	6 (3.4%)	169 (96.6%)	175 (100.0%)

Table 40 summarizes the grouped mothers' responses for the question: Have you ever wanted your daughter to be heavier. Approximately 14% of mothers of normal sized tween girls wanted their daughters to be heavier. Just 3-6% of mothers of plus sized girls wanted their daughters to be heavier. To summarize most of the tween girls (91.8%) did

not want a heavier body. About 92.2% of mothers correctly perceived this desire, and 89.5% of mothers did not want their daughters to heavier.

*Desire to Lose Weight*

Girls were asked if they ever tried to lose weight. This question was paired with mothers' response to whether or not they thought their daughters had ever tried to lose weight (question pair 5). Table 41 summarizes the responses for this question pair. There was 85% agreement (yes agreement 28.4% and no agreement 56.6%) between mothers and daughters, and it was significant.

Table 41

*Summary of Responses to Question Pair 5*

		Daughters: Have you ever tried to lose weight?		Total
		Yes	No	
Mothers: Has your daughter ever tried to lose weight?	Yes	294 (28.4 %)	49 (4.7%)	343 (33.1%)
	No	107 (10.3%)	587 (56.6%)	694 (66.9%)
Total		401 (38.7%)	636 (61.3%)	1037 (100.0%)

Phi = 0.000

Tables 42 and 43 summarize the grouped responses of tween girls and their mothers. Most of the plus sized older tween girls (73.1%) had tried to lose weight, and 66.3% mothers of plus sized older tweens correctly perceived that. Fewer (41.6%) of the plus sized younger girls had tried to lose weight; 33.2% of that group's mothers thought so. No more than 33.4% of the normal sized girls had tried to lose weight. For that

segment older girls' mothers perceived that their daughters had tried to lose weight, but fewer mothers of the younger tweens correctly perceived this.

Table 42

*Daughters' Responses for 'Have you ever tried to lose weight': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	59 (21.1%)	221 (78.9%)	280 (100.0%)
Plus sized younger tweens	99 (41.6%)	139 (58.4%)	238 (100.0%)
Normal sized older tweens	115 (33.4%)	229 (66.6%)	344 (100.0%)
Plus sized older tweens	128 (73.1%)	47 (26.9%)	175 (100.0%)

Table 43

*Mothers' Responses for 'Has your daughter ever tried to lose weight': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	38 (13.6%)	242 (86.4%)	280 (100.0%)
Plus sized younger tweens	79 (33.2%)	159 (66.8%)	238 (100.0%)
Normal sized older tweens	110 (32.0%)	234 (68.0%)	344 (100.0%)
Plus sized older tweens	116 (66.3%)	59 (33.7%)	175 (100.0%)

Daughters' desire to lose weight was paired with mothers' encouragement to their daughters to lose weight in question pair 6 (Table 44). The level of agreement between them was statistically significant ( $p=0.000$ ). Only 18% of mothers encouraged their daughters to lose weight. Almost one-quarter of the girls reported trying to lose weight

although their mothers had not encouraged them. A summary of mothers' responses is provided in Table 45. Very few mothers of normal sized girls (7.4%) encouraged their daughters to lose weight. Approximately one-quarter of the mothers of plus sized younger girls and nearly one-half of the mothers of plus sized older tweens had encouraged their daughters to lose weight.

Table 44

*Summary of Responses to Question Pair 6*

		Daughters: Have you ever tried to lose weight?		Total
		Yes	No	
Mothers: Have you ever encouraged your daughter to lose weight?	Yes	153 (14.8%)	34 (3.3%)	187 (18.0%)
	No	248 (23.9%)	602 (58.1%)	850 (82.0%)
	Total	401 (38.7%)	636 (61.3%)	1037 (100.0%)

Phi = 0.000

Table 45

*Mothers' Responses for 'Have you ever encouraged your daughter to lose weight':*

*Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	18 (6.4%)	262 (93.6%)	280 (100.0%)
Plus sized younger tweens	63 (26.5%)	175 (73.5%)	238 (100.0%)
Normal sized older tweens	28 (8.1%)	316 (91.9%)	344 (100.0%)
Plus sized older tweens	78 (44.6%)	97 (55.4%)	175 (100.0%)

To summarize, about 38.7% of girls had tried to lose weight. Mothers mostly recognized their daughters' desire to lose weight. However, relatively few mothers (18.0%) actually encouraged their daughters to lose weight and most of them were mothers of plus sized girls. More of the plus sized girls, particularly the older ones, had tried to lose weight. The normal sized girls appeared less likely to try to lose weight.

*Desire to Gain Weight*

Girls were also asked if they had ever tried to gain weight. This question was paired with the question from mothers, "Has your daughter ever tried to gain weight" (question pair 7). The results are summarized in Table 46. There was a high agreement level (94.6%: yes agreement 4.3% and no agreement 90.3%), and it was significant (0.000). Responses of daughters and mothers are summarized according to groups defined by age and size in Tables 47 and 48. Very few of the plus sized older girls wanted to gain weight (2.9%). Except for the plus sized younger group, slightly more mothers thought their daughters had tried to gain weight than the daughters indicated.

Table 46

*Summary of Responses to Question Pair 7*

		Daughters: Have you ever tried to gain weight?		Total
		Yes	No	
Mothers: Has your daughter ever tried to gain weight?	Yes	45 (4.3%)	32 (3.1%)	77 (7.4%)
	No	24 (2.3%)	936 (90.3%)	960 (92.6%)
Total		69 (6.7%)	968 (93.3%)	1037 (100.0%)

Phi = 0.000

Table 47

*Daughters' Responses for 'Have you ever tried to gain weight': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	21 (7.5%)	259 (92.5%)	280 (100.0%)
Plus sized younger tweens	16 (6.7%)	222 (93.3%)	238 (100.0%)
Normal sized older tweens	27 (7.8%)	317 (92.2%)	344 (100.0%)
Plus sized older tweens	5 (2.9%)	170 (97.1%)	175 (100.0%)

Table 48

*Mothers' Responses for 'Has your daughter ever tried to gain weight': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	25 (8.9%)	255 (91.1%)	280 (100.0%)
Plus sized younger tweens	12 (5.0%)	226 (95.0%)	238 (100.0%)
Normal sized older tweens	33 (9.6%)	311 (90.4%)	344 (100.0%)
Plus sized older tweens	7 (4.0%)	168 (96.0%)	175 (100.0%)

Responses to question pair 8 are summarized in Table 49. This question pair focused on daughters' desire to gain weight and mothers encouragement to daughters to gain weight. The level of agreement was 90.2% and was significant. Approximately only 10% of mothers encouraged their daughters to gain weight. Compared to mothers of plus sized girls, more mothers of normal sized girls encouraged them to gain weight (see

Table 50). Only 5.1% of mothers of plus sized older tweens encouraged them to gain weight.

Table 49

*Summary of Responses to Question Pair 8*

		Daughters: Have you ever tried to gain weight?		Total
		Yes	No	
Mothers: Have you ever encouraged your daughter to gain weight?	Yes	38 (3.7%)	71 (6.8%)	109 (10.5%)
	No	31 (3.0%)	897 (86.5%)	928 (89.5%)
	Total	69 (6.7%)	968 (93.3%)	1037 (100.0%)

Phi = 0.000

Table 50

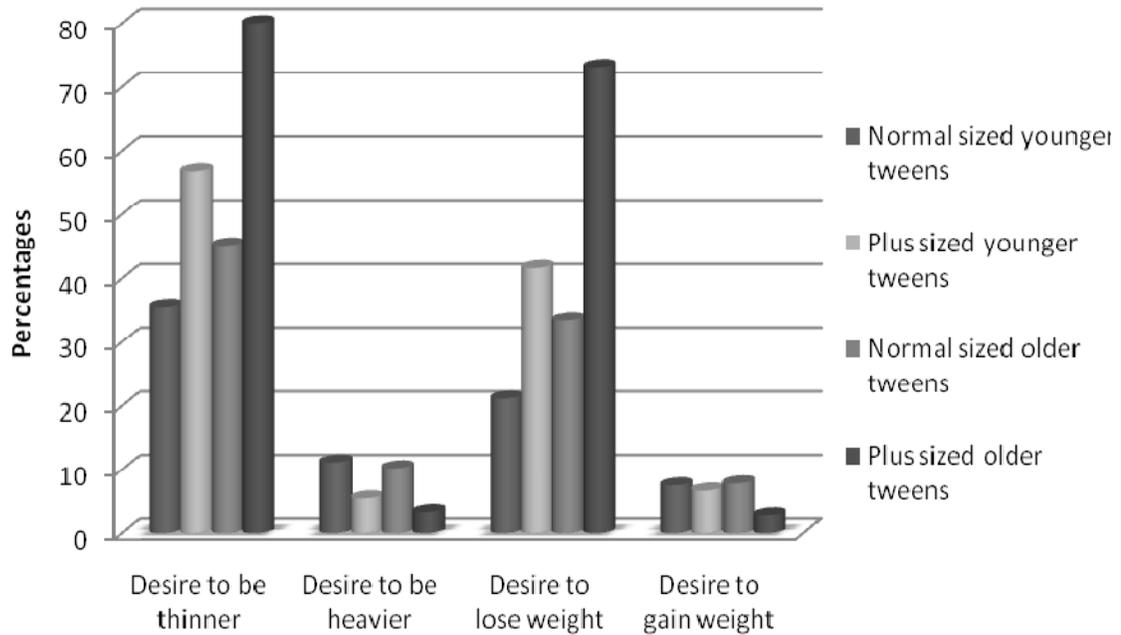
*Mothers' Responses for 'Have you ever encouraged your daughter to gain weight': Comparing Tween Groups as Defined by Age and Size*

Group	Yes	No	Total
Normal sized younger tweens	38 (13.6%)	242 (86.4%)	280 (100.0%)
Plus sized younger tweens	19 (8.0%)	219 (92.0%)	238 (100.0%)
Normal sized older tweens	43 (12.5%)	301 (87.5%)	344 (100.0%)
Plus sized older tweens	9 (5.1%)	166 (94.9%)	175 (100.0%)

Overall, very few girls ever tried to gain weight. About 8.2% of girls (see Table 36) desired to be heavier, and only 6.7% of girls actually tried to gain weight. Among them few plus sized older girls tried to gain weight. Comparatively, more mothers encouraged their daughters to gain weight than girls tried to gain weight.

*Summary*

Tween girls' body weight concerns are summarized in a bar graph in (Figure 10). The difference among different tween groups is very clear. For the most part, girls desired a thinner body and wanted or tried to lose weight rather than desiring a heavier body and wanting or trying to gain weight. Plus sized older girls were the group that most desired a thinner body and had tried to lose weight.



*Figure 10.* Tween Girls Body Weight Concerns: Comparing Tween Groups as Defined by Age and Size.

*Can Mothers' Weight Concerns for their Daughters Predict Daughters' Weight Concerns?*

To further test the mother-daughter relationship in body weight concerns, binomial logistic regression analyses were conducted. Mothers' concerns for their

daughters were used as independent variables to predict daughters' body weight concerns. The relationship between the variables of four models was significant (Table 51). For Model 1 mothers' desire for their daughters to be thinner was used to predict daughters' desire to be thinner. For Model 2 mothers' desire for their daughters to be heavier was used to predict daughters' desire to be heavier. Encouragement from mothers for their daughters to lose weight served as independent variable and daughters' attempts to lose weight served as dependent variable for Model 3. In Model 4 mothers' encouragement to their daughters to gain weight was used as independent variable and daughters' attempts to gain more weight as dependent variable.

Table 51

*Mother-Daughter Relationship in Weight Concerns*

Model	Weight Concern	<i>b</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Exp( <i>b</i> )
1	Desire to be thinner <sup>a,b</sup>	2.869	2.50	131.688	1	.000	17.622
2	Desire to be heavier <sup>a,c</sup>	2.684	.252	113.222	1	.000	14.645
3	Desire to lose weight <sup>a,d</sup>	2.391	.204	137.279	1	.000	10.923
4	Desire to gain weight <sup>a,e</sup>	2.740	.272	101.764	1	.000	15.487

a. Reference category is "No" = 1

b. Nagelkerke  $R^2 = .266$ ; -2 log likelihood = 1206.576; Chi-square for overall model with  $df = 1$  ( $p = .000$ )

c. Nagelkerke  $R^2 = .223$ ; -2 log likelihood = 482.992; Chi-square for overall model with  $df = 1$  ( $p = .000$ )

d. Nagelkerke  $R^2 = .217$ ; -2 log likelihood = 1203.659; Chi-square for overall model with  $df = 1$  ( $p = .000$ )

e. Nagelkerke  $R^2 = .225$ ; -2 log likelihood = 412.650; Chi-square for overall model with  $df = 1$  ( $p = .000$ )

These variables correlated moderately with each other on all four weight-related issues. Mothers exerted about 22%-27% influence on daughters' weight concerns. For example, 26.6% of the variance in daughters' desire to be thinner was explained by mothers' desire for their daughters to be thinner. About 22% of the variance in daughters' desire to be heavier was explained by mothers' desire for their daughters to be heavier.

Similarly, approximately 22% of the variance in daughters' wishes to lose weight was accounted for by mothers' encouragement to lose weight. Lastly, 22.5% of the variance in daughters' wishes to gain weight was explained by the mothers' encouragement to gain more weight.

*Research Question 4a: Is there a difference among girls' ratings of features of attractiveness?*

Tween girls were asked to rate the importance of eleven factors that could be considered a feature of attractiveness. These factors were clothes, make-up, hair, being slender, nails, curvy body, looking "fit", nice smile, not being fat, jewelry, and clear skin. Each factor was rated from 1 (not important at all) to 5 (very important). Descriptive statistics were run to see the relative importance of each of these factors. The importance of these features for tween girls are summarized in Table 52, which also lists the rankings of features of attractiveness for tween girls' groups. Hair (4.18) was considered the most important feature for attractiveness. The next important feature was nice smile (4.17) followed by clear skin (4.13), clothes (4.09), not being fat (3.88), looking "fit" (3.77), being slender (3.61), nails (3.33), jewelry (3.31), make-up (3.26), and curvy body (3.12). On average, none of the features was considered less than moderately important for tween girls.

Statistical analyses revealed that there were significant differences among tween segments for most features. When categorized by size, tween girls differed in their ratings of six features. And, when categorized by age, they differed on nine features.

Independent sample *t*-tests were performed between age and size specific segments.

Some differences were found in their ratings of features of attractiveness.

Table 52

*Relative Importance of Features of Attractiveness for Tween Girls*

Features	Whole Group (Rank)	Normal sized younger tweens (Rank)	Plus sized younger tweens (Rank)	Normal sized older tweens (Rank)	Plus sized older tweens (Rank)
Clothes	4.09 (4)	4.04 (3)	4.00 (3)	4.25 (4)	3.99 (4)
Make-up	3.26 (10)	3.04 (10)	2.96 (10)	3.56 (8)	3.42 (8)
Hair	4.18 (1)	4.07 (2)	4.07 (2)	4.35 (2)	4.15 (1)
Being slender	3.61 (7)	3.42 (7)	3.48 (7)	3.88 (7)	3.57 (7)
Nails	3.33 (8)	3.27 (9)	3.21 (9)	3.49 (9)	3.30 (11)
Curvy body	3.12 (11)	2.84 (11)	2.93 (11)	3.38 (10)	3.35 (9)
Looking “fit”	3.77 (6)	3.62 (6)	3.60 (6)	3.98 (6)	3.83 (6)
Nice smile	4.17 (2)	4.12 (1)	4.11 (1)	4.32 (3)	4.01 (3)
Not being fat	3.88 (5)	3.81 (5)	3.74 (5)	4.04 (5)	3.86 (5)
Jewelry	3.31 (9)	3.28 (8)	3.22 (8)	3.38 (10)	3.34 (10)
Clear skin	4.13 (3)	3.95 (4)	3.92 (4)	4.43 (1)	4.13 (2)

Table 53 illustrates the differences in ratings of features of attractiveness between normal sized and plus sized girls. There was a significant difference between normal and plus sized tweens in their ratings of clothes, make-up, hair, being slender, nice smile, and clear skin as features of attractiveness. Normal sized girls considered all of these factors more important for attractiveness than the plus sized girls. The top five features were the same for both segments of tweens; they were (in order of importance): hair, nice smile,

clear skin, clothes, and not being fat. In addition, both groups thought a curvy body to be a least important feature of attractiveness.

Table 53

*t-Test Results for Relative Importance of Features of Attractiveness for Normal Sized and Plus Sized Tween Girls*

Features	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> - test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	4.16 (4)	.974	4.00 (4)	1.069	2.482	.013*
Make-up	3.33 (9)	1.381	3.15 (10)	1.378	1.965	.050*
Hair	4.23 (1)	.932	4.10 (1)	1.045	2.002	.046*
Being slender	3.67 (7)	1.183	3.52 (7)	1.261	1.959	.050*
Nails	3.39 (8)	1.262	3.24 (9)	1.254	1.854	.064
Curvy body	3.13 (9)	1.341	3.11 (11)	1.309	.285	.775
Looking “fit”	3.82 (6)	1.141	3.70 (6)	1.171	1.629	.104
Nice smile	4.23 (1)	.921	4.07 (2)	1.064	2.620	.009**
Not being fat	3.94 (5)	1.225	3.79 (5)	1.238	1.930	.054
Jewelry	3.33 (9)	1.260	3.27 (8)	1.250	.800	.424
Clear skin	4.21(3)	.994	4.01 (3)	1.115	3.048	.002**

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

There was greater difference between younger and older tweens in their ratings of features of attractiveness (Table 54) than for normal and plus sized tweens. Significant differences were seen in their ratings on all but two of the features. There were differences for clothes, make-up, hair, being slender, nails, curvy body, looking “fit”, not

being fat, and clear skin. For all features older tweens found them to be more important than younger tweens. A nice smile was the most important feature of attractiveness for younger tweens whereas a curvy body was the least important feature. For older tweens clear skin was the most important feature of attractiveness and jewelry was least important.

Table 54

*t-Test Results for Relative Importance of Features of Attractiveness for Younger and Older Tween Girls*

Features	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> -tests	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	4.02 (3)	1.053	4.17 (4)	.972	-2.296	.022*
Make-up	3.00 (10)	1.395	3.51 (8)	1.321	-6.030	.000***
Hair	4.07 (2)	1.033	4.28 (2)	.913	-3.532	.000***
Being slender	3.45 (7)	1.236	3.77 (7)	1.175	-4.310	.000***
Nails	3.24 (9)	1.290	3.43 (9)	1.225	-2.411	.016*
Curvy body	2.88 (11)	1.344	3.37 (10)	1.266	-6.039	.000***
Looking “fit”	3.61 (6)	1.216	3.93 (6)	1.065	-4.488	.000***
Nice smile	4.12 (1)	1.015	4.22 (3)	.948	-1.638	.102
Not being fat	3.77 (5)	1.238	3.98 (5)	1.217	-2.709	.007**
Jewelry	3.25 (8)	1.285	3.37 (11)	1.224	-1.452	.147
Clear skin	3.93 (4)	1.128	4.33 (1)	.922	-6.146	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

*Research Question 4b: Is there a difference between mothers' and daughters' ratings of features of attractiveness?*

Similar to tween girls, mothers also rated eleven features they thought were important for attractiveness for girls their daughters' age. These were also rated on a five point scale from 1 (not at all important) to 5 (very important). First, descriptive statistics were used to show the relative importance of each factor. Paired sample *t*-tests were then performed to explore the differences between mothers' and daughters' ratings.

Table 55

*t-Test Results for Relative Importance of Features of Attractiveness for Tweens and their Mothers*

Features	Tween Girls ( <i>N</i> = 1037)		Mothers ( <i>N</i> = 1037)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	4.09 (4)	1.015	3.75 (4)	1.082	-9.874	.000***
Make-up	3.26 (10)	1.381	2.43 (10)	1.392	-18.629	.000***
Hair	4.18 (1)	.980	3.95 (2)	1.011	-6.947	.000***
Being slender	3.61 (7)	1.216	2.96 (7)	1.292	-16.215	.000***
Nails	3.33 (8)	1.261	2.84 (8)	1.281	-12.785	.000***
Curvy body	3.12 (11)	1.328	2.41 (11)	1.302	-17.338	.000***
Looking "fit"	3.77 (6)	1.154	3.37 (5)	1.234	-11.048	.000***
Nice smile	4.17 (2)	.983	4.15 (1)	1.027	-.473	.636
Not being fat	3.88 (5)	1.232	3.19 (6)	1.337	-16.359	.000***
Jewelry	3.31 (9)	1.256	2.76 (9)	1.287	-13.947	.000***
Clear skin	4.13 (3)	1.048	3.95 (2)	1.060	-5.439	.000***

*Note. Significant p values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05*

In answer to this research question, except for the feature nice smile, significant differences were found in the ratings of mothers and daughters. However, rankings were quite similar. Differences were also seen between mothers and daughters in different tween segments. Table 55 summarizes this information for the entire group. All of the mothers' average ratings were lower than the girls. Except for nice smile, mothers and daughters differed significantly (0.000) in all their ratings on attractiveness.

Tables 56 and 57 summarize the differences between normal and plus sized younger tween girls' and their mothers' notions of attractiveness for tween girls. In both size groups, younger girls and their mothers differed significantly in their ratings of all features except nice smile. Mothers rated all features as less important than younger tween girls did. However, rankings according to the means of these features were quite similar. Both mothers and younger daughters rated nice smile as the most important feature of attractiveness. However, mothers rated make-up as the least important feature of attractiveness, in contrast to curvy body, which was rated as the least important feature by their daughters. Also, compared to younger tweens, clothes and not being fat were ranked slightly lower and clear skin and looking fit were ranked slightly higher by mothers.

Table 56

*t-Test Results for Relative Importance of Features of Attractiveness for Normal Sized Younger Tweens and their Mothers*

Features	Normal sized younger tweens ( $N = 280$ )		Mothers ( $N = 280$ )		Paired Sample $t$ -test	
	$M$ (Rank)	$SD$	$M$ (Rank)	$SD$	$t$	$p$
Clothes	4.04 (3)	1.010	3.63 (4)	1.090	-6.360	.000***
Make-up	3.04 (10)	1.382	1.98 (11)	1.256	-12.247	.000***
Hair	4.07 (2)	.988	3.81 (2)	1.043	-4.305	.000***
Being slender	3.42 (7)	1.198	2.76 (7)	1.220	-8.748	.000***
Nails	3.27 (9)	1.274	2.69 (8)	1.292	-7.641	.000***
Curvy body	2.84 (11)	1.347	2.07 (10)	1.234	-9.934	.000***
Looking “fit”	3.62 (6)	1.200	3.14 (5)	1.279	-6.575	.000***
Nice smile	4.12 (1)	.975	4.09 (1)	1.118	-.455	.649
Not being fat	3.81 (5)	1.218	2.99 (6)	1.352	-10.154	.000***
Jewelry	3.28 (8)	1.265	2.60 (9)	1.255	-8.732	.000***
Clear skin	3.95 (4)	1.081	3.79 (3)	1.138	-2.311	.022*

*Note. Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

These differences are also illustrated figuratively through Figure 11, which highlights the differences in ranks and their means. The most important feature of attractiveness, as listed by mothers, was a nice smile. The next important features were hair and clear skin followed by clothes, looking “fit”, not being fat, being slender, nails, jewelry, make-up, and curvy body.

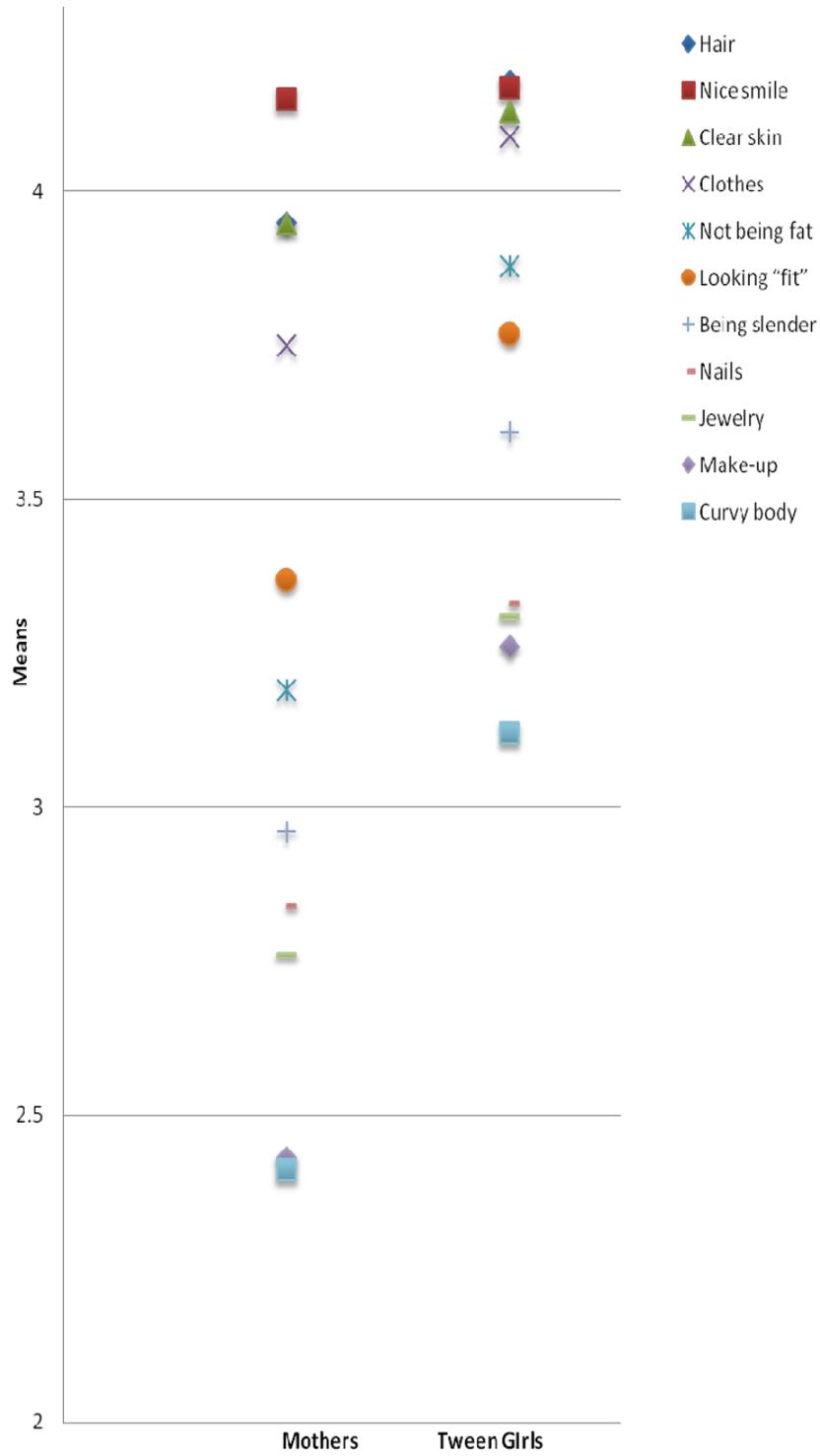


Figure 11. Tween Girls' and their Mothers' Ratings for Features of Attractiveness.

Table 57

*t-Test Results for Relative Importance of Features of Attractiveness for Plus Sized**Younger Tweens and their Mothers*

Features	Plus sized younger tweens (N = 238)		Mothers (N = 238)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	4.00 (3)	1.102	3.73 (4)	1.146	-3.491	.001***
Make-up	2.96 (10)	1.412	2.18 (11)	1.373	-8.312	.000***
Hair	4.07 (2)	1.085	3.91 (2)	1.087	-2.283	.023*
Being slender	3.48 (7)	1.282	2.84 (7)	1.368	-7.240	.000***
Nails	3.21 (9)	1.310	2.76 (8)	1.300	-5.261	.000***
Curvy body	2.93 (11)	1.340	2.36 (10)	1.326	-7.038	.000***
Looking “fit”	3.60 (6)	1.238	3.21 (5)	1.321	-5.135	.000***
Nice smile	4.11 (1)	1.063	4.13 (1)	1.077	.236	.814
Not being fat	3.74 (5)	1.263	3.10 (6)	1.323	-7.792	.000***
Jewelry	3.22 (8)	1.310	2.76 (8)	1.368	-5.365	.000***
Clear skin	3.92 (4)	1.183	3.77 (3)	1.136	-1.984	.048*

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Responses of normal sized older tweens and their mothers are summarized in Table 58. Their responses were all significantly different from each other. Again, mothers rated the features of attractiveness lower than the tweens. Also, mothers’ and daughters’ rankings varied in most instances. For normal sized older girls the important features (in order of their importance) were: clear skin, hair, nice smile, clothes, not being fat, looking “fit”, being slender, make-up, nails, curvy body, and jewelry. For mothers these

were nice smile, clear skin, hair, clothes, looking “fit”, not being fat, being slender, nails, jewelry, make-up, and curvy body.

Table 58

*t-Test Results for Relative Importance of Features of Attractiveness for Normal Sized Older Tweens and their Mothers*

Features	Normal sized older tweens (N = 344)		Mothers (N = 344)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	4.25 (4)	.934	3.87 (4)	1.046	-6.499	.000***
Make-up	3.56 (8)	1.337	2.79 (10)	1.404	-10.011	.000***
Hair	4.35 (2)	.865	4.11 (3)	.929	-4.449	.000***
Being slender	3.88 (7)	1.132	3.22 (7)	1.299	-9.688	.000***
Nails	3.49 (9)	1.245	3.02 (8)	1.291	-7.369	.000***
Curvy body	3.38 (10)	1.288	2.63 (11)	1.316	-9.907	.000***
Looking “fit”	3.98 (6)	1.065	3.71 (5)	1.103	-4.691	.000***
Nice smile	4.32 (3)	.866	4.21 (1)	.966	-2.228	.027*
Not being fat	4.04 (5)	1.222	3.46 (6)	1.320	-6.337	.000***
Jewelry	3.38 (10)	1.256	2.82 (9)	1.294	-8.421	.000***
Clear skin	4.43 (1)	.861	4.14 (2)	.990	-5.539	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Table 59 summarizes the responses of plus sized older tweens and their mothers. Mothers and their daughters differed significantly on all features except nice smile. Rankings of these features were also different for mothers and daughters. The most important feature for plus sized older tweens was hair and the least important was nails.

For mothers these were nice smile and curvy body. Nice smile was the only feature with a higher mean for the mothers.

In summary, mothers and daughters differed significantly in their ratings of features of attractiveness for tween girls. Overall, mothers rated nice smile as the most important feature, while tween girls rated hair as the most important feature (see Table 54). For the rest of the features, even when rankings were similar, mothers rated the features as less important than the tween girls did.

Table 59

*t-Test Results for Relative Importance of Features of Attractiveness for Plus Sized Older Tweens and their Mothers*

Features	Plus sized older tweens ( <i>N</i> = 175)		Mothers ( <i>N</i> = 175)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes	3.99 (4)	1.026	3.73 (4)	1.031	-3.061	.003**
Make-up	3.42 (8)	1.288	2.80 (10)	1.317	-6.204	.000***
Hair	4.15 (1)	.989	3.94 (3)	.972	-2.641	.009**
Being slender	3.57 (7)	1.234	2.91 (7)	1.208	-6.426	.000***
Nails	3.30 (11)	1.176	2.86 (9)	1.183	-5.007	.000***
Curvy body	3.35 (9)	1.227	2.61 (11)	1.231	-7.555	.000***
Looking “fit”	3.83 (6)	1.062	3.26 (5)	1.149	-5.768	.000***
Nice smile	4.01 (3)	1.064	4.17 (1)	.917	1.884	.061
Not being fat	3.86 (5)	1.202	3.12 (6)	1.292	-6.338	.000***
Jewelry	3.34 (10)	1.163	2.88 (8)	1.195	-4.902	.000***
Clear skin	4.13 (2)	1.006	4.06 (2)	.865	-.820	.414

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

*Research Question 5. Is there a relationship between girls' self-esteem score and body dissatisfaction score?*

Body dissatisfaction was calculated as the difference between the perceived current and ideal figure from the set of nine line drawings of Stunkard et al. (1983). Tween girls answered six questions of the Rosenberg-Simmons's Self-Esteem (RSSE) scale. Scores from each of the six items were added to get a total self-esteem score such that six was the lowest score and 19 was the highest. A high score indicated high self-esteem and vice versa.

Table 60

*Self-esteem and Body Dissatisfaction Scores of Tween Groups*

Group	Body Dissatisfaction		Self-esteem	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Tween girls (whole group)	.75	1.008	17.01	2.188
Normal sized younger tweens	.44	.715	17.38	1.776
Plus sized younger tweens	.92	1.048	17.08	2.112
Normal sized older tweens	.52	.755	17.22	2.027
Plus sized older tweens	1.46	1.342	15.94	2.795

Table 60 summarizes the mean scores of self-esteem and body dissatisfaction for the four tween groups. As seen from the table, plus sized older girls had the lowest self-esteem score (15.94) and the highest level of body dissatisfaction (1.46). Also, this group had the greatest variance in both the self-esteem and body dissatisfaction scores. Normal sized younger tweens had the lowest level of body dissatisfaction (.44) and highest level

of self-esteem (17.38). To summarize, younger girls had higher self-esteem and lower body dissatisfaction than older girls. Plus sized girls had lower self-esteem and higher body dissatisfaction than normal sized girls.

Correlation analysis revealed that there was a significant negative relation between tween girls' self-esteem and body dissatisfaction ( $r = -.354; p = .000$ ). The relationship between tween girls' body dissatisfaction and self-esteem was analyzed through Pearson's correlation. The negative correlational values ranged from small to medium for different groups (Table 61). Body dissatisfaction was least related to self-esteem for normal sized older tweens ( $r = -.240$ ) followed by plus sized older tweens ( $r = -.252$ ), normal sized younger tweens ( $r = -.322$ ) and plus sized younger tweens ( $r = -.428$ ). Overall, tween girls' body dissatisfaction was moderately and negatively related to their self-esteem ( $r = -.354$ ). All these correlation scores were significant ( $p = .000$ ).

Table 61

*Relationship between Tween Girls' Body Dissatisfaction and Self-esteem.*

	<i>r</i>	<i>p</i> value
Tween girls (whole group)	-.354	.000***
Normal sized younger tweens	-.322	.000***
Plus sized younger tweens	-.428	.000***
Normal sized older tweens	-.240	.000***
Plus sized older tweens	-.252	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

To further explore the differences among different tween groups for the relationship between self-esteem and body dissatisfaction, MANOVA was conducted.

The independent variable used were the tween groups: normal sized younger tweens, plus

sized younger tweens, normal sized older tweens and plus sized older tweens. The dependent variables were tween girls' total self-esteem and body dissatisfaction. Results of multivariate analysis are summarized in Table 62. Overall, 13% variance on body dissatisfaction and 5% variance on self-esteem was explained by tween group.

Table 62

*Multivariate Analysis of Variance for Tween Girls' Self-esteem and Body Dissatisfaction Scores.*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.853	28.561 <sup>b</sup>	.000	.074	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05  $\alpha$  level

c. Computed using  $\alpha = .05$

MANOVA revealed that significant differences existed ( $p = .000$ ) among the tween segments on self-esteem and body dissatisfaction. Wilks' Lambda showed that a variance of about 8% could be explained for self-esteem and body dissatisfaction by a tween girls' segment. The power for the statistical analysis was 1.0. This means that sample sizes and the effect sizes were sufficient to ensure that significant differences would be detected even if they existed beyond the differences due to sampling error (Hair et al., 2006).

*Research Question 6. Is there a relationship between girls' self-esteem score and their perception of body image?*

Blyth et al.'s (1985) Satisfaction with Body Image scale was used to measure tween girls' perception of body image. This scale consisted of four items measuring girls' satisfaction with their height, weight, figure development and looks. These were rated on a four point scale from 1 (not at all happy) to 4 (very happy). As discussed in Chapter 3, these four constructs were not combined to give a single score for body image. Self-esteem score came from the RSSE scale.

Table 63

*Tween Girls' Satisfaction with Body Image.*

	Body Image			
	Satisfaction with height	Satisfaction with weight	Satisfaction with figure development	Satisfaction with overall looks
Tween girls (whole group)	2.89	2.63	2.70	2.89
Normal sized younger tweens	2.98	2.96	2.91	3.01
Plus sized younger tweens	2.93	2.55	2.61	2.97
Normal sized older tweens	2.91	2.77	2.79	2.89
Plus sized older tweens	2.65	1.91	2.31	2.61

Table 63 summarizes the mean scores of tween girls' satisfaction with body image. Overall, the mean scores of tween girls' satisfaction with different dimensions of body image ranged from *somewhat happy* to *happy* (mean range = 1.91 – 3.01). Plus sized older girls were the least satisfied with their weight (1.91). Among all the tween

groups, normal sized younger girls were most satisfied with all the dimensions of their body image.

Pearson's correlation was used to determine the strength of the relationship between self-esteem and body image. In answer to this research question, a significant and positive relation exists between self-esteem and all the areas of body image. The values overall ranged from small to moderate (Table 64). For the entire tween group, satisfaction with weight, figure development and overall looks were moderately correlated to self-esteem. The correlation between satisfaction with height and self-esteem was small. All of these correlations were statistically significant. The correlation was greatest for plus sized older tweens between satisfaction with overall looks and self-esteem.

Table 64

*Relationship between Tween Girls' Body Image and Self-esteem.*

	Body Image			
	Satisfaction with height	Satisfaction with weight	Satisfaction with figure development	Satisfaction with overall looks
Tween girls (whole group)	.271**	.395**	.361**	.414**
Normal sized younger tweens	.242**	.425**	.326**	.386**
Plus sized younger tweens	.318**	.373**	.353**	.363**
Normal sized older tweens	.190**	.248**	.293**	.341**
Plus sized older tweens	.292**	.403**	.366**	.507**

*Note. Significant correlations at 0.01 level (2-tailed) are noted by \*\**

The relationship was also examined through multiple regression, where satisfaction with height, weight, figure development and overall looks were used as

predictors for self-esteem. The four dimensions were entered together. The model generated by SPSS reported a  $r = .480$ ,  $R^2$  change = .23,  $F = 77.134$ ,  $p = .000$ . Standardized *beta* weights for each dimensions were: satisfaction with height = .046, satisfaction with weight = .202, satisfaction with figure development = .064, and satisfaction with overall looks = .277. The  $R^2$  change (.23) indicates that 23% of variance in predicting self-esteem can be accounted for by its linear relationship with the dimensions of body image.

Multivariate Analysis of Variance (MANOVA) was used to explore the differences among tween segments for these constructs. Tween segment was used as an independent variable and self-esteem and body image were the dependent variables. The results from this analysis are reported in Table 65. Significant differences existed among the tween segments for self-esteem and body image. Wilks' Lambda explain a variance of approximately 6% on self-esteem and body image due to tween groups.

Table 65

*Multivariate Analysis of Variance for Tween Girls' Self-esteem and Body Image.*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.838	12.542 <sup>b</sup>	.000	.057	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05 *alpha* level

c. Computed using *alpha* = .05

*Is Satisfaction with Body Image Affected by Age and Size?*

In order to examine if differences existed with body image satisfaction, independent sample *t*-tests were performed between younger and older girls and normal and plus sized

girls. Table 66 summarizes the responses of younger and older girls. Both younger and older tween groups differed significantly in their satisfaction with the four dimensions of body image. That is to say, age did influence tween girls' perception of body image. Younger tweens were comparatively more satisfied with their height, weight, figure development and overall looks than older tweens.

Table 66

*t-Test Results for Satisfaction with Body Image for Younger and Older Tween Girls*

Body Image	Younger tweens (N = 518)		Older tweens (N = 519)		Independent Sample t- test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Satisfaction with height	2.96	.874	2.82	.929	2.372	.018*
Satisfaction with weight	2.77	.942	2.48	.976	4.908	.000***
Satisfaction with figure development	2.77	.874	2.63	.936	2.596	.010**
Satisfaction with overall looks	2.99	.771	2.79	.800	4.147	.000***

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Similarly, differences between normal and plus sized girls are reported in Table 67. Normal and plus sized girls differed significantly in their satisfaction with their height, weight, figure development and overall looks. Normal sized tween girls were more satisfied with these dimensions than their plus sized counterparts.

Table 67

*t-Test Results for Satisfaction with Body Image for Normal Sized and Plus Sized Tween Girls*

Body Image	Normal sized tweens (N = 624)		Plus sized tweens (N = 413)		Independent Sample t-test	
	M	SD	M	SD	t	p
Satisfaction with height	2.94	.888	2.81	.923	2.320	.021*
Satisfaction with weight	2.85	.888	2.28	.987	9.729	.000***
Satisfaction with figure development	2.84	.854	2.48	.944	6.463	.000***
Satisfaction with overall looks	2.94	.749	2.82	.847	2.474	.014*

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

To summarize, it can be said that body image is affected by age and BMI. In the later years of adolescence satisfaction with body image seems to decrease. Also, a plus sized BMI is linked to lower satisfaction with body.

*Research Question 7. Is there a relationship between girls' media exposure and their self-esteem score?*

Media exposure was measured through the media exposure scale developed by Auburn University researchers for the first phase of the larger project (Lee, 2006). Four modes of media identified were: television, video games, internet, and magazines. The first three items were answered on a 5-point scale such that 1 = less than 1 hour, 2 = 1-3 hours, 3 = 3.5-6 hours, 4 = 6.5-10 hours, and 5 = more than 10 hours. The last item was answered through a 4-point scale such that 1 = 0, 2 = 1-2, 3 = 3-6, and 4 = more than 6.

Mean scores of media exposure are provided in Table 68. In general, girls spent between 3.5-10 hours per week watching television. About 1-3 hours per week were spent in playing video games; 1-6 hours were spent on internet; and finally, 1-6 magazines were read per month.

Differences between tween groups were examined through independent sample *t*-tests. Younger and older tween girls differed significantly in their media exposure through the internet ( $p = .000$ ) and magazines ( $p = .000$ ). Older girls spent more hours on the internet and read more magazines than younger tween girls. Normal and plus sized girls differed only in their involvement with video games ( $p = .036$ ). Plus sized girls played more video games than normal sized girls.

Table 68

*Tween Girls' Exposure to Media*

	Hours/week spent watching television	Hours/week spent playing video games	Hours/week spent on internet	Number of Magazines looked at per month
Tween girls (whole group)	3.46	2.06	2.77	2.26
Normal sized younger tweens	3.48	2.00	2.38	2.10
Plus sized younger tweens	3.41	2.23	2.51	2.20
Normal sized older tweens	3.42	2.01	3.14	2.36
Plus sized older tweens	3.58	2.05	3.05	2.42

As the media exposure scale was ordinal and self-esteem score was interval, the relationship between these variables was first examined through Spearman's rank order difference correlations. In answer to Research Question 7, significant and negative relation was found between media exposure and tween girls' self-esteem.

The results of correlation analysis are provided in Table 69. The relationship between self-esteem and media exposure was negative, which meant that girls involved more with media had a somewhat lower self-esteem. Also, the correlation values were small for all modes of media. Among these the relationship between self-esteem and reading magazines and self-esteem and internet were stronger compared to other media. No significant relationship was found between self-esteem and video games.

Table 69

*Relationship between Tween Girls' Self-esteem and Exposure to Media.*

Media Exposure	$r_s$	$p$ values
Hours/week spent watching television	-.125	.000***
Hours/week spent playing video games	-.053	.085
Hours/week spent on internet	-.128	.000***
Magazines looked at per month	-.128	.000***

*Note. Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

In order to see how well media exposure predicted tween girls' self-esteem, the relationship was further examined through multiple regression. The four sources of media influence were entered together as independent variables. A small variance of only 3% on self-esteem was explained by exposure to media ( $r = .185$ ,  $R^2$  change = .034,  $F = 9.096$ ,  $p = .000$ ).

Differences in self-esteem and media exposure among tween groups was examined through MANOVA that yielded significant results (Table 70). Wilks' Lambda explained a variance of only 5% on dependent variables (self-esteem and four media modes). Belonging to a particular tween segment did not affect involvement with

television ( $p = .322$ ) and video games ( $p = .071$ ). In both these cases less than 1% variance was explained by tween segment. However, tween segment did influence the involvement with internet ( $p = .000$ ) and magazines ( $p = .000$ ).

Table 70

*Multivariate Analysis of Variance for Tween Girls' Self-esteem and Media Exposure.*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.852	11.315 <sup>b</sup>	.000	.052	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05 *alpha* level

c. Computed using *alpha* = .05

*For What Did Tween Girls Use the Internet?*

Tween girls were asked to check all the options that applied to their using the internet. The options were: talk to friends, look at websites, shop, research things I am interested in, and email. Mostly the girls used internet to look at various websites (73.7%) (Table 71). More than half the girls used the internet for talking to friends (65.3%), research (63.4%), and email (59.6%). Only about one-fourth of tween girls used the internet for shopping.

Differences between younger and older tweens and between normal and plus sized girls were examined through independent sample  $t$ -tests. Younger and older girls differed significantly in their internet use for talking to friends ( $p = .000$ ), shopping ( $p = .003$ ), research ( $p = .050$ ), and email ( $p = .000$ ). Older tween girls used the internet more frequently for these purposes than younger tweens. They did not differ in their use for looking at websites ( $p = .514$ ). Among tween groups defined by size, normal sized girls

differed significantly from plus sized tweens in their use for talking to friends ( $p = .037$ ) and research ( $p = .039$ ). Normal sized girls used the internet for these purposes more than plus sized tween girls.

Table 71

*Internet Use among Tween Girls.*

	Talk to friends Freq. (%)	Look at websites Freq. (%)	Shop Freq. (%)	Research Freq. (%)	Email Freq. (%)
Tween girls (whole group)	677 (65.3)	764 (73.7)	258 (24.9)	657 (63.4)	618 (59.6)
Normal sized younger tweens	141 (50.4)	205 (73.2)	51 (18.2)	169 (60.4)	134 (47.9)
Plus sized younger tweens	127 (53.4)	172 (72.3)	57 (23.9)	144 (60.5)	113 (47.5)
Normal sized older tweens	282 (82.6)	259 (75.3)	113 (32.8)	242 (70.3)	248 (72.1)
Plus sized older tweens	127 (72.6)	128 (73.1)	37 (21.1)	102 (58.3)	123 (70.3)

Overall, tween girls used the internet more frequently for all the given options except shopping. The differences in internet use among tween groups were not fully apparent at first glance. But on closer inspection some differences existed among tween groups as defined by size and age.

*Research Question 8. Is there a relationship between girls' media exposure and their body image?*

The computation of body image and media exposure was explained in previous research questions. As discussed, there were four items, rated on a 4-point scale, measuring tween girls' perception of body image (satisfaction with height, satisfaction

with weight, satisfaction with figure development, and satisfaction with overall looks) and four modes of media (television, video games, internet, and magazines). This research question examined the relationship between these two variables.

Table 72

*Relationship between Tween Girls' Body Image and Exposure to Media.*

Media Exposure	Body Image			
	Satisfaction with height	Satisfaction with weight	Satisfaction with figure development	Satisfaction with overall looks
Television	-.026	-.069*	-.068*	.010
Video games	-.013	.058	.049	.083**
Internet	-.109**	-.089**	-.051	-.039
Magazines	-.036	-.058	-.030	.053

*Note. Significant correlations at 0.01 level (2-tailed) are noted by \*\*  
Significant correlations at 0.05 level (2-tailed) are noted by \**

Correlation analysis revealed that for most modes of media the relationship was insignificant. Also, different modes affected various areas of body image at different levels. Some of these relationships were positive and others negative. The relationship between the above mentioned eight items is reported through Spearman's rank order correlation in Table 72. The correlation values were very small and mostly insignificant. All four media modes were negatively related to satisfaction with height. Of these relationships, hours spent on the internet and satisfaction with height and weight were significantly related. Also the negative relationship between television and satisfaction with weight and satisfaction with figure development were significant. Satisfaction with overall looks was significantly and positively related to exposure to video games.

Exposure through magazine was not related with any constructs of tween girls' body image.

These values represent only the relationship between any two items. Correlation between multiple dependent variables and multiple independent variables cannot be accomplished through Spearman's correlation. Therefore, in order to examine the full effect of media exposure on body image perceptions it was necessary to test this relationship through canonical correlation.

Canonical correlation is a multivariate technique used to determine inter-relationships between multiple independent and multiple dependent variables (Hair, Black, Babin, Anderson & Tatham, 1998). The test demonstrated a weak relationship (canonical  $r = .158$ ) between canonical variates for independent variables (hours spent in watching television, playing video games, using the internet, and reading magazines) and dependent variables (satisfaction with height, weight, figure development, and overall looks). However, Wilk's Lambda, which tested the significance of canonical correlation, explained a significant ( $p = .000$ ) association between these two sets of variables. A variance of 2.5% was explained by canonical correlation in the dependent canonical variable.

Multiple linear regression was performed to see how well media exposure predicted body image. The four modes of media were entered together as the independent variable. A separate model was obtained for each of the four areas of body image. The summary of these models is provided in Table 73. All four regression models were significant. The independent correlation values were similar to canonical correlation. The variance explained by media exposure on these four body image areas ranged from 1% to

2.5%. When these relationships were tested among different tween groups, very few models, though with similar  $r$  and  $R^2$  values, were significant. For normal sized younger tweens, media exposure significantly predicted satisfaction with overall looks. For plus sized younger tweens, the models were significant for satisfaction with weight and satisfaction with overall looks. None of the other models were significant.

Table 73

*Regressing Tween Girls' Body Image through Media Exposure*

	$r^a$	$R^2$	$F$	$p$
Satisfaction with height	.120	.014	3.742	.005**
Satisfaction with weight	.157	.025	6.494	.000***
Satisfaction with figure development	.119	.010	3.720	.005**
Satisfaction with overall looks	.129	.017	4.392	.002**

Note: a) Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

b) Predictor variables: exposure to television, video games, internet, and magazines.

Table 74

*Multivariate Analysis of Variance for Tween Girls' Body Image and Media Exposure.*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.760	12.335 <sup>b</sup>	.000	.088	1.000

Note. Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Tween segment had a significant effect on body image and media exposure. All the four multivariate tests yielded significant results (Table 74). Wilk's Lambda shows that tween segment accounted for about 9% difference in the dependent variables (four modes of media and four areas of body image).

*Research Question 9. Is there a relationship between peer diet concerns and body weight concerns?*

Peer diet concerns was measured from a four-item scale adapted from Levine et al.'s (1994) PEERDIET scale. The items of this scale were rated on a 5-point scale and measured girls' perception of the level of interest their friends showed in issues related to weight, dieting and shape. The first three items were rated from 1 (none) to 5 (all), and the last item that measured how often girls' interacted with their friends about weight issues was measured from 1 (never) to 5 (very often). Body weight concerns was measured through questions adapted from the Demographic and Dieting Questionnaire developed by Maloney et al. (1989). This scale was dichotomous in nature. As one of the scales was not dichotomous, non-parametric binomial test was not performed. Instead the relationship was tested first through correlation analysis and later through regression.

Table 75

*Peer Diet Concerns*

	Peers desiring a thinner body	Peers desiring a heavier body	Peers on diet	Interaction with peers
Tween girls (whole group)	2.81	1.48	2.16	2.77
Normal sized younger tweens	2.56	1.39	1.87	2.43
Plus sized younger tweens	2.71	1.58	2.04	2.60
Normal sized older tweens	2.89	1.45	2.30	2.99
Plus sized older tweens	3.15	1.55	2.52	3.10

Tween girls' perception of their friends diet/weight concerns are provided in Table 75. About *half* of their girl friends desired a thinner body. A *few* friends desired a heavier body and were "on a diet". Tween girls and their friends *sometimes* talked about weight, weight loss, and dieting. Independent sample *t*-tests were performed to examine the differences between normal and plus sized tweens and between younger and older tweens. Normal and plus sized girls differed significantly in having friends who would like to be thinner ( $p = .027$ ) and also who would like to be heavier ( $p = .011$ ). Plus sized girls had more friends who desired both a thinner and a heavier body. Similarly, younger and older girls differed significantly in having friends who desired a thinner body ( $p = .000$ ), were on diet ( $p = .000$ ) and in their interaction with friends ( $p = .000$ ). Older girls had more friends who wanted a thinner body, were on a diet and frequently talked to them about weight and dieting issues.

The relationship between peer diet concerns and tween girls' body weight concerns are divided in to three categories that are similar to Research Question 3: desire to be thinner, desire to be heavier and desire to lose weight. In answer to this research question, statistical analyses revealed that for most tween groups peers' weight concerns affected all three tween girls' body weight issues.

#### *Desire to be Thinner*

As found earlier, more than half of the tween girls wanted to be thinner (see Tables 31 and 32). Similarly about half of their friends wanted to be thinner (Table 75). However, unlike themselves, plus sized tween girls did not have as many friends who wanted to be thinner. The relationship between peers' and tween girls' desire to be thinner is summarized in Table 76. As interaction with peers regarding weight issues was

thought to most likely affect the tween desire to be thinner, both interaction with peers and their desire to be thin were correlated with tween desire to be thin.

Tween girls' desire to be thinner was correlated in a such a way that if they had more friends who desired a thinner body or if they talked more frequently regarding weight issues, they were more likely to desire a thinner body, too (Table 76). Though the correlation values were small, the relationships between these variables were significant, except for plus sized older tween girls.

Table 76

*Relationship between Peers and Tween Girls' Desire to be Thinner*

	Peers desiring a thinner body		Interaction with peers	
	<i>r</i>	<i>p</i> value	<i>r</i>	<i>p</i> value
Tween girls (whole group)	.262	.000***	.268	.000***
Normal sized younger tweens	.237	.000***	.281	.000***
Plus sized younger tweens	.181	.005**	.220	.001***
Normal sized older tweens	.314	.000***	.273	.000***
Plus sized older tweens	.116	.126	.120	.115

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Multiple regression was performed to see how well this PEERDIET scale predicted tween girls' desire to be thin. The four items of the scale were entered together as independent variables to predict tween desire for a thinner body. A variance of approximately 11% was explained by peer influence on tween desire to be thinner ( $r = .327$ ,  $R^2$  change = .107,  $F = 30.877$ ,  $p = .000$ ).

Table 77

*Multivariate Analysis of Variance for Tween Girls' Desire to be Thinner, Peer Desire to be Thinner and Interaction with Peers*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.910	19.052 <sup>b</sup>	.000	.048	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05  $\alpha$  level

c. Computed using  $\alpha = .05$

Effect of tween groupings, according to age and size, on tween and peer desire to be thinner and interaction with peers was examined through MANOVA. All multivariate tests yielded significant results, indicating that belonging to a particular group had a effect on the above mentioned variables (Table 77). Moreover, group differences accounted for 9.1% of the variance in tween girls' desire to be thinner.

*Desire to be Heavier*

Table 78

*Relationship between Peers and Tween Girls' Desire to be Heavier*

	$r$	$p$ values
Tween girls (whole group)	.187	.000***
Normal sized younger tweens	.168	.005**
Plus sized younger tweens	.133	.041*
Normal sized older tweens	.248	.000***
Plus sized older tweens	.286	.000***

Note. Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Very few tween girls, about 8%, wanted to be heavier (see Tables 36 and 37). Similarly very few of their friends wanted to be heavier (Table 75). The relationship between tween girls' and their friends' desire to be heavier was explored through correlation, the results of which are provided in Table 78. All the values were small but significant. The relationship between peers and tween girls' desire to be heavier was positive, suggesting that as the number of friends desiring a heavy body increased, so did tween girls' desire. Unlike desire to be thinner, peers had a significant influence over plus sized older girls' desire for a heavy body.

Group differences in peer and tween desire to be heavier was explored through MANOVA. All the tests were significant. However, Wilks Lambda accounted for only a small variance of about 1% in these two variables.

Table 79

*Multivariate Analysis of Variance for Tween Girls' and their Peers' Desire to be Heavier*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.977	4.073 <sup>b</sup>	.000	.012	.977

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05  $\alpha$  level

c. Computed using  $\alpha = .05$

*Desire to Lose Weight*

Slightly more than one-third (38.7%) of tween girls had tried or desired to lose weight (see Tables 41 and 42). More friends of plus sized older tween girls had tried to lose weight. The relationship between the number of peers on diets and tween girls' desire to lose weight was explored through Pearson's correlation.

Table 80

*Relationship between Peers and Tween Girls' Desire to Lose Weight*

	<i>r</i>	<i>p</i> values
Tween girls (whole group)	.272	.000***
Normal sized younger tweens	.250	.000***
Plus sized younger tweens	.251	.000***
Normal sized older tweens	.280	.000***
Plus sized older tweens	.088	.247

Note. Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

The correlation values were significant but small (Table 80). Except for plus sized older girls, all the groups had significant correlation values. This relationship was further explored through multiple regression with items of PEERDIET scale as independent variables and tweens' desire to lose weight as a dependent variable. The relationship was significant and peer influence explained a variance of 11% on desire to lose weight ( $r = .330$ ,  $R^2$  change = .109,  $F = 31.616$ ,  $p = .000$ ).

Table 81

*Multivariate Analysis of Variance on Tween Girls' and their Peers' Desire to Lose Weight*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	<i>p</i>	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.854	28.176 <sup>b</sup>	.000***	.076	1.000

a. Each *F* tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05 *alpha* level

c. Computed using *alpha* = .05

All multivariate tests for MANOVA were significant, indicating that belonging to a particular segment affected tween girls' and their friends' desire to lose weight (Table 81). Wilks' Lambda accounted for 7.6% variance in these variables. Tween segment differences explained a variance of 12.4% in tweens' desire to lose weight.

*Research Question 10. Are there any differences among influentials (mother, father, sister, friend, self) in helping girls decide what clothes to purchase?*

Girls were asked to indicate the frequency that “best described how often each of the following people helped them decide what clothes to buy.” The options included mother, father, sister(s), friend(s), and self, and were rated on a 5-point scale from 1 (never) to 5 (always). This question was adapted from May's (1982) Clothing Practices Survey. To analyze this research question, descriptive statistics were first performed. These are summarized in Table 82 and Figure 12. Help was received in the following order of frequency (from high to low): mother, self, friends, father, and sisters. More than 70% of mothers *usually* or *always* helped tween girls decide what clothes they should buy. About 60% of girls *never* asked their sisters to help. This included girls (about 30% of total sample), who did not have any sisters. On average, *half of the time* tween girls decided on their own what clothes to buy.

Differences among different tween groups defined by age and size were examined through independent sample *t*-tests. In response to Research Question 10, the analyses revealed that when comparing segments as per size, plus sized girls differed significantly from normal sized girls in receiving help from fathers. When comparing segments as per age, girls differed significantly in receiving help from mother, father, friends and self.

Table 82

*Tween Girls' Response on Influentials Helping to Decide what Clothes to Buy*

	Always (%)	Usually (%)	Half of the time (%)	Almost never (%)	Never (%)	<i>M</i>	Total
Mother	32.1	40.8	19.6	4.1	3.4	3.94	100
Father	4.9	7.8	17.1	29.6	40.6	2.07	100
Sister(s)	4.4	11.2	13.6	10.8	60.0	1.89	100
Friend(s)	4.9	14.2	23.4	22.3	35.2	2.31	100
Self	19.3	36.1	28.5	7.4	8.7	3.50	100

The differences between normal and plus sized girls are summarized in Table 83. Plus sized girls differed significantly from normal sized tween girls only in receiving help from their fathers ( $p = .007$ ). Plus sized girls received help more frequently from their fathers than did normal sized tween girls. In general, plus sized girls relied more on their mothers, sisters, and selves than their normal sized counterparts.

Similarly, differences between younger and older tweens are reported in Table 84. Younger and older tween girls differed significantly on all their buying influentials except sisters. As the girls aged, the influence of their mothers and fathers decreased and that of friends increased. Also, older tween girls tended to buy clothes more on their own than younger tween girls.

Table 83

*t*-Test Results for Helping Normal and Plus Sized Tween Girls Decide what Clothes to Buy

	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Mother	3.93	.956	3.96	1.044	-.530	.596
Father	1.99	1.113	2.19	1.201	-2.690	.007**
Sister(s)	1.83	1.193	1.98	1.338	-1.834	.067
Friend(s)	2.35	1.202	2.26	1.257	1.214	.225
Self	3.55	1.109	3.42	1.189	1.884	.060

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

Table 84

*t*-Test Results for Helping Younger and Older Tween Girls Decide what Clothes to Buy

	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Mother	4.14	.968	3.75	.978	6.411	.000***
Father	2.23	1.243	1.91	1.031	4.488	.000***
Sister(s)	1.91	1.281	1.88	1.228	.319	.750
Friend(s)	2.06	1.210	2.56	1.189	-6.698	.000***
Self	3.31	1.190	3.69	1.061	-5.468	.000***

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

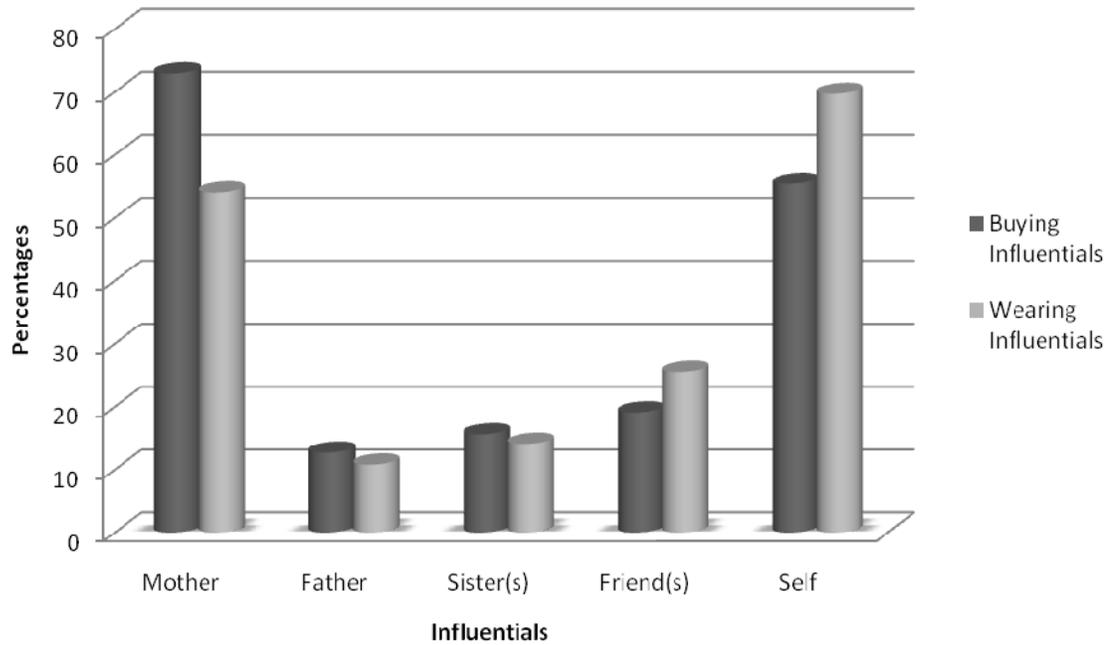


Figure 12. Tween girls' perception of help received in buying and wearing clothes.

Research Question 11. Are there any difference among influentials (mother, father, sister, friend, self) in helping girls decide what to wear?

Another question adapted from May's (1982) Clothing Practices Survey asked girls about their wearing decisions. Girls answered, "how often the following people (mother, father, sisters, friends, self) helped them decide what clothes to wear." Again the responses were rated on a 5-point scale ranging from 1 (never) to 5 (always). Tween girls' perception about who helped them in deciding what to wear is provided in Table 85 and Figure 12. Three fourths of fathers *almost never* or *never* helped tween girls decide what to wear. More than half of mothers *usually* or *always* helped their daughters in deciding what to wear. On average their friends helped them *half of the time*, and they *almost never* received any help from their sisters. As visible in Figure 12, the influence of

mothers, fathers and sisters decreased when it came to wearing clothes, and that of friends increased. Also, self reliance was greater for wearing than buying matters.

Table 85

*Tween Girls' Response on Influentials Helping to Decide what Clothes to Wear*

	Always (%)	Usually (%)	Half of the time (%)	Almost never (%)	Never (%)	<i>M</i>	Total
Mother	21.6	32.4	26.8	11.5	7.7	3.49	100
Father	4.6	6.2	14.1	26.5	48.6	1.92	100
Sister(s)	5.1	9.0	15.6	12.2	58.1	1.91	100
Friend(s)	6.7	18.8	25.9	19.5	29.1	2.54	100
Self	26.2	43.5	21.1	3.4	5.8	3.81	100

Table 86

*t-Test Results for Helping Normal and Plus Sized Tween Girls Decide what Clothes to Wear*

	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> -test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Mother	3.44	1.152	3.56	1.200	-1.726	.085
Father	1.87	1.132	2.00	1.132	-1.807	.071
Sister(s)	1.86	1.199	1.99	1.307	-1.624	.105
Friend(s)	2.55	1.245	2.53	1.302	.281	.779
Self	3.85	1.007	3.75	1.101	.011	.137

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

Independent sample *t*-tests revealed that tween girls, when defined by size, did not differ for any of the influentials and when defined by age, differed significantly in their

influence from mothers, fathers, friends, and self. The results of these tests are provided in Tables 86 and 87. There were no significant differences in the means of normal sized and plus sized girls for wearing influentials. However, differences in the influence of mothers and fathers were close to being significant. Plus sized tween girls received more help from their mothers and fathers in deciding what clothes to wear.

Independent sample *t*-tests were also performed to explore the differences in influentials between younger and older tweens. The results of these tests are summarized in Table 87. Except for sisters, younger and older girls differed significantly ( $p = .000$ ) in receiving help from mothers, fathers, friend(s) and self. The reliance on mothers and fathers decreased for older tweens, and reliance on friends and self increased.

Table 87

*t*-Test Results for Helping Younger and Older Tween Girls Decide what Clothes to Wear

	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> - test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Mother	3.68	1.179	3.30	1.136	5.297	.000***
Father	2.05	1.196	1.79	1.052	3.747	.000***
Sister(s)	1.89	1.259	1.93	1.231	-.526	.599
Friend(s)	2.34	1.302	2.75	1.200	-5.245	.000***
Self	3.69	1.120	3.93	.954	-3.619	.000***

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

*Research Question 12. Is there a relationship between girls' self-esteem and their purchase decision on own?*

This research question explored the relationship between self-esteem and tween girls' purchase decision. Self-esteem, as discussed earlier, was calculated as a total score from the six items of the RSSE scale in such a way that a score of six represented low self-esteem and a score of 19 represented high self-esteem. Tween girls' self-esteem scores are summarized in Table 60. Tween girls' purchase decision was measured from a single item of question 2 of *Part 1: Choosing Clothes* in daughters' questionnaire. This item measured girls' self-reliance while buying clothes, the results of which are provided in Table 88. On average tween girls *about half the time* or *usually* bought clothes that they liked. Normal sized older tweens more often relied on themselves compared to other tween segments (Table 88).

Table 88

*Tween Girls' Purchase Decision*

	<i>M</i>	<i>SD</i>
Tween girls (whole group)	3.50	1.143
Normal sized younger tweens	3.32	1.174
Plus sized younger tweens	3.29	1.211
Normal sized older tweens	3.74	1.015
Plus sized older tweens	3.58	1.141

Table 89

*Relationship between Tween Girls' Self-esteem and Purchase Decision*

	<i>r</i>	<i>p</i> values
Tween girls (whole group)	.015	.632
Normal sized younger tweens	-.015	.803
Plus sized younger tweens	-.116	.073
Normal sized older tweens	.033	.544
Plus sized older tweens	.207	.006**

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

The relationship between self-esteem and purchase decision was first tested through Pearson's product moment correlation. On the whole there was no significant relationship between the two variables (Table 89). The correlation value was positive and insignificant. However, when this relationship was tested for tween segments, a different picture was seen. Plus sized older tween girls' self-esteem significantly and positively correlated with their buying decision in such a way that when their self-esteem increased, so did their self-reliance in buying matters. Also, the relationship was negative, though insignificant, for younger tweens.

MANOVA was performed to see if belonging to a particular segment affected girls' self-esteem or purchase decision. Tween girls' segments served as independent variables, and significantly affected the two dependent variables: self-esteem and purchase decision (Table 90). Wilks' Lambda explained a variance of approximately 4% on these two variables due to group differences.

Table 90

*Multivariate Analysis of Variance for Tween Girls' Self-esteem and Purchase Decision*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.920	14.686 <sup>b</sup>	.000	.041	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05 *alpha* level

c. Computed using *alpha* = .05

*Research Question 13. Is there a relationship between girls' self-esteem score and their perception of clothing deprivation?*

A single score from the total of six items of the RSSE scale (Simmons et al., 1973) was used as tween girls' self-esteem score (see Table 60). Clothing deprivation was measured through a scale developed by researchers at Auburn University. This scale consisted of three items related to how often girls' felt that they either did not have or could not get clothes that they liked, fit them or felt comfortable in. Deprivation was measured for clothes for three types of occasions: clothes for school, for doing things with friends, and for special occasions. These were measured on a 5-point scale from 1 (never) to 5 (always). Clothing deprivation for this study was then measured as a single score provided by the total of the three deprivation scores in such a way that a minimum possible score of three and a maximum possible score of 15 was achieved. This scale also asked tween girls if they wore uniforms as school dress. In the former study conducted by Lee (2006), the sample size was adjusted to exclude those who indicated wearing a school uniform. In the present study, 168 (16.2%) girls indicated they wore school uniforms. An independent sample  $t$ -test was conducted to determine if any difference

between girls who wore uniforms and girls who did not wear uniforms in finding clothes for school existed. The test results showed no difference in their means ( $p = .993$ ). Therefore, no exclusion was made in the sample, and analyses were conducted for the entire sample.

Tween girls' responses regarding their inability to find clothes for school, for doing things with friends and dress-up clothes are summarized in Table 91. About one-fourth of tween girls felt deprived of clothes *half of the time*. And, one-third of tween girls *usually* or *always* felt deprived of suitable clothes to wear for all three occasions. Descriptives for total clothing deprivation are summarized in Table 92. On average, the mean score for girls' clothing deprivation was 8.79. Among the four tween segments, normal sized older tweens felt the least and plus sized older tweens felt the most deprivation for finding the right clothes to wear.

Table 91

*Tween Girls' Responses for Clothing Deprivation*

	Clothes for School (%)	Clothes for doing things with friends (%)	Dress-up clothes (%)
Usually or Always	33.1	34.1	35.8
About half the time	24.7	25.7	26.8
Never or Almost never	42.2	40.1	37.4

Table 92

*Means for Clothing Deprivation*

	<i>M</i>	<i>SD</i>
Tween girls (whole group)	8.79	3.318
Normal sized younger tweens	8.88	3.353
Plus sized younger tweens	8.89	3.501
Normal sized older tweens	8.52	3.298
Plus sized older tweens	9.03	3.028

The relationship between clothing deprivation and self-esteem was first explored through Pearson's correlation; the results of which are provided in Table 93. The analyses found that clothing deprivation was negatively and significantly related to tween girls' self-esteem, which meant as feelings of clothing deprivation increased, their self-esteem decreased and vice versa (Table 93).

Table 93

*Relationship between Tween Girls' Self-esteem and Clothing Deprivation*

	<i>r</i>	<i>p</i> values
Tween girls (whole group)	-.139	.000***
Normal sized younger tweens	-.105	.079
Plus sized younger tweens	-.122	.060
Normal sized older tweens	-.143	.008**
Plus sized older tweens	-.188	.013*

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

This relationship was significant for older girls but not younger tween girls. Amongst all the tween segments, the relationship between clothing deprivation and self-esteem was the strongest for plus sized older tween girls. Multiple regression was also performed to explore how well clothing deprivation predicted girls' self-esteem. The relationship was significant and about 2% of the variance in tween girls' self-esteem was explained by clothing deprivation ( $r = -.139$ ,  $R^2$  change = .019,  $F = 20.410$ ,  $p = .000$ ).

Table 94

*Multivariate Analysis of Variance for Tween Girls' Self-esteem and Clothing Deprivation*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.946	9.592 <sup>b</sup>	.000	.027	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05  $\alpha$  level

c. Computed using  $\alpha = .05$

MANOVA was performed to see if differences existed among the tween segments. Tween group was used as a predictor variable in order to predict differences in tween clothing deprivation and self-esteem. A small (about 3%) but significant variance was explained by tween groups on tween girls' clothing deprivation and self-esteem.

*Is Clothing Deprivation Affected by Age and Size?*

Differences in perceptions of clothing deprivation due to age and size were explored through independent sample  $t$ -tests. The results of these tests are summarized in Tables 95 and 96. None of the tests yielded significant results. There was no difference between younger and older girls or between normal and plus sized girls for finding clothes for any of the three occasions. In general, more younger girls than older girls and

more plus sized girls than normal sized girls felt deprived of clothes that they liked, fit them and felt comfortable in.

Table 95

*t-Test Results for Clothing Deprivation for Younger and Older Tween Girls*

Clothing Deprivation	Younger tweens (N = 518)		Older tweens (N = 519)		Independent Sample t-test	
	M	SD	M	SD	t	p
Clothes for school	2.92	1.337	2.82	1.226	1.377	.169
Clothes for doing things with friends	2.94	1.270	2.92	1.235	.264	.805
Dress-up clothes	3.02	1.231	2.96	1.221	.836	.404

*Note. Significant p values are noted by: \*\*\*p ≤ 0.001, \*\*p ≤ 0.01, \*p ≤ 0.05*

Table 96

*t-Test Results for Clothing Deprivation for Normal Sized and Plus Sized Tween Girls*

Clothing Deprivation	Normal sized tweens (N = 624)		Plus sized tweens (N = 413)		Independent Sample t-test	
	M	SD	M	SD	t	p
Clothes for school	2.82	1.302	2.94	1.252	-1.522	.128
Clothes for doing things with friends	2.88	1.261	3.02	1.234	-1.780	.075
Dress-up clothes	2.99	1.216	2.99	1.242	.757	.951

*Note. Significant p values are noted by: \*\*\*p ≤ 0.001, \*\*p ≤ 0.01, \*p ≤ 0.05*

*Research Question 14. Is there a relationship between girls' media exposure and their perception of clothing deprivation?*

Relationship between media exposure and tween girls' perceived clothing deprivation was explored in this research question. The media exposure scale consisted of questions related to exposure to four kinds of media: television, videogames, internet and

magazines. Exposures to the first three modes were measured on a 5-point scale from 1 (less than 1 hour) to 5 (more than 10 hours), and that to magazines was measured on a 4-point scale from 1 (0) to 4 (more than 6). Tween girls' responses to involvement to media are summarized in Table 68. Girls were engaged in watching television more frequently than other modes (see Table 68). As discussed earlier, clothing deprivation was measured through a scale consisting of three items and measured on a 5-point scale. Clothing deprivation was then defined as a sum of deprivation of clothing for the three occasions (clothing deprivation for school, for doing things with friends and dress-up clothes). Summary of tween girls' clothing deprivation are provided in Tables 91 and 92.

Table 97

*Relationship between Tween Girls' Clothing Deprivation and Media Exposure*

	Media exposure			
	Television	Videogames	Internet	Magazines
Tween girls (whole group)	.046	.123**	.141**	.142**
Normal sized younger tweens	-.060	.092	.269**	.142**
Plus sized younger tweens	.031	.093	.153*	.236**
Normal sized older tweens	.124*	.195**	.090	.117*
Plus sized older tweens	.090	.076	.129	.040

*Note. Significant correlations at 0.01 levels (2-tailed) are noted by \*\*  
Significant correlations at 0.05 levels (2-tailed) are noted by \**

The relationship between clothing deprivation and media exposure was first explored through Spearman's correlation. Table 97 provides a summary of these correlations. The analyses found that, on the whole, all modes of media were significantly related to tween girls' clothing deprivation except television. The correlation values were

small and positive. Magazine viewing was related for most tween segments' clothing deprivation (Table 97). For normal sized older girls, clothing deprivation was related to three modes: television, videogames, and magazines. However, plus sized older girls' perceived clothing deprivation was not related to any type of media exposure.

MANOVA was performed to explore differences among tween segments. Tween groups were used as independent variables and clothing deprivation and media exposure were used as dependent variables. All multivariate tests yielded significant results that showed significant differences existed among tween segments (Table 98). Wilks' Lambda explained a combined variance of 4% on tween girls' clothing deprivation and media exposure.

Table 98

*Multivariate Analysis of Variance for Tween Girls' Clothing Deprivation and Media Exposure*

Effect	Wilk's $\lambda$	$F(3, 1033)^a$	$p$	Partial $\eta^2$	Observed Power <sup>c</sup>
Tween Group	.885	8.570 <sup>b</sup>	.000	.040	1.000

a. Each  $F$  tests the multivariate sample effects of tween group on dependent variables.

b. Significant at the .05  $\alpha$  level

c. Computed using  $\alpha = .05$

*Research Question 15. How strongly do media influence the clothing purchase decision of tween girls?*

The influence of media on tween girls' clothing purchase decision was measured through two items of question 3 in *Part 1: Choosing Clothes* of the daughters' questionnaire. Girls were asked to answer how often they bought clothes that were

similar to those worn by other people. For media influence the options included celebrities and clothes pictured in magazines, which were rated on a 5-point scale from 1 (never) to 5 (always). Tween girls' responses for these are summarized in Table 99, and their descriptives are reported in Table 100. A little more than half of the girls *never* or *almost never* bought clothes similar to celebrities (Table 99). In general, girls were more influenced by magazines and 60% of the time bought clothes that were *always* to *about half the time* similar to that pictured in magazines (Table 100).

Table 99

*Tween Girls' Responses for Media Influence on Buying Clothes*

	Clothes similar to celebrities (%)	Clothes pictured in magazines (%)
Usually or Always	20.9	26.0
About half the time	23.5	34.0
Never or Almost never	55.6	40.0

Table 100

*Means for Media Influence on Buying Clothes*

	Clothes similar to celebrities		Clothes pictured in magazines	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Tween girls (whole group)	2.47	1.176	2.75	1.144
Normal sized younger tweens	2.45	1.193	2.67	1.164
Plus sized younger tweens	2.52	1.232	2.77	1.198
Normal sized older tweens	2.48	1.132	2.86	1.130
Plus sized older tweens	2.45	1.163	2.65	1.050

Differences between groups were explored through independent sample *t*-tests. The analyses revealed that there were no significant differences in media influence for younger and older and normal and plus sized girls. Table 101 summarizes the results for younger and older tween girls, and Table 102 summarizes results for normal and plus sized tween girls. The means were similar for both segments and there were no significant differences in media influence for any of the segments.

Table 101

*t*-Test Results for Media Influence on Buying Clothes for Younger and Older Tween Girls

Media Influence	Younger tweens (N = 518)		Older tweens (N = 519)		Independent Sample <i>t</i> - test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes similar to celebrities	2.48	1.210	2.47	1.142	.144	.885
Clothes pictured in magazines	2.72	1.180	2.79	1.107	-1.011	.312

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

Table 102

*t*-Test Results for Media Influence on Buying Clothes for Normal Sized and Plus Sized Tween Girls

Media Influence	Normal sized tweens (N = 624)		Plus sized tweens (N = 413)		Independent Sample <i>t</i> - test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Clothes similar to celebrities	2.46	1.159	2.49	1.202	-.294	.769
Clothes pictured in magazines	2.77	1.148	2.72	1.138	.757	.449

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

*Research Question 16. Is there a difference between mothers' and daughters' rankings for desired clothing attributes?*

Tween girls and their mothers were asked to describe how often the given attributes were considered when deciding what clothes to wear. Nine attributes, measured on a 5-point scale from 1 (never) to 5 (always), were listed. These were: [clothes that] looked best, [clothes that] friends would be wearing, comfortable, color, newest fashion, brand, fits well, less revealing, and age appropriate. This research questions explored differences in ratings of these attributes between mothers and daughters and also between tween groups, which are addressed in the two following sections. The first section discusses differences in clothing preferences between tween groups, and the second discusses differences between mothers and tween girls.

#### *Preferred Clothing Attributes of Tween Girls*

Mean scores and ranks of each clothing attribute are provided in Table 103. On the whole, tween girls preferred clothes that looked best (4.25) on them. This was followed by fit (4.22), comfortable (4.06), age appropriate (3.97), color (3.95), less revealing (3.80), newest fashion (3.55), similarity with friends (3.45) and brand (3.33). The rankings were similar for different segments.

For plus sized older girls fit was the most important clothing attribute, and normal sized older girls preferred color over age appropriateness in clothes. Independent sample *t*-tests were performed to explore differences between tween segments. The analyses revealed that normal and plus sized girls differed significantly on five clothing attributes, and younger and older girls differed on two clothing attributes.

Table 103

*Relative Importance of Clothing Attributes for Tween Girls*

Features	Whole Group (Rank)	Normal sized younger tweens (Rank)	Plus sized younger tweens (Rank)	Normal sized older tweens (Rank)	Plus sized older tweens (Rank)
Best looking	4.25 (1)	4.25 (1)	4.17 (1)	4.40 (1)	4.06 (2)
Similarity with friends	3.45 (8)	3.52 (8)	3.39 (8)	3.52 (9)	3.27 (8)
Comfort	4.06 (3)	4.15 (3)	4.10 (3)	4.01 (3)	3.96 (3)
Color	3.95 (5)	3.98 (5)	3.95 (5)	3.98 (4)	3.85 (5)
Newest fashion	3.55 (7)	3.54 (7)	3.47 (7)	3.74 (7)	3.33 (7)
Brand	3.33 (9)	3.17 (9)	3.22 (9)	3.62 (8)	3.19 (9)
Fit	4.22 (2)	4.24 (2)	4.13 (2)	4.33 (2)	4.07 (1)
Less revealing	3.80 (6)	3.83 (6)	3.73 (6)	3.81 (6)	3.80 (6)
Age appropriateness	3.97 (4)	3.99 (4)	4.02 (4)	3.96 (5)	3.90 (4)

Table 104 summarizes the results of these tests for normal and plus sized tween girls. Normal and plus sized girls differed significantly in their ratings of clothes that looked best, similarity with friends, newest fashion, brand, and fit (Table 104). Plus sized girls rated these attributes lower than normal sized girls. The rankings of these attributes for both groups were similar except that, when compared with normal sized girls, plus sized girls rated age appropriateness as more important than color.

Table 104

*t-Test Results for Relative Importance of Clothing Attributes for Normal Sized and Plus Sized Tween Girls*

Features	Normal sized tweens ( <i>N</i> = 624)		Plus sized tweens ( <i>N</i> = 413)		Independent Sample <i>t</i> - test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Best looking	4.33 (1)	.764	4.12 (1)	.928	3.880	.000***
Similarity with friends	3.52 (8)	1.076	3.34 (8)	1.191	2.574	.010**
Comfort	4.04 (3)	.895	4.08 (3)	.819	.634	.527
Color	3.98 (4)	.869	3.91 (5)	.948	1.245	.214
Newest fashion	3.65 (7)	1.082	3.41 (7)	1.172	3.402	.001***
Brand	3.42 (9)	1.210	3.21 (9)	1.233	2.696	.007**
Fit	4.29 (2)	.752	4.10 (2)	.848	3.671	.000***
Less revealing	3.82 (6)	1.064	3.76 (6)	1.167	.858	.391
Age appropriateness	3.97 (5)	.932	3.97 (4)	.972	.084	.933

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Similarly, independent sample *t*-tests were also conducted to explore differences between younger and older tween girls. Younger and older girls differed only in their ratings for comfort and brand (Table 105). For younger tween girls comfort was more important than older girls. Likewise, older girls rated brand higher than younger girls. Rankings of these clothing attributes were very similar for both groups.

Table 105

*t-Test Results for Relative Importance of Clothing Attributes for Younger and Older Tween Girls*

Feature	Younger tweens ( <i>N</i> = 518)		Older tweens ( <i>N</i> = 519)		Independent Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Best looking	4.21 (1)	.856	4.28 (1)	.821	-1.324	.186
Similarity with friends	3.46 (8)	1.139	3.44 (9)	1.115	.288	.773
Comfort	4.13 (3)	.834	4.00 (3)	.861	2.494	.013*
Color	3.97 (5)	.935	3.93 (5)	.867	.584	.560
Newest fashion	3.50 (7)	1.129	3.61 (7)	1.118	-1.449	.148
Brand	3.19 (9)	1.249	3.48 (8)	1.180	-3.775	.000***
Fit	4.19 (2)	.818	4.24 (2)	.774	-.966	.334
Less revealing	3.78 (6)	1.182	3.81 (6)	1.027	-.370	.711
Age appropriateness	4.00 (4)	.949	3.94 (4)	.946	1.047	.295

*Note.* Significant *p* values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

*Preferred Clothing Attributes of Tween Girls as Expressed by their Mothers*

As mentioned earlier, mothers were also asked to rate clothing attributes that they believed their daughters thought important in the clothes they wear. Descriptive statistics were run to see which attributes were perceived to be important. The results are summarized in Table 106.

Overall, mothers rated all the attributes lower than their daughters did. Mothers' rankings of the preferred clothing attributes of their daughters were (in decreasing order): fit well, looks best, color, comfortable, age appropriateness, less revealing, similarity

with friends, fashion, and brand. These ranks were different than their daughters'. Tween girls rated clothes that looked best on them as the most important attribute while their mothers thought their daughters preferred clothes that fit well. However, there were differences in the ratings of each of these attributes.

Paired sample *t*-tests, performed to explore these differences, revealed that mothers and daughters differed significantly in their ratings for seven clothing attributes. Differences also appeared in different tween groups. The results of these analyses are provided in Tables 106, 107, 108, 109, and 110. Tween girls and their mothers differed significantly in their ratings of all the clothing attributes except color and brand. Mothers rated these features as less important than their daughters. Differences in the ratings and the rankings are also pictorially depicted in Figure 13.

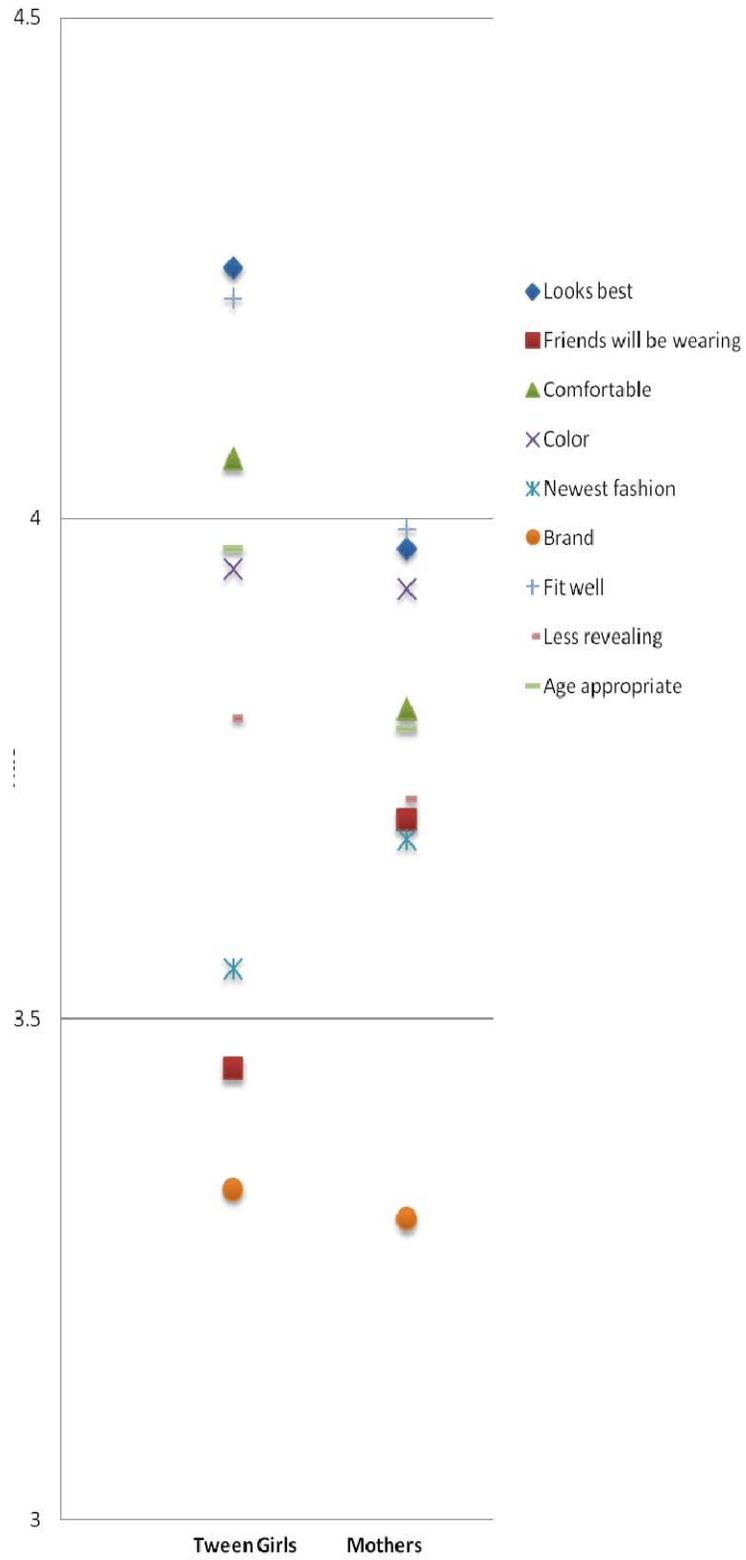


Figure 13. Tween Girls' and their Mothers' Ratings for Clothing Attributes.

Table 106

*t-Test Results for Relative Importance of Clothing Attributes for Tween Girls and their Mothers*

Features	Tween Girls ( <i>N</i> = 1037)		Mothers ( <i>N</i> = 1037)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Best looking	4.25 (1)	.839	3.97 (2)	1.064	-9.544	.000***
Similarity with friends	3.45 (8)	1.126	3.70 (7)	1.152	7.417	.000***
Comfort	4.06 (3)	.850	3.81 (4)	1.042	-8.704	.000***
Color	3.95 (5)	.902	3.93 (3)	.976	-.773	.440
Newest fashion	3.55 (7)	1.125	3.68 (8)	1.161	4.161	.000***
Brand	3.33 (9)	1.223	3.30 (9)	1.340	-1.291	.197
Fit	4.22 (2)	.796	3.99 (1)	1.002	-7.852	.000***
Less revealing	3.80 (6)	1.106	3.72 (6)	1.210	-1.999	.046*
Age appropriateness	3.97 (4)	.948	3.79 (5)	1.148	-5.438	.000***

*Note.* Significant *p* values are noted by: \*\*\**p* ≤ 0.001, \*\**p* ≤ 0.01, \**p* ≤ 0.05

Paired sample *t*-tests were also conducted between mothers and daughters of different tween segments. Table 107 summarizes differences between normal size younger girls and their mothers. Girls and their mothers differed significantly on their ratings of clothes that look best, comfortable, brand, fit, and appropriateness (Table 107). Mothers thought these attributes to be less important for their daughters. Moreover, the first five mean rankings differed. The top five clothing attributes for normal sized tween girls were (in decreasing order): clothes that look best, fit, comfort, age appropriateness, and color. For mothers these were: color, comfort, fit, clothes that look best, and age appropriateness (see Table 103).

Table 107

*t-Test Results for Relative Importance of Clothing Attributes for Normal Sized Younger Tweens and their Mothers*

Features	Normal sized younger tweens ( <i>N</i> = 280)		Mothers ( <i>N</i> = 280)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Best looking	4.25 (1)	.812	3.80 (4)	1.065	-8.401	.000***
Similarity with friends	3.52 (8)	1.074	3.60 (7)	1.135	1.198	.232
Comfort	4.15 (3)	.789	3.88 (2)	1.050	-5.122	.000***
Color	3.98 (5)	.900	3.89 (1)	.940	-1.540	.125
Newest fashion	3.54 (7)	1.103	3.48 (8)	1.167	-.879	.380
Brand	3.17 (9)	1.249	2.93 (9)	1.318	-3.934	.000***
Fit	4.24 (2)	.784	3.88 (2)	1.023	-6.534	.000***
Less revealing	3.83 (6)	1.120	3.68 (6)	1.220	-1.872	.062
Age appropriateness	3.99 (4)	.920	3.76 (5)	1.156	-3.489	.001**

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Table 108 summarizes differences between plus sized younger girls and their mothers. They differed significantly in the ratings of clothes that looked best, similarity with friends, comfort, fit and age appropriateness (Table 108). Differences in the rankings were similar to those for normal sized younger tween girls and their mothers.

Table 108

*t-Test Results for Relative Importance of Clothing Attributes for Plus Sized Younger Tweens and their Mothers*

Features	Plus sized younger tweens ( $N = 238$ )		Mothers ( $N = 238$ )		Paired Sample $t$ -test	
	$M$ (Rank)	$SD$	$M$ (Rank)	$SD$	$t$	$p$
Best looking	4.17 (1)	.905	3.84 (4)	1.107	-5.629	.000***
Similarity with friends	3.39 (8)	1.209	3.67 (7)	1.171	3.669	.000***
Comfort	4.10 (3)	.885	3.85 (3)	1.057	-3.993	.000***
Color	3.95 (5)	.978	3.91 (2)	.979	-.717	.474
Newest fashion	3.47 (7)	1.161	3.57 (8)	1.226	1.432	.153
Brand	3.22 (9)	1.251	3.18 (9)	1.331	-.520	.604
Fit	4.13 (2)	.854	3.98 (1)	.968	-2.496	.013*
Less revealing	3.73 (6)	1.251	3.79 (6)	1.248	.680	.479
Age appropriateness	4.02 (4)	.985	3.84 (4)	1.158	-2.539	.012*

*Note.* Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

Differences between normal sized older tweens and their mothers are provided in Table 109. Except for color they differed significantly in their ratings of all the clothing attributes. Mothers rated most attributes lower than their daughters. However, newest fashion, similarity with friends, and brand were thought to be considered more important by their daughters. Mothers as well as daughters ranked clothes looking best and fit highest among all attributes. There were differences in the rankings of other attributes. For normal sized older girls the important features (in order of their importance) were: clothes looking best, fit, comfort, color, age appropriateness, less revealing, newest fashion, brand, and similarity with friends (see Table 103). For mothers these were best

looking, fit, color, newest fashion, age appropriateness, similarity to friends, comfort, brand, less revealing.

Table 109

*t-Test Results for Relative Importance of Clothing Attributes for Normal Sized Older Tweens and their Mothers*

Features	Normal sized older tweens ( <i>N</i> = 344)		Mothers ( <i>N</i> = 344)		Paired Sample <i>t</i> -test	
	<i>M</i> (Rank)	<i>SD</i>	<i>M</i> (Rank)	<i>SD</i>	<i>t</i>	<i>p</i>
Best looking	4.40 (1)	.717	4.21(1)	.989	-3.777	.000***
Similarity with friends	3.52 (9)	1.080	3.81 (6)	1.143	5.487	.000***
Comfort	4.01 (3)	.838	3.77 (7)	1.043	-4.999	.000***
Color	3.98 (4)	.845	4.00 (3)	.964	.501	.616
Newest fashion	3.74 (7)	1.057	3.95 (4)	1.068	4.259	.000***
Brand	3.62 (8)	1.139	3.72 (8)	1.256	2.213	.028*
Fit	4.33 (2)	.723	4.18 (2)	.942	-2.953	.003**
Less revealing	3.81 (6)	1.019	3.69 (9)	1.207	-2.169	.031*
Age appropriateness	3.96 (5)	.944	3.82 (5)	1.157	-2.429	.016*

*Note. Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

Table 110 summarizes the differences between plus sized older tween girls and their mothers. They significantly differed in their ratings of similarity with friends, comfort, newest fashion, fit and age appropriateness. Comfort, fit and age appropriateness were rated lower by mothers. Also, mothers thought their daughters considered similarity with friends and newest fashion more important than the tween girls actually did.

Table 110

*t-Test Results for Relative Importance of Clothing Attributes for Plus Sized Older Tweens and their Mothers*

Features	Plus sized older tweens ( $N = 175$ )		Mothers ( $N = 175$ )		Paired Sample $t$ -test	
	$M$ (Rank)	$SD$	$M$ (Rank)	$SD$	$t$	$p$
Best looking	4.06 (2)	.957	3.95 (1)	1.068	-1.393	.165
Similarity with friends	3.27 (8)	1.167	3.73 (6)	1.167	4.713	.000***
Comfort	3.96 (3)	.906	3.74 (4)	1.010	-3.076	.002**
Color	3.85 (5)	.906	3.87 (2)	1.045	.367	.714
Newest fashion	3.33 (7)	1.186	3.64 (8)	1.146	4.021	.000***
Brand	3.19 (9)	1.212	3.19 (9)	1.333	.000	1.000
Fit	4.07 (1)	.841	3.81 (3)	1.076	-3.850	.000***
Less revealing	3.80 (6)	1.045	3.74 (4)	1.149	-.657	.512
Age appropriateness	3.90 (4)	.953	3.71 (7)	1.109	-2.447	.015*

*Note.* Significant  $p$  values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$

To summarize, best looking and fit were the two most important clothing attributes for tween girls. There were only some differences between tween groups. When divided according to age, younger girls differed significantly in their ratings of brand and comfort from older girls. When divided by size, normal sized and plus sized girls differed significantly in their ratings of best looking [clothes], similarity with friends, newest fashion, brand, and fit. Mothers and tween girls differed significantly in their ratings of best looking [clothes], similarity with friends, comfort, newest fashion, fit, less revealing, and age appropriateness. Among tween segments, there were more differences between

normal sized older girls and their mothers. For the rest, the differences were mostly similar.

### Summary

Statistical analyses of the research questions were presented in this chapter. The scope of the proposed model in this study is broad. Only some relationships between select factors (social, psychological, environmental, physical, demographic and cultural, and clothing), tween self perception and clothing behavior were studied. This section reports a brief summary of the dependent variables: body dissatisfaction, body weight concerns, clothing deprivation, and self-esteem.

#### *Body Dissatisfaction*

Table 111

#### *Regressing Tween Girls' Body Dissatisfaction*

Model	$r^a$	R <sup>2</sup>	Significance
1 (Predictor variable – Social factor)	.326	.106	.000***
2 (Predictor variables – Social factor, psychological factor)	.453	.205	.000***
3 (Predictor variables – Social factor, psychological factor and physical factors)	.547	.299	.000***

*Note: Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

In this study the tween girls' body dissatisfaction was predicted through social (mothers' body dissatisfaction), psychological (tween girls' self-esteem) and physical (age, BMI) factors. Step-wise multiple regression was used to determine the combined influence of these factors on tween girls' body dissatisfaction. Table 111 summarizes the

results of this analysis. As can be seen, these variables explained about 30% of the variance in tween girls' body dissatisfaction.

### *Body Weight Concerns*

Tween girls' body weight concerns were explored in Research Questions 3 and 9. In these research questions the influence of only the social factors was explored (i.e. influence of mother and peers). Four body weight concerns were addressed: desire to be thinner, desire to be heavier, desire to lose weight, and desire to gain weight.

Binomial logistic regression was performed for each of the body weight concerns with social factors as independent variables. Summary of these analyses is provided in Table 112. Social factors alone explained a variance of 22%-36% in tween girls' body weight concerns. Each of the predictor variables significantly influenced the dependent variable in these models. Overall, chi-square for these models yielded significant results too.

Table 112

*Regressing Tween Girls' Body Weight Concerns*

Model and Predictor Variables	<i>b</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Exp( <i>b</i> )
Desire to be thinner <sup>a,b</sup>						
Mothers' desire for daughters to be thinner	2.993	.258	134.375	1	.000	19.945
Peers' desire to be thinner	-.293	.080	13.461	1	.000	.746
Interaction with peers	-.428	.085	25.162	1	.000	.652
Constant	-3.515	.517	46.283	1	.000	.030
Desire to be heavier <sup>a,c</sup>						
Mothers' desire for daughters to be heavier	2.595	.258	100.903	1	.000	13.392
Peers' desire to be heavier	-.450	.106	18.052	1	.000	.637
Constant	-1.381	.474	8.488	1	.004	.251
Desire to lose weight <sup>a,d</sup>						
Mothers' desire for daughters to lose weight	2.397	.210	130.533	1	.000	10.990
Peers' desire to lose weight	-.517	.066	61.149	1	.000	.596
Constant	-2.763	.411	45.163	1	.000	.063
Desire to gain weight <sup>a,e</sup>						
Mothers' desire for daughters to gain weight	2.740	.272	101.764	1	.000	15.487
Constant	-2.115	.442	22.940	1	.000	.121

a. reference category is "No" = 1

b. Nagelkerke  $R^2 = .358$ ; -2 log likelihood = 1112.721; Chi-square for overall model with  $df = 3$  ( $p = .000$ )

c. Nagelkerke  $R^2 = .256$ ; -2 log likelihood = 466.289; Chi-square for overall model with  $df = 2$  ( $p = .000$ )

d. Nagelkerke  $R^2 = .286$ ; -2 log likelihood = 1138.570; Chi-square for overall model with  $df = 2$  ( $p = .000$ )

e. Nagelkerke  $R^2 = .225$ ; -2 log likelihood = 412.650; Chi-square for overall model with  $df = 1$  ( $p = .000$ )

### *Clothing Deprivation*

Research questions 13 and 14 explored the relationship of clothing deprivation with psychological (self-esteem) and environmental (media influence) factors. Step-wise multiple regression was used to determine the combined influence of these factors on tween girls' sense of clothing deprivation. Table 113 provides a summary of results. The independent variables, which were: psychological, environmental, and physical factors, did not explain a great deal of variance. Even though only about 6% variance in tween girls' sense of clothing deprivation was explained by these variables, the variance was significant.

Table 113

#### *Regressing Tween Girls' Clothing Deprivation*

Model	$r^a$	R <sup>2</sup>	Significance
1 (Predictor variables – Psychological factors)	.139	.019	.000***
2 (Predictor variables – Psychological factors, environmental factor)	.237	.056	.000***
3 (Predictor variables – Psychological factors, environmental factor, physical factors)	.250	.062	.034*

*Note: Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

### *Self-esteem*

The relationship of self-esteem with psychological (body image, body dissatisfaction), environmental (media influence), physical (age, BMI), and clothing (clothing deprivation, purchase decision) factors was tested. Step-wise multiple regression was used to examine the combined influence of these variables, the results of which are summarized in Table 114. Psychological factors (body image, body

dissatisfaction) explained the maximum variance (approx. 25%) on tween girls' self-esteem. Only about 4% more variance was explained by environmental, physical, and clothing factors.

Table 114

*Regressing Tween Girls' Self-esteem*

Model	$r^a$	$R^2$	Significance
1 (Predictor variable – Psychological factors)	.503	.253	.000***
2 (Predictor variables – Psychological factors, environmental factor)	.529	.280	.000***
3 (Predictor variables – Psychological factors, environmental factor, physical factors)	.531	.282	.239
4 (Predictor variables – Psychological factors, environmental factor, physical factors, clothing factors)	.540	.292	.001***

*Note: Significant p values are noted by: \*\*\* $p \leq 0.001$ , \*\* $p \leq 0.01$ , \* $p \leq 0.05$*

## CHAPTER V. SUMMARY, DISCUSSIONS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The purpose of this study was to develop and explore a conceptual framework to help understand tween girls' self perception and clothing behavior (refer Figure 14). Key factors in this framework were social factors (family and peers), psychological factors (body dissatisfaction, body image, self-esteem and features of attractiveness), environmental factors (media exposure), physical factors (age, size, and gender), cultural and demographic factors (income, ethnicity, and residence), and clothing factors (attributes, deprivation and satisfaction).

To seek answers to the research questions, a large sample was needed, and, therefore, data were collected through online surveys. A web-based research firm was used to program the instrument, collect the data and code it into SPSS. These surveys were collected in pairs from mothers and their daughters between ages 9 and 14 years. Of the 1040 completed questionnaires, 1037 were found to be usable.

Once the data were obtained, it was broken down into tween groups defined according to age (younger tweens from 9-11 and older tweens from 12-14) and size (normal sized with BMI up to the 85<sup>th</sup> percentile and plus sized with BMI greater than the 85<sup>th</sup> percentile). The four groups thus obtained were: normal sized younger tweens, plus sized younger tweens, normal sized older tweens, and plus sized older tweens. In addition

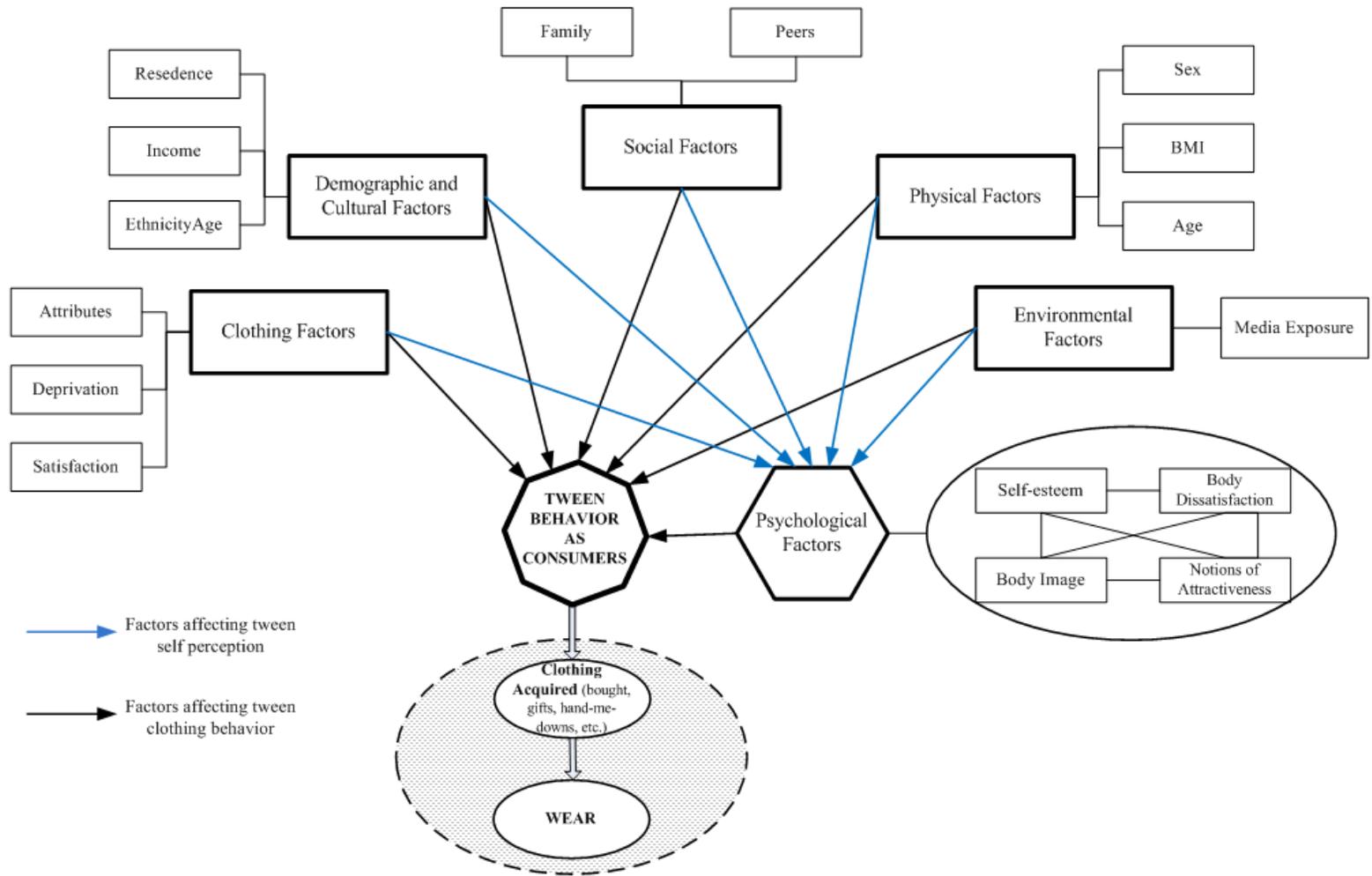


Figure 14. Conceptual framework to understand tween girls' self-perceptions and clothing behavior.

to studying tween girls as a whole group, this study analyzed the differences among size and age groups and also differences between them and their mothers.

### Demographic Profile

Of the 1037 pairs of usable questionnaires, there were 280 normal sized younger tweens, 238 plus sized younger tweens, 344 normal sized older tweens, and 175 plus sized older tweens. This section summarizes the demographic profile of the survey participants.

#### *Daughters' Profile*

*Age.* As defined by the study-parameters, the tween participant ranged from 9-14 years. The mean age of girls was 11.50 years. The mean age for normal sized younger tweens was 9.99 years; for plus sized younger tweens was 9.84 years; for normal sized older tweens was 13.04 years; and for plus sized older tweens was 13.10 years. Their grades in school ranged from 3<sup>rd</sup> to 10<sup>th</sup>.

*BMI.* The mean BMI for the whole group was 21.31; it ranged from 9.64 to 48.82. The mean BMI for normal sized younger tweens was 17.12, for plus sized younger tweens was 25.07, for normal sized older tweens was 19.16 and for plus sized older tweens was 27.14. Plus sized younger tweens had the widest BMI range, which was 19.24-48.82.

*Ethnicity.* The majority of tween girls were Caucasians (74.2%). African-American tweens constituted the next largest category with 8.0%, followed by Hispanics (7.1%), Asians (4.8%), and Native Americans (1.4%). About 4.5% of girls were biracial.

*Biological Development.* Four hundred and 87 (47%) girls had started menstruating. The majority of the normal sized (78.5%) and plus sized (85.7%) older tweens had started menstruating.

*Number of Siblings.* There were 253 girls who were the only child of their parents. About 75.6% of the tween girls had at least one brother and/or sister.

#### *Mothers' Profile*

*Age and Marital Status.* The mean age for mothers was 38.19 years. Most mothers (70.8%) were married. There were 14.7% single mothers, 13% divorced, and 1.5% widowed.

*Ethnicity.* Like the tween girls, the majority of mothers were Caucasians (77.3%) followed by African-Americans (8.6%), Hispanics (6.7%), Asians (5.8%) and Native Americans (1.6%).

*Level of Education and Occupation.* Most mothers (61.9%) did not have a college degree. About 19.7% of mothers had a bachelor's degree, and 7.2% had earned a post graduate degree. Among them, 29.9% were in professional or managerial positions. The largest segment of mothers was homemakers (35.6%).

*Family Income.* Slightly more than half of the tween girls lived in a single-income home (55.9%). About 16.2% of the dual-income families had incomes of more than \$75,000.

#### Shopping Behavior

Questions related to shopping behavior were answered by mothers of tween girls. Shopping behavior can be summarized in terms of types of stores visited, means of payment, and level of shopping challenges.

*Stores Visited.* Mass merchandise chains were most frequently visited. The next favored type of store was department stores, followed by specialty stores and off-priced chains. Clothing was not frequently purchased from websites and catalogues. There was little difference between types of stores shopped by normal sized and plus sized tweens and between younger and older tweens.

*Payments for Clothing Purchased.* Parents paid for clothing most of the time. Only rarely did tween girls pay for their own clothing items.

*Ease/Difficulty in Finding Clothes.* Mothers found it easiest to find tops that their tween daughters liked and that fit. Finding pants and jeans was the hardest. There were no significant differences in finding clothing items for younger and older tweens. However, these differences were significant for normal and plus sized girls. Figure 15 shows these differences. Plus sized girls, in general, had greater difficulty in finding desirable clothes that fit.

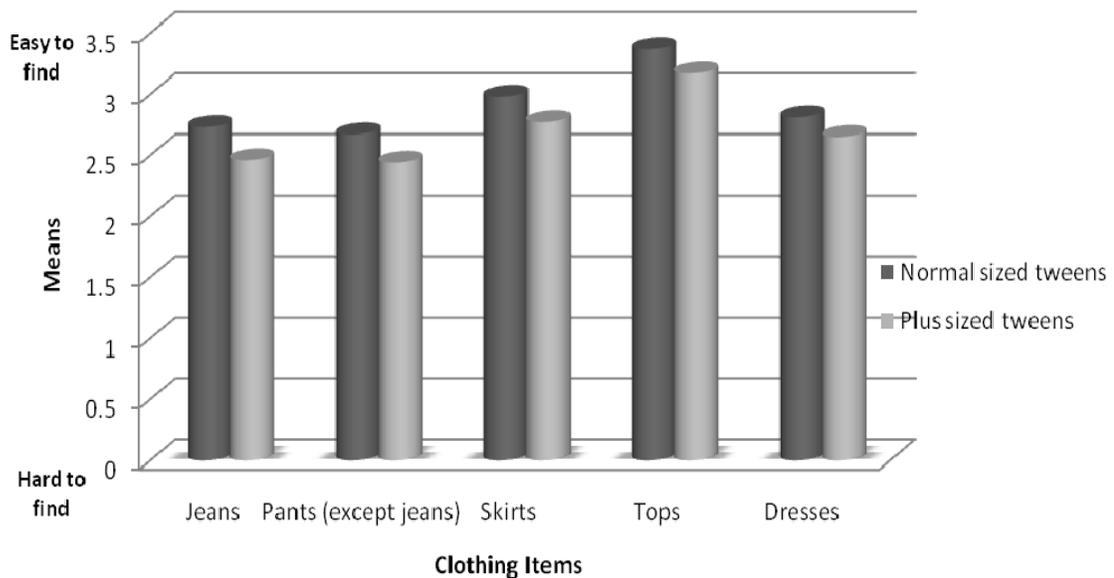


Figure 15. Ease/Difficulty in Finding Clothing Items.

## Summary

Results of the research questions are summarized in this section. The findings are divided into two sub-sections: one related to tween girls' self perception and the other to their clothing behavior. Questions 1-9 were related to factors affecting the self perception of tween girls. Questions 10-16 explored the clothing behavior of tween girls. These questions were first analyzed using the tween group as a whole. Further analyses were conducted using tween groups categorized by age (younger and older) and size (normal and plus).

### *Findings Related to Tween Girls' Self Perception*

#### *Mothers and Tween Girls' Body Dissatisfaction*

Stunkard et al.'s (1983) nine line drawings were used to measure the perceived current body size and ideal body size of tween girls and their mothers. Body dissatisfaction was defined and calculated as a difference between these two body sizes. The relationships between mothers and daughters in matters of perceived ideal body size and body dissatisfaction were explored through Research Questions 1 and 2. Research Question 1 investigated the relationship between mothers' self perceptions and daughters' self perceptions. Research Question 2 examined the difference in mothers' perception of an ideal body size for their daughters and tween girls' ideal body size.

A Pearson correlation was first conducted to see if mothers' self identified ideal body size and daughters' self identified ideal body size were related. These were moderately correlated with each other. This relationship was strongest for plus sized tween girls and their mothers. However, as the correlation values were statistically

significant, it may be said that mothers' perceived ideal body size is related to girls' perception of ideal body size in such a way that when mothers desire a thinner body size, their daughters wish it, too.

A regression analysis was conducted to see if tween girls' body dissatisfaction was predicted by their mothers' body dissatisfaction. About 11% variance on tween girls' body dissatisfaction was explained by their mothers' body dissatisfaction. Again, the relationship was strongest between plus sized girls and their mothers. Though statistically significant, mothers' own body dissatisfaction explained only a small portion of variance on normal sized tween girls' body dissatisfaction (approximately 3.5%). This finding suggests that some other factors play a more important role or that many factors each play a partial role in normal sized tween girls' body dissatisfaction.

To examine the difference between mothers' perception of an ideal body size for their daughters and tween girls' perception of an ideal body size for themselves, paired sample *t*-tests were conducted. On average, tween girls looked at drawing 3 (Stunkard et al., 1983) as an ideal body size for themselves. There was not much difference in the ratings of younger and older girls, which ranged from 1 to 6. This range was also similar for normal and plus sized girls. However, there was a significant difference in their means. The ideal figure for normal sized girls was 2.82 and for plus sized girls was 3.16. The differences between mothers and daughters were significant for the group as a whole and also for sub-groups. In all cases, mothers perceived a larger ideal body size for their tween daughters.

### *Mothers' and Tween Girls' Body Weight Concerns*

Tween girls' body weight concerns and mothers' perception of these concerns were explored in Research Question 3. The scale consisted of four questions adapted from the Demographic and Dieting Questionnaire developed by Maloney et al. (1989). A related scale consisting of eight similar questions was used for mothers. These scales were dichotomous in nature and, therefore, non-parametric binomial tests were conducted. Four questions answered by girls were paired with eight questions answered by mothers, giving a total of eight question pairs.

Tween girls, in general, desired a thinner body. The differences across groups of tween girls were significant. More plus sized girls (66%) than normal sized girls desired a thinner body. They had also tried to lose weight more often than the normal sized girls. Overall, 38.7% of the girls had tried to lose weight. There were only a few tween girls who desired a heavier body (8.2%) and had tried to gain more weight (6.7%). Mothers recognized these body weight concerns of their daughters. There was a high level of significant agreement for all the question pairings. The total agreement levels ranged from 67.9% to 94.6%.

In comparison to 51% of the tween girls desiring to be thinner, only 22.6% of the mothers wanted their daughters to be thinner. Of these, 18% of the mothers had encouraged their daughters to lose weight. Nearly half of the mothers of plus sized older girls had wished their daughters to be thinner and had encouraged them to lose weight. About 10.5% of the mothers had wished their daughters to be heavier and had encouraged them to gain weight.

Logistic regression analysis was used to see if mothers' weight concerns for their daughters predicted tween girls' weight concerns. Mothers' encouragement to their daughters was used as an independent variable and daughters' weight concerns were used as a dependent variable. Four models represented the four weight issues. The relationship was significant on all these issues, namely: desire to be thinner, desire to be, desire to lose weight, and the desire to gain more weight. Thus, mothers were found to be significantly influential in matters of their daughters' weight concerns.

#### *Mothers and Features of Attractiveness*

Research Question 4 addressed the importance of features of attractiveness. Question 4a looked at the differences in these ratings among different tween groups and Question 4b looked at the differences between mothers and tween daughters. Descriptive statistics were first performed to see the relative importance of each feature of attractiveness for tween girls and their mothers. Next, independent sample *t*-tests were performed to see the differences between the groups.

The eleven features, in order of their importance to tween girls, were: hair, nice smile, clear skin, clothes, not being fat, looking "fit", being slender, nails, jewelry, make-up, and curvy body. There were only some significant differences in ratings of normal and plus sized girls. Differences between younger and older tweens were greater in number and in significance, too. Older tweens viewed features as more important than their younger counterparts. Also, it is interesting to note that ratings of normal sized older tweens were highest for all the features of attractiveness. Figure 16 depicts these differences more clearly.

Except for the feature *nice smile*, mothers and daughters differed significantly in their ratings of these features, but the rankings were quite similar. For mothers, the important features, in order of their consequence, were: nice smile, hair, clear skin, clothes, looking “fit”, not being fat, being slender, nails, jewelry, make-up, and curvy body. The differences were significant between mothers and daughters in all the tween sub-groupings. Mothers rated these features as less important and thus the differences were significant.

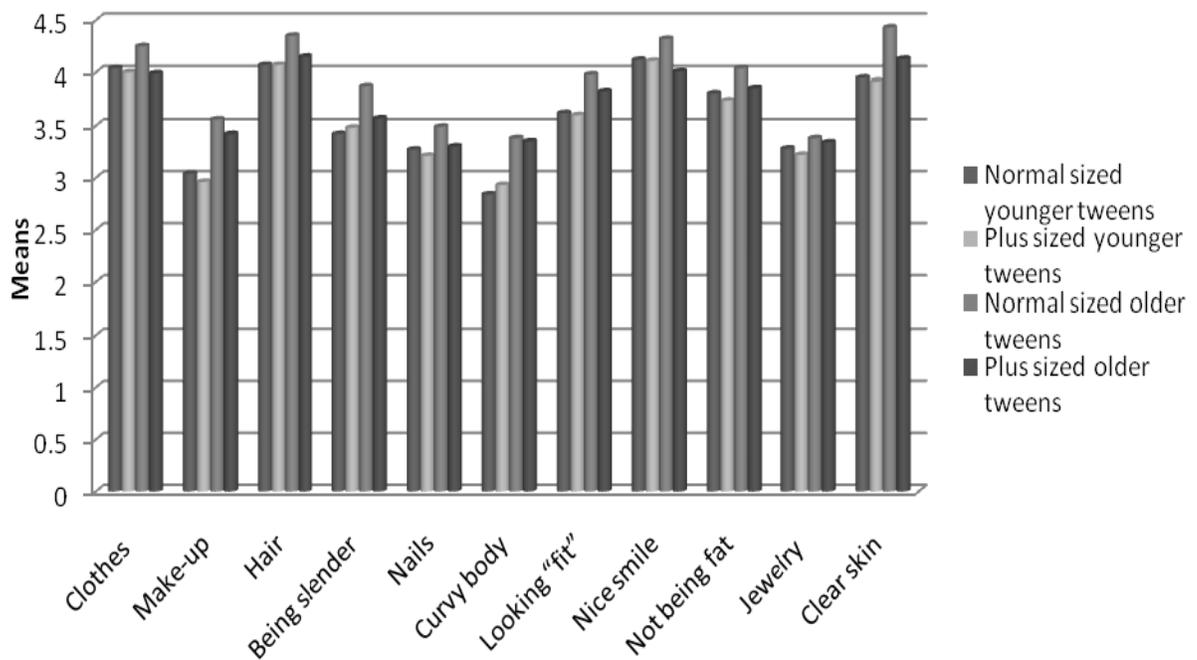


Figure 16. Importance of Features of Attractiveness for Tween Girls.

### *Self-esteem and Body Dissatisfaction*

Self-esteem was calculated as a total score from the Rosenberg-Simmons Self-esteem (RSSE) scale. The six items yielded a total minimum score of six and a maximum score of 19 such that a high score represented higher self-esteem. The relationship

between self-esteem and body dissatisfaction was explored in Research Question 5. The relationship was first analyzed by performing a Pearson product correlation. Body dissatisfaction was moderately related to tween girls' self-esteem. This relationship was negative such that when body dissatisfaction increased (i.e. body satisfaction decreased), self-esteem decreased and vice versa. The relationship between the two variables was strongest for plus sized younger tweens. There were differences among tween groups, which were explored through MANOVA. The four tween groups were the independent variable, and body dissatisfaction and self-esteem were the dependent variables. The multivariate tests showed significant differences among tween groups on self-esteem and body dissatisfaction.

#### *Self-esteem and Body Image*

Blyth et al.'s (1985) Satisfaction with Body Image scale was used to measure tween girls' body image. Overall, tween girls were moderately satisfied with their bodies. The scores ranged from *somewhat happy* to *happy* for satisfaction with height, weight, figure development and overall looks. However, there were significant differences on these dimensions between younger and older tweens and also between normal sized and plus sized tween girls.

The relationship between body image and self-esteem was explored in Research Question 6. The strength of the relationship between body image and self-esteem was first examined through a Pearson correlation. The correlations between self-esteem and the four dimensions of body image ranged from small to moderate. Only for plus sized older girls was a correlation, the one between satisfaction with overall looks and self-esteem, large. This relationship was also examined through multiple regression analysis.

The model was significant and indicated that 23% of the variance in tween girls' self-esteem was explained through the four dimensions of body image.

Multivariate analysis of variance was used to examine the differences in these variables for different tween groups. The independent variable was the tween girls' subgroup. Self-esteem and body image perceptions were the dependent variables. The tests indicated significant differences. The tween group explained about 6% of the variance on self-esteem and body image perceptions.

### *Media Exposure and Self-esteem*

Media exposure was tested using a scale developed previously by researchers at Auburn University. It was calculated not as a sum of exposure through different media modes, but as a combination of these different sources. Of the four modes of media, television, video games, internet, and magazines, tween girls were most involved with television. They spent, on average, about 3.5-10 hours per week watching television. The next most frequently used mode was the internet, which was used for (in descending order of their frequency) looking at websites, talking to friends, research, email, and shopping. There were some differences in exposure to media among tween groups. When characterized by age, older girls were more involved with the internet and magazines and when characterized by size, plus sized girls played more video games.

Media have been listed as one of the important social factors that influence self-esteem (Rosenberg, 1989). This research tested the relationship between self-esteem and media exposure in Research Question 7. The relationship was first examined through Spearman's correlation, which yielded small but significant values for all modes except video games. The relationship between these variables was negative, i.e. as one

increased, the other decreased. Through multiple regression, a small variance of only 3% of self-esteem was explained by the predictor variables (influence from television, video games, internet and magazines). Significant differences due to tween sub-group in these two variables were found by MANOVA.

### *Media Exposure and Body Image*

Satisfaction with body image and media exposure scales were used to examine the relationship between body image and media exposure in Research Question 8.

Spearman's rank order correlation was performed between areas of body image (satisfaction with height, weight, figure development, and overall looks) and media exposure (exposure through television, video games, internet, and magazines). These values were small and mostly insignificant (see Table 72). However, as there were multiple independent (media exposure) and multiple dependent (body image) variables, canonical correlation was also performed to explore this relationship. Canonical correlation yielded a small but significant value.

Multiple linear regressions were performed to see how well media exposure predicted body image. Four models, one each for four areas of body image, were obtained. These were significant and explained a variance of about 1% - 2.5% of dependent variables. Through MANOVA it was found that tween group significantly affected these variables in question.

### *Peer Influence on Body Weight Concerns*

Levine et al.'s (1994) PEERDIET scale was used to measure peers' weight concerns. This scale consisted of four items measured on a 5-point scale. Fifty percent of tween girls' friends desired a thinner body, and a few of their friends were "on a diet".

Tween girls and their friends sometimes talked about weight issues. The possible relationship between girls' and their friends' weight concerns was tested in Research Question 9 in three main body weight issues: desire to be thinner, desire to be heavier, and desire to lose weight.

First, tween desire to be thinner was tested with peers' desire to be thinner and interaction with them. The relationship among these variables was first tested through Pearson's correlation. The positive correlational values were small but significant, for the whole group and for three of the tween segments. Plus sized older tween girls' desire to be thinner was not significantly related to either their friends desire to be thinner or interaction with them regarding weight issues. Through multiple regression, 11% of the variance was explained in tween girls' desire to lose weight by the four items of PEERDIET scale. Finally, MANOVA was performed to examine differences among tween segments. Tween segments differed significantly in their desire to be thinner, interaction with friends, and their friends desire to be thinner.

Second, tween desire to gain weight was tested with their peers' desire to gain weight through Pearson's correlation. Tween girls' desire to be heavier was significantly and positively related to their friends' desire to be heavier for the whole sample as well as tween segments. Unlike their desire to be thinner, plus sized older tween girls' desire to be heavier was significantly related to their friends' desire. This relationship was stronger than other tween segments. MANOVA yielded significant differences among tween segments for peer and tween desire to be heavier.

Last, tween desire to lose weight was tested with their peers' desire to lose weight. Pearson's correlation showed that peer desire to lose weight was significantly and

positively correlated with tween desire to lose weight. The relationship was significant for three out of four segments. Plus sized older girls' desire to lose weight was not significantly related their friends. There were significant differences in peer and tween desire to lose weight due to differences in age and weight. Differences among tween segments explained a variance of 12.4% in tween desire to lose weight.

### *Findings Related to Tween Girls' Clothing Behavior*

#### *Buying Influentials*

Research Question 10 explored the differences in buying influentials which were mother, father, sisters, friends, and self. Among them, mothers had the strongest influence over tween girls in matters regarding what clothes to buy. About 70% of the time girls almost never or never received any help from either their father or sisters. More than 50% of the time tween girls themselves decided what clothes to buy.

Differences among tween groups were explored through independent sample *t*-tests. When comparing tween groups according to size, plus sized girls differed significantly from normal sized girls only in terms of receiving help from fathers. When comparing groups according to age, older girls differed significantly from younger girls in receiving help from mothers, fathers, friends and self. Younger girls relied more on mothers and fathers and older girls relied more on friends and self in buying clothes.

#### *Wearing Influentials*

Differences among influentials (mother, father, sisters, friends, and self) in wearing decisions were explored through Research Question 11. In deciding what clothes to wear, girls relied more on their own choice, followed by mothers, friends, fathers and

sisters. Compared to buying decisions, tween girls were more self-reliant and more influenced by friends in making decisions about what clothes to wear (see Figure 12).

Independent sample *t*-tests were performed to explore differences among tween groups. There were no significant differences between plus and normal sized girls for any of the influentials. Younger and older girls differed significantly in receiving help from mothers, fathers, friends and self. Younger girls relied more on their mothers and fathers, and older girls relied more on their friends and themselves.

#### *Clothing Purchase Decision and Self-esteem*

Relationships between self-esteem and other psychological (body dissatisfaction, and body image) and environmental (media exposure) factors has been explored. The effect self-esteem might have on tween girls' clothing purchase decision was investigated in Research Question 12. Purchase decision was measured through the item "I shop by myself" in question 2, part 1 of the daughters' questionnaire. A total score for self-esteem was obtained using the RSSE scale. More than half the time tween girls decided for themselves regarding what clothes to buy. Overall, there was no significant relationship between tween girls' self-esteem and their purchase decision. However, this relationship differed for tween segments. For younger girls, self-esteem correlated insignificantly but negatively, while for older girls the relationship was positive. Also, plus-sized older tweens' self-esteem significantly correlated with their clothing purchase decision. MANOVA results showed that tween segments significantly affected the variance in their self-esteem and purchase decision.

### *Self-esteem and Clothing Deprivation*

It was proposed by this study that the inability to find clothes to wear from their closets, i.e. deprivation of clothing, would influence tween girls' self-esteem. This relationship was explored in Research Question 13. A scale developed by Auburn University researchers was used to measure clothing deprivation. A total deprivation score was obtained by adding deprivation of clothing for three occasions: school, doing things with friends and dress-up clothes. The overall mean score for clothing deprivation was 8.79. There were no differences between younger and older and between normal and plus sized tween girls in their ability to have clothes they wanted to wear.

The relationship was first tested through Pearson's correlation. Though small, the correlation value was significant and negative suggesting that as clothing deprivation increased, tween girls' self-esteem decreased and vice versa. The relationship was significant for older girls but not younger tween girls. Results from MANOVA showed that significant differences existed in clothing deprivation and self-esteem due to belonging to a particular tween segment. However, when the differences between groups were examined through independent sample *t*-tests, no significant differences were found between plus and normal sized and between younger and older girls. That means all girls were relatively equally deprived of clothing.

### *Media Exposure and Clothing Deprivation*

A possible relationship of clothing deprivation with media exposure was explored in Research Question 14. Both scales used were developed by Auburn University researchers, and Pearson's correlation was performed. On average, all forms of exposure to media (television, videogames, internet and magazines), except television, were

significantly and positively related to clothing deprivation. Thus, if exposure to media increased, so did tween girls' perceived clothing deprivation. Different forms of media related differently among tween segments. These differences were further highlighted by significant results from MANOVA. None of the modes of media were related to plus size older tween girls' clothing deprivation.

### *Media Influence*

Research Question 15 explored the strength of media influence on the purchase decisions of tween girls. Two items in question 3 of *Part 1: Choosing Clothes* of the daughters' questionnaire asked how often they bought clothes that were similar to clothes worn by celebrities and as pictured in magazines. A little more than half of the girls *never* or *almost never* bought clothes similar to celebrities. Twenty six percent of the girls *usually* or *always* and 34% of the girls *about half the time* brought clothes similar to clothes pictured in magazines. In general, girls were more influenced by magazines than by celebrities. There were no significant differences between normal and plus sized girls and between younger and older girls as to their purchase decisions being influenced by media.

### *Desired Clothing Attributes*

Differences in desired clothing attributes among different tween groups and between girls and their mothers were explored in Research Question 16. Both tween girls and their mothers rated nine clothing attributes on a 5-point scale. Descriptives were first performed to know the importance of each factor. The nine clothing attributes, in descending order of importance to tween girls were: best looking, fit, comfort, age

appropriateness, color, less revealing, newest fashion, similarity with friends, and brand. Figure 17 depicts the importance of these attributes for different tween segments.

Next, independent sample *t*-tests were conducted to explore differences between tween segments. When segmented as per size, normal sized tweens differed significantly from plus sized tweens in their ratings of clothes that looked best, similarity with friends, newest fashion, brand, and fit. When segmented as per age, younger tweens differed significantly from older tweens in their ratings of only comfort and brand.

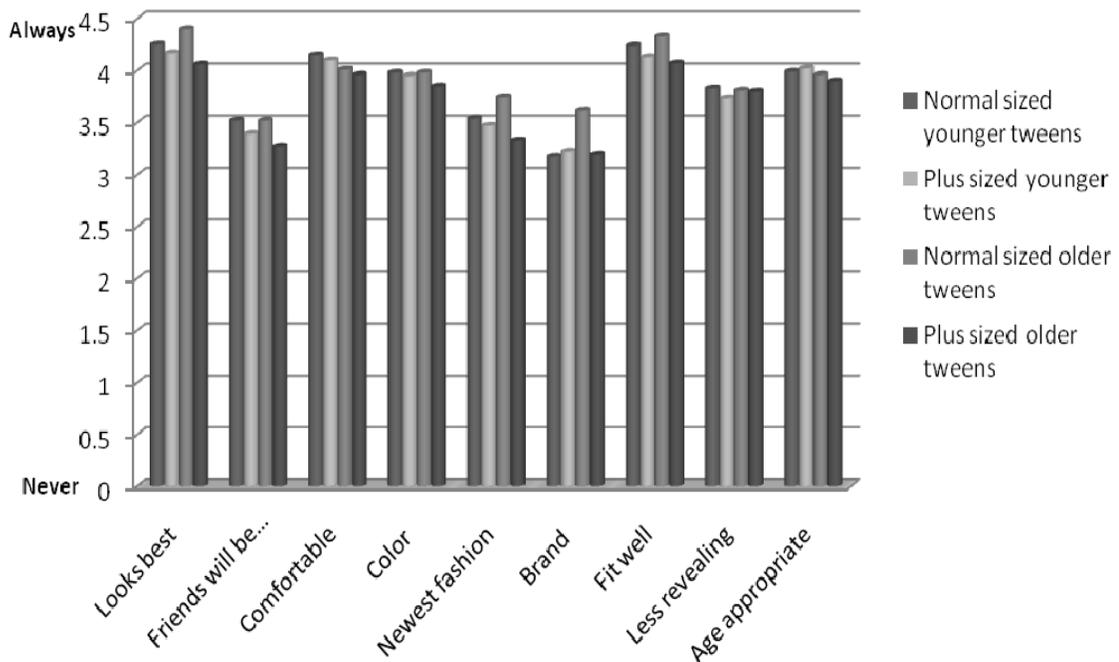


Figure 17. Importance of Clothing Attributes for Tween Girls.

Finally, paired sample *t*-tests were conducted to examine differences between tween girls and their mothers. Tween girls and their mothers differed significantly in their ratings of looks best, similarity with friends, comfort, newest fashion, fit, less revealing, and age appropriate. Differences were also seen between mothers and daughters of

different tween segments. The most differences were seen between mothers and their normal sized older tween daughters, who differed significantly in their ratings of all attributes except color.

## Discussion

A conceptual framework was developed to explore self perceptions and clothing behavior of tween consumers. Several factors were identified that would influence tweens. Of these, some of the relationships were tested. The results are discussed in this section.

### *Social Influences on Tween Girls' Self Perception and Clothing Behavior*

#### *Family: Mother-daughter Relationship*

*Weight Issues.* Among all family members, this study mainly examined the relationship between mothers and daughters. First, it examined if mothers of tween girls correctly perceived their daughters' weight concerns. The level of agreement between mothers and daughters on weight issues was highly significant. Thus, it appears that most mothers were aware of their daughters' wishes to be thinner or heavier or to lose weight or to gain more weight. These levels of agreement were higher than those reported by Lee (2006), who reported significant agreement on six out of eight question pairs. As opposed to this study, Lee did not find agreement in the two question pairs related to losing weight. One reason might be that phi values are greatly dependent on sample size. Therefore, the large sample size of this study, compared to Lee's 41 pairs, could have contributed to significant phi values. Also, in this online survey, there was no absolute guarantee that the mother was not present when the daughters responded. In the research

reported by Lee, mothers and daughters were separated. The daughters in her study might have been more honest, without the interference of their mothers. Daughters' responses in this study could have been different if mothers were looking over their shoulders.

This study also found a moderate correlation in mothers' weight concerns for their daughters and their daughters' own weight concerns, possibly reflecting mothers' influence on their daughters' perceptions of ideal body weight. Other studies have reported that mothers were influential in adolescent weight management and dieting concerns (Abramovitz & Birch, 2000; Barker & Galambos, 2003; Hill & Franklin, 1998; Levine et al., 1994). Abramovitz and Birch (2000) examined the effects of mothers' dietary behavior on their daughters' ideas about dieting. Levine et al. (1994) studied the effect of weight/shape related communication and criticism by family members as one of the predictor variables on eating behavior and weight/shape attitude. However, this study only examined mothers' perception of these issues. Therefore, it does little to provide evidence for how mothers may play a role in forming daughters' weight concerns, but it does indicate that mothers do correctly perceive their daughters' weight concerns.

*Body Image.* The mother-daughter relationship was also examined in matters of body image and body dissatisfaction. Studies have reported that mothers' self perceptions influence daughters' self perceptions (Barker & Galambos, 2003; Curtis, 1991; Usmiani & Daniluk, 1997). Curtis (1991) found that mothers' self-concepts were moderately correlated with their daughters' self-concepts. Mothers' body image perceptions were significantly correlated with their menstrual daughters' body image perceptions in Usmiani and Daniluk's (1997) study. The present study, too, found that mothers' perceived ideal body size for themselves was moderately, but significantly, correlated

with girls' perceived ideal body size. The relationship was positive, meaning that when mothers desired a smaller body size, their daughters, too, desired a smaller body size and vice versa.

This study also looked at the differences in girls' and mothers' perceived ideal body size for their girls. Significant differences emerged between mothers and girls for all the tween groups. Regardless of age and size, mothers of tween girls perceived a larger body size as ideal for their daughters. This result was contrary to what Lee (2006) reported. Lee (2006) found no significant difference between tween girls' ideal body size and their mothers' ideal body size for their daughters.

Stunkard et al.'s (1987) nine-figure, visual scale was also used to calculate body dissatisfaction, which was defined as the difference between the perceived current and ideal figures. Plus sized older tween girls' body dissatisfaction was higher than each of the other tween groups and also than mothers. When tested through regression analyses, mothers' body dissatisfaction was found to predict their daughters' body dissatisfaction. Only a small portion of variance in normal sized tween girls was explained by their mothers' own body dissatisfaction. Plus sized tween girls' body dissatisfaction was most affected by their mothers' body dissatisfaction.

Even though the correlation value was small, the relationship between mothers' and daughters' body dissatisfaction was significant. Comparatively, older tween girls' body dissatisfaction was influenced more by their mothers. This result is somewhat similar to Usmiani and Daniluk's (1997) study. They found that post-menarche girls' body image scores correlated significantly with their mothers. They explained this result by saying that issues such as gender identity and body image become more conspicuous

as they observe their mothers while physically maturing and by experiencing menarche. However, few researchers have looked at the levels of body dissatisfaction in the mother-daughter relationship. The differences between younger and older tween groups and between normal sized and plus sized tween groups demand further research in this area.

*Clothing.* Mothers' influence was also seen on their daughters' buying and wearing decisions. Among all the influentials, mothers exerted the strongest influence over tween girls in buying matters and *usually* helped them in deciding what clothes to buy. One of the reasons for this might be that girls of this age are mostly dependent on their mothers to drive them to stores and often pay for their purchases. However, this influence decreased significantly from younger tweens to older tweens, which is consistent with the findings of Lee (2006) and May and Koester (1985).

Mothers' influence over wearing decisions was strong but not as strong as on buying decisions. Tween girls received help from their mothers about *half the time* or *usually*. This influence, too, decreased significantly with increasing age. Lee also reported a significant decrease in mothers' influence in her sample's older tweens.

#### *Peer Influence*

*Weight Issues.* During adolescence time spent in school and with friends increases, as does reliance on friends' advice on personal issues like attractiveness, self-control, weight/shape concerns and dieting (Levine et al., 1994). The PEERDIET scale developed by Levine et al. (1994) measured peer influence on girls' weight concerns and behavior. As they used a total score to predict their criterion variables, it was not possible to measure how a particular peer weight concern affected girls' weight concern.

Therefore, instead of using a total score, this study used individual items of the PEERDIET scale to measure tween weight concerns.

Peer influence was explored for three important weight concerns in tween girls: desire to be thinner, desire to be heavier, and desire to lose weight. Tween desire to be thinner was correlated with interaction with peers and with their desire to be thinner. The relationship was significant for the group as well as for three of the four segments. Plus sized older tween girls' desire to be thinner was not related to these variables. Similarly, their desire to lose weight was not significantly related to their friends' desire to lose weight. This seemed unusual because plus sized older tweens had frequent interaction with friends and had the largest number of friends who desired a thinner body and were on a diet. It would be difficult to explain this finding without further investigation. PEERTEASE accounted for the highest variance in body dissatisfaction of girls in Levine et al.'s study. Perhaps the fear of being teased made the plus sized older tween girls uncomfortable in discussing issues related to losing weight and being thinner. This would go against Levine and Smolak's (2004) finding, which said that a significant number of girls talked about weight, shape and dieting with their friends. However, conversely, plus sized older tweens' desire to be heavier was significantly and positively related to their friends' desire to be heavy. Moreover, this relationship was the strongest among all the tween segments. While the desire to be thinner was not driven by friends, a desire to be heavier was related to their friends. Weight concerns may be an especially emotional issue for this group. The plus size group desiring to be heavier was smaller than the group desiring to be thinner. Perhaps these girls found comfort in being distinctive as a group of larger girls.

*Clothing.* Peer influence increased significantly in older tween girls for buying and wearing decisions. Peer influence increased from almost never to almost never or half of the time for older girls. Likewise, influence in wearing decisions became close to being half of the time. The results are similar to May and Koester's (1985) study. Though not significant, Lee (2006) found an increase of reliance on friends' opinions for buying and wearing decisions.

#### *Psychological Influences on Tween Girls' Self Perception and Clothing Behavior*

As discussed earlier the conceptual framework developed for this study depicted social, environmental, physical, demographic, and cultural and clothing factors influencing self perceptions of tween girls. The main factors affecting various aspects of self perception, as found in this study, are discussed in the following sections.

#### *Body Dissatisfaction*

Body dissatisfaction was defined and calculated as a discrepancy between one's perceived current body size and desired ideal body size. Among the proposed factors (social, physical, environmental, cultural and demographic, and clothing) influencing tween self perception, the effects of only social and physical factors were tested on body dissatisfaction. As discussed in the previous section, mothers' body dissatisfaction did predict their daughters' body dissatisfaction.

It was also found that physical factors such as age and BMI affected body dissatisfaction among tween girls. Dissatisfaction increased from younger tweens to older tweens. Also, plus sized girls were less satisfied with their bodies than normal sized girls. These results converge with results of studies that also reported an increase in body

dissatisfaction with age (Blyth et al., 1985; Brodie et al., 1994; Davies & Furnham, 1986) and BMI (Barker & Galambos, 2003; Fitzgibbon et al., 2000; Presnell, Bearman & Stice, 2004). For adolescent girls in these studies, having a higher BMI predicted greater body dissatisfaction. Though the relationship between BMI and body dissatisfaction was not directly tested, plus sized girls were disposed to being less satisfied with their bodies than normal sized girls. Studies have shown that with an increase in age, dissatisfaction with certain specific parts of the body, rather than the whole body, increased (Davis & Furnham, 1986; Neumark-Sztainer et al., 2004). Further and detailed study is required to test if girls were dissatisfied with their bodies in general or were dissatisfied with specific parts of their bodies.

### *Body Image*

Body image was differentiated from body dissatisfaction by this study, and was defined here as one's perceived image formed by satisfaction with height, weight, figure development and overall looks. Blyth et al.'s (1985) Satisfaction with Body Image scale was used to measure body image perceptions in tween girls. Overall, tween girls were *somewhat happy to happy* with their height, weight and figure development and perceived themselves to be *somewhat good looking to good looking*.

Of the many factors affecting body image (see Figure 2), this research focused on the relationship between body image and self-esteem, media exposure, age, and BMI. Relationships with self-esteem and media influence were significant and are discussed in an upcoming section. It would also be expected that body image was affected in a similar way to body dissatisfaction, since researchers consider body dissatisfaction to be a component of body image (Thompson et al., 1999).

Like body dissatisfaction, older and plus sized girls had lower perceptions of their body image. The differences between younger and older tween girls and between normal and plus sized tween girls in the four areas of body image were significant, especially in the area of satisfaction with weight. The results are similar to studies that report satisfaction with body decreases with age (Brodie et al., 1994) and with an increase in BMI (Fitzgibbon et al., 2000). Similar to the reports of Wills et al. (2006), who found more body dissatisfaction in overweight adolescents, this study found that plus sized tweens were less satisfied with their bodies than normal sized tweens.

### *Self-Esteem*

Self-esteem is an evaluative component of one's self and is important in forming one's overall self perceptions. Research has often highlighted self-esteem as being developed in response to several factors (Gecas, 1972). Therefore, it was treated as a dependent variable for several research questions in this study. It was found that self-esteem was significantly related to other psychological factors, like body dissatisfaction and body image. Media exposure affected tween self-esteem. Self-esteem, in turn, affected feelings of clothing deprivation and tween girls' purchase decision for some groups.

As reported by Simmons et al. (1973), this study found that self-esteem was lower in 12-14 year old (older) tweens than 9-11 year old (younger) tweens. Also, plus sized girls had a comparatively lower self-esteem than normal sized girls. Therefore, as a higher BMI significantly lowered one's self-esteem, it was expected and found that body dissatisfaction was negatively correlated with self-esteem, i.e. as body dissatisfaction increased, self-esteem decreased and vice versa. Self-esteem was significantly related to

body image in such a way that as self-esteem increased, so did one's satisfaction with various aspects of body image. The relationship was particularly stronger between self-esteem and satisfaction with overall looks. This finding was in congruence with Lennon et al.'s (1999) report that a positive relationship existed between self-esteem and body image.

Different modes of media negatively affected tween girls' self-esteem. Though significant, media exposure accounted for only a small percent of variance in self-esteem. Together the psychological (body dissatisfaction, body image), environmental (media exposure), and physical (age, BMI) accounted for about 28% variance in self-esteem. This suggests the need for further exploration of the influence of social, cultural and demographic factors on self-esteem. Social factors such as family and friends have been said to be major factor in forming one's self-esteem (Gecas, 1972; Michener et al., 1990; Paterson et al., 1995; Rosenberg, 1989). Though hypothesized in the conceptual framework, this relationship was not tested in this study and warrants further research.

#### *Environmental Influence on Tween Girls' Self Perception and Clothing Behavior*

Several modes of media are available in the market. These include television, VCR/DVDs, radio, tapes/CDs, books, magazines, the computer, and videogames. This study targeted four modes of media: television, videogames, internet and magazines. Through literature review, it was found that these four modes are believed to be the major ones influencing adolescents. Among these, most of the time spent by tween girls was watching television. The mean range was 3.5-10 hours per week. This is slightly less than that reported by Strasburger and Wilson (2002). They too reported that tweens were

mostly exposed to television and that an average child watched more than two and a half hours of television per day.

Exposure to media has been said to influence various aspects of a tween's life. These include body image (Dohnt & Tiggemann, 2006; Heinberg & Thompson, 1995; Strasburger & Wilson, 2002), body dissatisfaction (Hargreaves & Tiggemann, 2003; Sinton & Birch, 2006), self-esteem (Kim & Lennon, 2007), and clothing purchase (Forney & Forney, 1995; May & Koester, 1985). These relationships were studied in this research. Of the four modes of media, tween girls were most influenced by television and magazines. These four modes had different effects on dependent variables. Self-esteem was the most related to the number of magazines read. With regards to body image, significant relationships were found between television and satisfaction with height and between magazines and satisfaction with overall looks. These findings are similar to Harrison and Hefner (2006) and Tiggemann (2003), who reported that not all modes of media influence adolescents equally.

Negative significant relationships between media exposure and self-esteem and between media exposure and body image were reported in this study as had been reported by previous studies (Heinberg & Thompson, 1995; Tiggemann, 2003). This means that the more tween girls were exposed to media, the lower their scores were for self-esteem and body image. However, although significant, the statistical analyses yielded relatively smaller values. The absence of a stronger relationship could be explained by the scales used. This study measured the involvement with media rather than its influence on the viewer. For example Levine et al. (1994) measured media influence through the regularity of magazines read, influence of magazine advertisement on body image and

interest in comparing fashion models. Specific questions included, “I compare myself to the models I see.” Measures like these facilitate computing media influence. Future studies should elucidate the effects of media on self perception of tween girls using scales that measure media influence in addition to media involvement.

Media influence in relation to clothing was explored for clothing deprivation and purchase decisions. Media influence on purchase decisions was measured through a single question. More than half the girls were influenced by media and bought clothes similar to those pictured in magazines. Their answers suggested that they were more influenced by magazines than by celebrities. There were no differences between younger and older girls and between normal and plus sized girls. This is contrary to May and Koester’s (1985) study, who reported that media influence increased with age. However, this study was more than two decades ago, and the results might not be fully applicable to present day adolescents. With more and frequent information available to today’s tweens, age related differences may not be fully noticeable in media influence. More study is required to explore the extent of media’s influence on tween girls’ clothing behavior.

#### *Physical Influences on Tween Girls’ Self Perception and Clothing Behavior*

Age, size and sex were the three proposed physical factors that affected tweens’ self perception and clothing behavior. In this study differences due to age and size were tested for tween girls. Most of these differences have been discussed in previous sections.

#### *Age*

Age related differences were seen in most aspects of tween girls’ behavior. Older girls were more dissatisfied with their bodies; desired a thinner body; rated features of

attractiveness as more important; had a comparatively lower self-esteem; were less satisfied with their height, weight, figure development and overall looks; were more involved with internet and magazines; had more interactions with friends regarding dieting and weight loss; were less influenced by their parents while buying and wearing clothes; and relied more on self and friends.

Many of these age-related differences were in agreement with other research studies. As in this study, past research has suggested that with age girls' overall satisfaction with body decreases, i.e. their body dissatisfaction increases (Blyth et al., 1985; Brodie et al., 1994). Brock (2007), too, reported that compared to younger girls, older girls were less satisfied with their bodies.

Findings related to tween girls' buying and wearing behaviors were also similar to what previous research had reported. These will be discussed in greater detail in the next section. However, there were some areas where, though expected, age-related differences were not found. These were clothing deprivation and media influence on buying clothes. More research is necessary to clarify these results.

### *Size*

Increasing rates of obesity have made it impossible to ignore the needs of the growing plus sized market. Plus sized girls, as defined earlier, were girls with a BMI in the 85<sup>th</sup> or higher percentile. Plus sized girls in this study were less satisfied with their bodies; desired a thinner body; had tried to lose weight more often; rated the features of attractiveness as less important; had a significantly lower self-esteem; were less satisfied with their height, weight, figure development and overall looks; and had more friends that wanted to be both thinner and heavier than the normal sized girls.

The literature reviewed in Chapter 2 highlighted plus sized girls' dissatisfaction with their bodies as compared to normal girls (Barker & Galambos, 2003; Fitzgibbon et al., 2000; Presnell et al., 2004). Smolak (2004) reported that BMI correlated negatively with body image. This study also found lower body image for plus sized girls, which was similar to Brock's (2007) results.

Some very contrasting results were found with respect to plus sized girls, specifically for plus sized older girls. Among all the tween groups plus sized girls' perceptions of ideal body size and satisfaction with bodies strongly correlated with their mothers'. If their mothers had lower satisfaction with their bodies, the daughters too were less satisfied with their own bodies. Daughters' lower self perceptions may have caused them to be more influenced by their mothers' self-esteem rather than a peer group. The relationship of their self-esteem with body dissatisfaction and that of self-esteem with various constructs of body image was greater than normal sized girls. However, no difference was found between normal and plus sized girls for clothing deprivation and media influence on purchase decisions. More research is required to examine differences related to media exposure.

Also, it is interesting that plus sized girls had significantly more friends than other groups who desired a heavier body. The plus sized older tween group was the only one whose desire to be thinner and desire to lose weight was not related to their friends' desire to be thinner and to lose weight. Perhaps, they know without relying on their friends that they need to lose weight. Or, maybe because they are overweight they might not feel comfortable in discussing their weight issues with friends, more so if they have more normal sized friends. However, their desire to gain weight was related to their

friends. It was probably that like most of their friends, none of the girls desired a heavier body. Or perhaps it is an attempt to divert the physical and emotional challenges of not being like “normal” sized girls. Research, should compare tween girls’ individual with their peer groups’ weight concerns.

### *Clothing Behavior*

Clothing behavior was explored through the buying and wearing influentials of tween girls, their preferred clothing attributes, perceived clothing deprivation, and shopping behavior. Mothers answered the questions related to shopping behavior. Finding tops that fit their tween daughters and that they liked was the easiest; finding pants and jeans was harder. Plus sized girls, as found by Lee (2006), had greater difficulty in finding desirable clothes that fit.

Among the five influentials (mother, father, sister(s), friend(s), and self), mothers exerted the maximum influence while buying clothes followed by self, friends, father, and sisters. While deciding what to wear, tween girls relied on themselves followed by their mother, friends, father, and sisters. These were similar to the results for Lee’s (2006) small sample. When differentiated as per size, there were no differences among buying influentials except fathers. Plus sized girls relied more on their fathers. When differentiated as per age, younger girls significantly differed from older girls. When deciding what clothes to buy and wear, older tween girls relied more on self and friends and less on mother and father than their younger counterparts. These findings were similar to May and Koester’s (1985) study, who reported that parents’ influence

decreased and peers' influence increased in older adolescents. However, Lee did not find significant differences between younger and older tweens in mothers' influence.

The increase in peer influence on clothing choices are parallel with earlier research (Forney & Forney, 1995; Hamilton & Warden, 1966; Kelly et al., 1974; Smucker & Creekmore, 1972). These studies reported that due to peer pressure and the desire for conformity, the importance of peer group increased. This study found that peer influence increased approximately to *half of the time* in the buying and wearing decisions of tween girls.

Similarity with friends was one of the clothing attributes that was a decision factor in deciding what clothes to wear. The other eight features were best looking, comfort, color, newest fashion, brand, fit, less revealing, and age appropriateness. Similarity with friends ranked much lower among these nine clothing attributes. There were significant differences in the ratings of normal and plus sized girls and also in the ratings of mothers and daughters. Normal sized girls rated these attributes higher than plus sized girls. Also mothers perceived more peer influence than girls indicated.

Among the clothing attributes, the three most important ones for tween girls were best looking, fit, and comfort. The scale used was adapted from May (1982) and later from the scale used in an earlier phase of this research thrust. The final scale had three additional attributes: age appropriateness, fit, and less revealing, which were not included in the original scale. The factor "clothes that are clean" from the original scale (1982) was dropped in the questionnaire used in Phase 1 and here. The three most important attributes found in May and Koester's (1985) study were clean, looks best and comfort.

For tween girls in Lee's (2006) study, fit was the number one factor, whereas girls in this study chose best looking clothes.

Age appropriateness that was added here was ranked at number four. Like other studies this research found that fit (Lee, 2006; Smathers & Horridge; 1978-79) and comfort (Branson & Sweeney, 1991; Lee, 2006; May & Koester, 1985) are important. Both these features have been said to be vital to an individual's psychological and social well-being (Branson & Sweeney, 1991; Smathers & Horridge; 1978-79). Differences in the ratings of these features were found among tween girls when characterized by age and size. Differences were also found in the ratings of mothers and their daughters. Mothers thought most of the features to be less important than their daughters did. Maximum differences were seen between mothers and their normal sized daughters. A more thorough study would help understand why mothers did not perceive correctly what attributes their daughters thought important while deciding what to wear.

Clothing deprivation was measured through girls' inability to have desired clothes for school, special occasions, and doing things with friends. Previous research has pointed out that the inability to access clothes affects psychological and emotional aspects of an individual (Kness, 1983). Francis (1992) reported that clothing deprivation was related to both social competence and social participation.

On average, about *half of the time* tween girls felt deprived of the clothes that fit them and they liked. There were no age and size related differences in their perceived clothing deprivation. The relationship between clothing deprivation and self-esteem and media exposure was explored. Previous studies have looked at the relationship between clothing uses and self-esteem (Humphrey et al., 1971). This is among the first few studies

that looked at how self-esteem is affected by clothing deprivation. As expected, the relationship between these two variables was negative and significant. Thus, as the perceived clothing deprivation decreased, girls' self-esteem increased. However, this was true only for older tween girls and not for younger tweens. More study is required to explore the affects of age in this relationship.

A significant relationship was found between media exposure and clothing deprivation. The more tween girls were exposed to media, the more deprived they felt of clothes they liked and that fit. This was true for all modes of media except television. However, different forms of media influenced clothing deprivation differently for various tween groups. Literature reports that plus sized older girls were generally more deprived of clothes (Lee, 2006). It was expected that clothing deprivation would be influenced by media exposure, but no relationship was found between clothing deprivation and media exposure. This lack of relationship could also be attributed to the use of scale and therefore, more research is warranted.

### Conclusion

A conceptual framework was developed in this study that explored factors affecting tweens' self perception and clothing behavior. Six factors (social, psychological, environmental, physical, cultural and demographic, and clothing) were identified that influenced tweens' consumer behavior, specifically clothing behavior. Of these, five factors (social, environmental, physical, cultural and demographic, and clothing) were identified as influentials of tweens' self perceptions and clothing behavior. As found in the review of literature, the relationships proposed by this framework were

justified through significant and meaningful results. The sample collected for this study consisted of fairly equal number of plus and normal sized and younger and older tween girls, and was generally representative of U.S. population at large.

The literature review established the importance of mothers in adolescents' life. Therefore, an important aspect of this study was to explore the influence of mothers on their tween daughters. Mothers appeared to play a significant role in their tween daughters' development. Mothers' ideal body size for themselves and their daughters were related significantly to girls' perceptions of an ideal body size. Mothers accounted for significant variance in girls' body dissatisfaction scores and body weight concerns. Though some differences existed in the ratings and rankings of features of attractiveness and desirable clothing attributes, mothers for the most part were aware of their daughters' preferences. Mothers probably drove and accompanied their daughters to shop. This influence was seen in girls' buying and wearing influentials. After themselves, girls looked to their mothers for help in buying the right clothes and choosing what to wear. Thus, mothers played an impactful role in their daughters' self perceptions and influenced their behavior as consumers.

Need for conformity with peer groups increases the importance of friends' opinions. Therefore, peers were listed as one of the social factors in the framework that influences tweens' self perceptions and clothing behavior. Similar to previous studies, peers' influence in this study increased with age. Peer influence increased significantly for older girls' buying and wearing decisions. Tween girls' weight concerns, desire to be thinner, to be heavier, and to lose weight, were influenced by their friends. Peers' weight concerns and interaction with them significantly influenced tween girls' weight concerns.

Also, this research aimed at understanding the physical and social-psychological dimensions of clothing needs for plus sized tween girls. The findings indicated that tweens, when characterized relative to age and size, could be very different. Tween segments differed significantly in most of the relationships. They differed in their perceptions of satisfaction with body, body image, self-esteem, and weight concerns; ratings of features of attractiveness; involvement with media; interaction with friends; peer and parental influence; and self reliance in buying and wearing decisions.

Of interest here were the overarching preferences of tween girls for clothes that looked best on them, fit them well and were comfortable. This suggested that girls were able to articulate their needs for well fitted clothes, and that their clothing preferences did not necessarily rely on brand, style or color of an item. When seen as a feature of attractiveness, clothes ranked fourth. Tween girls considered hair, nice smile, and clear skin as more important.

In conclusion, all the proposed relationships in the model affected tween girls' self perception and clothing behavior. The results represent tween consumers as a whole but, findings also indicate that tween should be separated by age and size to explore differences in clothing behavior and self perceptions.

### Limitations

A web-based survey method was used to collect data. The questionnaires were completed by mothers and tween daughters in their homes. Therefore, irrespective of the request to respond to these questionnaires independently, the researcher cannot guarantee that mothers did not influence their daughters' answers. Though scales used in the

instrument were designed for this age range, mothers might have helped some respondents to understand and answer some questions, especially in the case of the younger tween girls.

The study focused on tween girls. Even though the conceptual framework identifies sex as a factor that influences tween consumers, gender comparisons could not be made. Other proposed factors such as ethnicity, income, and residence were also not tested. The results were limited, also by some of the scales used in this study. First, the media exposure scale gave only the involvement with different modes of media. Media influence on tweens' self perception of clothing needs could not be calculated. Second, clothing deprivation was calculated as tween girls' inability to find clothes that they liked and that fit, from their wardrobes. Their actual clothing deprivation may be more related to the inability to find clothes in the retail environment. Clothing sales are departmentalized and tween may not be able to find the right department or sizes they need when shopping.

Lastly, the normal or plus size distinction was made based on mothers' report of tween girls' BMI and not through any other medium. Though mothers were asked to measure their daughters' weight and height, they could be inaccurately reported. Separation by size calculated by BMI also fails to account for athleticism and some girls could be misclassified. Tween girls in the first two phases of the larger research study surveyed in focus groups and through a mall intercept, were body scanned, weighed and measured for height by researchers. Comparisons based on verified knowledge of size and body shapes were therefore possible.

## Strengths

The biggest strength of this study is that it is the most comprehensive study of tween girls known. The proposed framework looks at various factors that affect tween girls self perception and their clothing behavior. Self-esteem is an important factor, which is affected by and influences various dimensions of an individual. This study investigates these relationships.

If on the one hand, the web-based survey affected reliability of the answers provided by the respondents, on the other hand it helped to collect a large data. Large data sets help to generalize the results (Hair et. al., 1989). As mentioned earlier, the sample of tween girls can be described as representative of the U.S. population at large<sup>5</sup>. The disadvantages of a homogeneous population are thus avoided.

## Implications

This research has many implications for future studies with tweens or other demographic groups. This study proposed a conceptual framework to enable exploration of various factors affecting the self perception and clothing behavior of tweens. This framework could be used to study tween boys and possibly also other age groups also. Significant relationships among these variables help establish the validity of the model to some extent. Further statistical analyses can be conducted to fully validate the model.

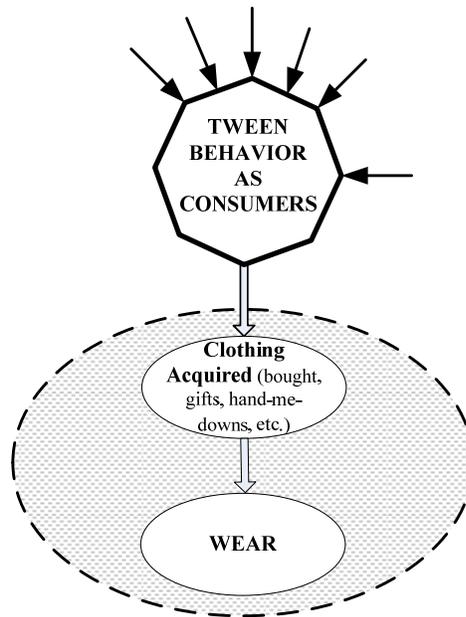
This is one of the few comprehensive studies of a tween group. The findings can be used to further explore this market segment. They can aid researchers in various fields and industry to gain a better understanding of tween girls. Previous research and this study, too, found that plus sized girls had greater difficulty in finding clothes that they

liked and that fit them. The apparel industry can use findings related to desired clothing attributes and buying behavior to help bridge the gap between normal and plus sized tween girls. The tween sample used in this study was segmented as per age and size. Differences in the results of these segments imply that while studying tween girls, it would be wise to distinguish them as to age and size.

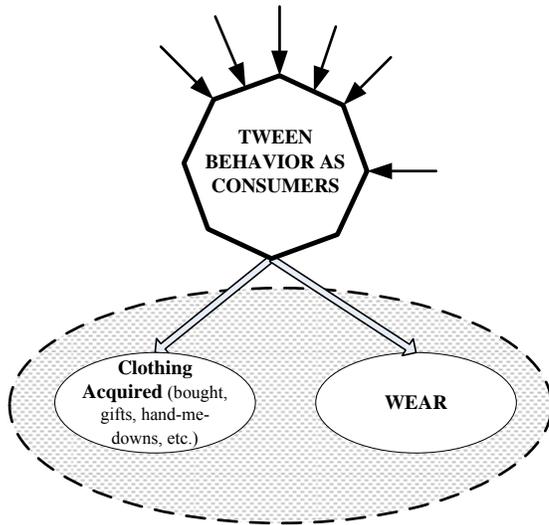
### Recommendations

The model proposed that social, psychological, environmental, physical, cultural and demographic and clothing factors affect tween consumers' behavior. The outcome was the clothing acquired, which ultimately resulted in wearing decisions. However, this study did not test if these variables were related in this way. These variables might be related differently. Figure 18 illustrates this more clearly. Figure 17a shows the original conceptualization. Figure 18b proposes that both buying and wearing are equally and similarly affected by these factors. Figure 18c proposes that buying acts as a mediating variable between tween behavior and wearing decision. Future studies could delve deeper into these relationships.

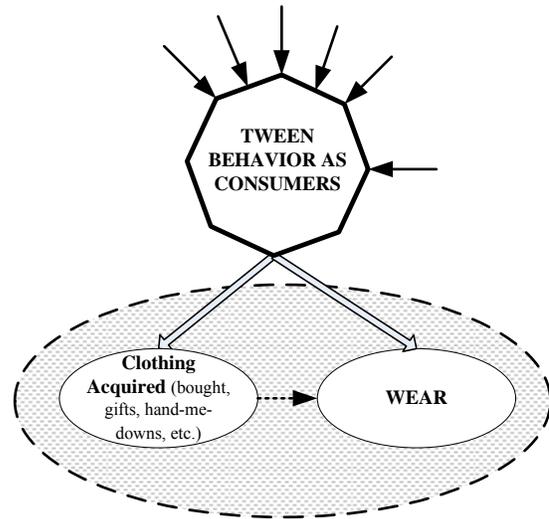
This study is a part of a three-phase study. A large national sample was collected for this study. However, body scanning of tween girls that was conducted for the first two phases could not be conducted for this phase. It is recommended that a large national sample be sought to body scan tween girls and their mothers. Researchers have used body scan data to explore body shape of adult females (Pisut, 2002; Simmons, Istook & Devarajan, 2004). A similar body and shape analyses can be conducted for tween girls.



(A) Proposed outcome: Variables Clothing acquired and Wear in a hierarchal relationship.



(B) Alternate outcome: Variables Clothing acquired and Wear with similar effect.



(C) Alternate outcome: Variable Clothing acquired having a mediating effect on Wear.

Figure 18. Proposed and alternate outcomes of tween consumer behavior.

Research shows that issues related to self perceptions such as body image and body dissatisfaction are concerning for adolescent boys, as well. Body perceptions of boys vary from girls, and they often chose a heavier ideal figure (Cohn et. al., 1987). A similar and a thorough exploration of tween boys' self perceptions and clothing behavior could add valuable insights to this age group as a whole. Sex maybe, an important factor governing tween behavior. More study is needed to examine gender related differences. Also, influence of other factors such as residence, income, ethnicity, and clothing satisfaction were proposed in the framework but were not explored here. Future studies may focus on these factors and help create a more distinct profile of tween consumers and their families.

In this global world cultural boundaries and expectations have shifted due to the increased availability of information. The effects of globalization were prominent in a recent article: "Today, by 13, the average [Indian] teenager inhabits a different universe, with sexuality, language, fashions, social interactions and idea different from the ones his parents grew up with" (Adams, 2008). A cross-cultural study comparing the similarities and differences between American tweens and those of other countries would be very interesting.

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## FOOTNOTES

1. The extensive literature reviewed for this study highlighted the following major factors influencing tweens: social, physical, psychological, environmental, demographic, cultural and clothing. These factors have been organized in a way that helps understand the clothing behavior of tween consumers. The conceptual framework can be summarized with the following key points:

- Factors affecting tween consumers, as defined in this conceptual framework, are: social (family and peer), psychological (body dissatisfaction, body image, self-esteem, features of attractiveness), environmental factors (media influence), physical (age, size, and gender), demographic and cultural (residence, income, and ethnicity) and clothing (attributes, deprivation, and satisfaction).
- Research has also shown that similar factors (social, physical, environmental, demographic, cultural and clothing) affect the self perception i.e. the psychological aspect of tweens.
- Moreover, the framework is further complicated as the items of psychological factors are themselves inter-related. For example, self-esteem is related to body image, which in turn is related to body dissatisfaction. Any of these items can be used to predict other items of this construct. For example, a low self-esteem can

be used to explain a negative body image and vice versa. The relationship is mostly correlational and, therefore, is not directed in a particular direction.

- For the factors affecting tween behavior as consumers, the effect can be direct or moderated by psychological factors.

2. As discussed earlier, tween clothing behavior and self perceptions are multi-dimensional in nature and explained by various factors. No one study has looked at combined effects of these factors on the clothing behavior and self perceptions of tweens. Apart from being related to tween clothing behavior and self perceptions, these factors are themselves inter-related with each other. Researchers have explored these inter-relationships between these factors. The findings from these studies have been summarized in Appendix A.

3. Dual energy X-ray absorptiometry (DXA) is a type of bone density testing that uses X-rays to measure the bone density.

4. Greenfield Online Inc. is a global interactive media and services company (Greenfield Online Inc., 2007). It collects consumer opinions and attitudes about various products and services. On one hand, it enables the consumers to voice their opinions, and on the other hand, the data so collected helps companies to formulate effective product marketing strategies. This company collects and organizes the data into actionable form.

5. The ratios of tween girls' sample (8.0% African-Americans, 4.8% Asians, 74.2% Caucasians, 7.1% Hispanic, 1.4% Native Americans, and 4.5% Biracial) is very similar to that of the US population as represented by the Census 2000 data. This information is provided in Table 115. Compared to the Census 2000 data, African-

Americans and Hispanics are slightly under-represented, and Asians slightly over-represented in the sample. Overall the sample represented the US population fairly well.

Table 115

*Population of United States by Race (U.S. Census Bureau, n.d.)*

Race and Hispanic/Latino origin	Census 2000, population	Percent of population
Total Population	281,421,906	100.0%
Single race		
White	211,460,626	75.1
Black or African American	34,658,190	12.3
American Indian and Alaska Native	2,475,956	0.9
Asian	10,242,998	3.6
Native Hawaiian and other Pacific Islander	398,835	0.1
Two or more races	6,826,228	2.4
Some other race	15,359,073	5.5
Hispanic or Latino	35,305,818	12.5

## APPENDICES

## Appendix A

### Summary Table of Literature Review

Table 116

*Summary of inter-relationships between various factors affecting the tween development.*

No.	Authors	Subjects	Key Findings
1	<b>Family – Self-Esteem</b> Curtis (1991).	36 mother-daughter pairs; daughters were between ages 11-15 years.	<ul style="list-style-type: none"> <li>• Mothers self-concept T scores were significantly correlated with the daughters self-concept T scores</li> <li>• Also, mothers’ self-concept was found to predict daughters’ self-concept.</li> </ul>
	Gecas (1972).	598 adolescents aged 16-17 years.	<ul style="list-style-type: none"> <li>• Parental support was positively related to adolescents’ self-esteem. This relationship was strongest in adult context i.e. in situations concerned with family, classroom and adults.</li> <li>• Parental control was unrelated to adolescents’ self-esteem. When maternal and paternal control was considered separately, only fathers’ control were positively and significantly related to boys’ self-esteem in two peer contexts (friends and opposite sex).</li> </ul>
	Gecas & Schwalbe (1986).	128 families of adolescents aged 17-19 years.	<ul style="list-style-type: none"> <li>• Children’s self-esteem was related to perceived parental behavior but not parents’ self-reported behavior.</li> <li>• Boys’ self-esteem was more affected by the control and autonomy aspect of parental behavior.</li> </ul>

No.	Authors	Subjects	Key Findings
	Paterson, Pryor, & Field (1995).	253 girls and 240 boys ranging from age 13-19 years.	<ul style="list-style-type: none"> <li>• Girls' self-esteem was affected more by the support and participation aspect of parental behavior.</li> <li>• Parental support and proximity were weakly associated with three aspects of self-esteem (overall self-esteem, social competence, and coping abilities).</li> <li>• Quality of affective relationship with parents was significantly related to adolescents' over-all self-esteem and coping abilities.</li> <li>• Both mothers and fathers may affect self-esteem equally.</li> </ul>
2	<b>Family – Body Image</b> Levine, Smolak, & Hayden (1994).	385 girls aged 10-14.	<ul style="list-style-type: none"> <li>• Weight and shape related teasing from family negatively affected the body satisfaction and body image.</li> </ul>
	Usmiani & Daniluk (1997).	82 mother-menstrual daughter pairs and 31 mother-premenstrual daughter pairs.	<ul style="list-style-type: none"> <li>• Age, physical maturation and mother-daughter relationship as contributors to the development of body image in adolescent girls during puberty was supported by the study.</li> <li>• Mothers' body image was positively correlated with daughters' body image in mother/menstrual daughter pairs but not for</li> </ul>

No.	Authors	Subjects	Key Findings
			mother/premenstrual daughter pairs.
3	<b>Family – Body Dissatisfaction</b> Levine, Smolak, & Hayden (1994).	385 girls aged 10-14.	<ul style="list-style-type: none"> <li>• Weight/shape related teasing from family had a moderate but significant impact on body dissatisfaction.</li> </ul>
4	<b>Family – Clothing Behavior</b> Grant & Stephen (2005).	24 girls aged 12-13.	<ul style="list-style-type: none"> <li>• This stage is highly fashion sensitive.</li> <li>• Parental influence is one of the key factors in clothing purchase.</li> <li>• Mothers were very influential in clothing choice for school and special occasion.</li> </ul>
	Lee (2006).	41 mother-daughter pairs; daughters were aged between 9-14 years.	<ul style="list-style-type: none"> <li>• Mothers exerted greatest influence on purchase decision.</li> <li>• Approximately for half the girls mothers decided what to wear.</li> </ul>
	May & Koester (1985).	490 4-H members ranging from 9-19.	<ul style="list-style-type: none"> <li>• Parental influence decreased for intermediates and seniors.</li> <li>• Monetary help from parents was more frequently used.</li> </ul>
5	<b>Family – Weight Issues</b> Abramovitz & Birch	197 girls aged 5 and	<ul style="list-style-type: none"> <li>• Girls whose mothers dieted</li> </ul>

No.	Authors	Subjects	Key Findings
	(2000).	their parents.	were twice more likely to know about dieting than girls whose mothers did not diet.
	Hill & Franklin (1998).	40 pairs of mothers and 11 year old girls.	<ul style="list-style-type: none"> <li>• Dietary restraint and body height-weight were related in 11 year old girls and their mothers</li> </ul>
	Johannsen, Johannsen, & Specker (2006).	143 mothers and 68 fathers representing parents of 148, 3-5 year old children.	<ul style="list-style-type: none"> <li>• Mothers exert a stronger influence over their children's weight.</li> <li>• Children's weight was related to their mothers' BMI but not fathers.</li> <li>• Girls had a greater tendency to be overweight if their parents were overweight.</li> </ul>
	Thelen & Cormier (1995).	118 families of 4 <sup>th</sup> grade children.	<ul style="list-style-type: none"> <li>• Body weight and desire to be thinner was positively related with the perceived encouragement from parents.</li> <li>• Daughters' dieting frequency was positively correlated with perceived encouragement from mothers but not fathers.</li> <li>• Daughters' BMI was positively and significantly correlated with perceived parental encouragement.</li> </ul>
6	<b>Friend – Self-Esteem</b> Paterson, Pryor, & Field (1995).	253 girls and 240 boys ranging from age 13-19 years.	<ul style="list-style-type: none"> <li>• The quality of affective relationship with friends was significantly associated with</li> </ul>

No.	Authors	Subjects	Key Findings
			social competence.
7	<b>Friend – Body Image</b> Dohnt & Tiggemann (2006)	128 girls age 5-8 years.	<ul style="list-style-type: none"> <li>• Perceived peer body dissatisfaction was the strongest predictor of girls' own body dissatisfaction.</li> <li>• Peer body dissatisfaction was also significantly related to dieting awareness.</li> <li>• If the friends desired a thin ideal figure the girls too preferred a thinner ideal figure.</li> <li>• Peer group discussion was significantly related to imitation.</li> </ul>
8	<b>Friend – Body Dissatisfaction</b> Levine et al. (1994).	385 girls ages 10-14.	<ul style="list-style-type: none"> <li>• Teasing from peers ranked first in variance of body dissatisfaction.</li> <li>• Peer teasing and dieting made a small contribution in investment in thinness eating disturbances and weight management.</li> </ul>
	Presnell, Bearman, & Stice (2004).	531 students ranging from age 16-19 years.	<ul style="list-style-type: none"> <li>• Peer pressure to be thin was a significant predictor of body dissatisfaction in univariate analysis.</li> </ul>
	Sinton & Birch (2006).	173 11-year old girls.	<ul style="list-style-type: none"> <li>• Appearance schema scores were associated with interactions with other girls</li> </ul>

No.	Authors	Subjects	Key Findings
			<p>about appearance.</p> <ul style="list-style-type: none"> <li>• Appearance schema was related with girls' level of body dissatisfaction.</li> </ul>
9	<p><b>Friend – Clothing Behavior</b> Francis (1992).</p>	<p>338 high school students of grade 9<sup>th</sup>-12<sup>th</sup>.</p>	<ul style="list-style-type: none"> <li>• Clothing deprivation relative to peers had a significant effect on the social participation ability in adolescence.</li> </ul>
	<p>Hamilton &amp; Warden (1966).</p>	<p>294 juniors of high school.</p>	<ul style="list-style-type: none"> <li>• Relationship of an adolescent with his peers was affected by non-acceptable clothing.</li> <li>• Clothing behavior played an important role in conformity-individuality conflict.</li> <li>• Clothing behavior of girls was influenced more by their peers while that of boys was more influenced by families.</li> </ul>
	<p>Kelley, Daigle, LaFleur, &amp; Wilson (1974).</p>	<p>8<sup>th</sup> grade students from 2 urban and 2 rural schools.</p>	<ul style="list-style-type: none"> <li>• More than 50% respondents said they would participate in activities if they had right clothing</li> <li>• The highest refusal rate for participation was in African-American females.</li> <li>• Appearance influenced the peer rejection of lower class and may result in withdrawal from participation in social class.</li> </ul>

No.	Authors	Subjects	Key Findings
	May & Koester (1985).	490 4-H members ranging from 9-19.	<ul style="list-style-type: none"> <li>• Peer influence on clothing purchase increased from juniors to intermediates and seniors.</li> <li>• Peer influence included help in both choosing clothes and shopping.</li> </ul>
	Smucker & Creekmore (1972).	121 boys and 110 girls of high school sophomores.	<ul style="list-style-type: none"> <li>• Positive relationship between awareness of and conformity to the clothing mode and peer acceptance was found.</li> <li>• Environmental factors like finances, limited freedom, etc could adversely affect the relationship between awareness of and conformity to clothing mode.</li> </ul>
10	<b>Friend – Weight Issues</b> Maloney, McGuire, Daniels, & Specker (1989).	318 girls and boys of grades 3-6.	<ul style="list-style-type: none"> <li>• Fifteen percent children reported that they believed their friends would like them better if they were thinner.</li> </ul>
11	<b>Self-esteem – Body Image</b> Lennon, Rudd, Sloan, & Kim (1999).	202 Korean college women, 52 Singaporean college women, 171 African-American college women, and 109 Caucasian-American women.	<ul style="list-style-type: none"> <li>• High self-esteem was associated with positive body image.</li> <li>• Seven out of eight predictor variables were significantly and positively related to self-esteem. These were appearance evaluation, fitness evaluation, attitude toward gender roles, body areas satisfaction, illness orientation, health</li> </ul>

No.	Authors	Subjects	Key Findings
			<p>evaluation, and weight label.</p> <ul style="list-style-type: none"> <li>• Weight preoccupation was negatively related to self-esteem.</li> </ul>
12	<p><b>Self-esteem – Features of attractiveness</b> Mathes &amp; Kahn (1975).</p>	211 male and female undergraduates.	<ul style="list-style-type: none"> <li>• Physical attractiveness was found to be positively correlated with self-esteem for women but not for men.</li> </ul>
	O’Grady (1989).	64 male and 63 female undergraduates.	<ul style="list-style-type: none"> <li>• A significant correlation was found between self-esteem and attractiveness.</li> <li>• Attractiveness correlated negatively with self-esteem for boys, and positively for girls.</li> <li>• More attractive girls had higher self-esteem than less attractive girls. This was not true for boys.</li> </ul>
13	<p><b>Self-esteem – Clothing Behavior</b> Daters (1990).</p>	197 female students of 7 <sup>th</sup> and 8 <sup>th</sup> grades.	<ul style="list-style-type: none"> <li>• All three dimensions (physical, social and psychological) of clothing comfort were considered more important in social and school setting and not in leisure situations.</li> <li>• Self-esteem was not found to be related to situational clothing comfort.</li> </ul>

No.	Authors	Subjects	Key Findings
	Humphrey, Klaasen, & Creekmore (1971).	270 girls and 250 boys belonging to high school.	<ul style="list-style-type: none"> <li>• Some clothing uses were significantly related to self-esteem.</li> <li>• Clothing functions in different ways for individuals with different psychological characteristics.</li> <li>• Both boys and girls with higher self-esteem scores used clothing to attract attention to themselves.</li> <li>• Girls with higher self-esteem score, enjoyed experimenting with clothes and were concerned with clothing selection.</li> </ul>
14	<b>Self-esteem – Media Influence</b> Kim & Lennon (2007).	114 female undergraduates.	<ul style="list-style-type: none"> <li>• Television exposure did not relate to the self-esteem of participants.</li> <li>• Fashion or beauty magazine also did not relate to self-esteem.</li> </ul>
	Tiggemann (2003).	104 female undergraduates in age range of 17-26 years.	<ul style="list-style-type: none"> <li>• Television watching but not magazine reading was related to self-esteem.</li> <li>• The more the participants watched television the lower self-esteem they had.</li> <li>• Correlation scores between self-esteem and body dissatisfaction was higher for females with low self-esteem rather than high self-esteem.</li> </ul>

No.	Authors	Subjects	Key Findings
15	<b>Media Influence – Clothing Behavior</b> Forney & Forney (1995).	67 boys and 64 girls of 7 <sup>th</sup> and 8 <sup>th</sup> high school grades.	<ul style="list-style-type: none"> <li>• Girls were reported to be more fashionable than boys.</li> <li>• Girls often chose clothes that were similar to clothing found in teen magazines, while boys being less fashionable made their clothing decisions alone.</li> </ul>
	May & Koester (1985).	490 4-H members ranging from 9-19.	<ul style="list-style-type: none"> <li>• Media influence was measured by the tendency to buy similar clothing as depicted in magazines.</li> <li>• Media influence was minimal for all age groups.</li> <li>• Media influence in terms of looking at advertisements increased with age.</li> </ul>
16	<b>Media Influence – Body Image</b> Dohnt & Tiggemann (2006)	128 girls aged 5-8 years.	<ul style="list-style-type: none"> <li>• Watching more music television and reading more appearance related magazines was related to aspects of body image, such that more exposure to media resulted in a desire for thinner body.</li> <li>• Media exposure was negatively associated with affective measure of body image i.e. appearance satisfaction.</li> </ul>

No.	Authors	Subjects	Key Findings
	Heinberg & Thompson (1995).	139 Caucasian female undergraduates aged 18-48 years.	<ul style="list-style-type: none"> <li>• Appearance related media images increased the body image disturbances.</li> <li>• Exposure to these images increased socio-cultural awareness of thin ideal and distress.</li> <li>• Exposure to appearance related media images negatively affected mood and body satisfaction.</li> </ul>
	Kim & Lennon (2007).	114 undergraduate females.	<ul style="list-style-type: none"> <li>• Both television and fashion magazine did not relate to body image measures of body dissatisfaction and appearance evaluation.</li> <li>• A positive relationship was found only between fashion magazine exposure and overall appearance dissatisfaction.</li> </ul>
17	<b>Media Influence – Body Dissatisfaction</b> Hargreaves & Tiggemann (2003).	160 girls and 197 boys aged 13-15 years.	<ul style="list-style-type: none"> <li>• Appearance related television commercials affect girls of this age in a similar way to older girls.</li> <li>• Commercial viewing did not affect the boys' body dissatisfaction.</li> <li>• Appearance related commercials led to increased schema activation in girls.</li> <li>• The impact of viewing idealized bodies persisted for</li> </ul>

No.	Authors	Subjects	Key Findings
			at least 15 minutes.
	Sinton & Birch (2006).	173 11-year old girls.	<ul style="list-style-type: none"> <li>• Girls' appearance schemas were related to awareness of media messages.</li> <li>• Media messages influenced body dissatisfaction and appearance concerns.</li> <li>• Girls exposed to media had thinner body ideals and higher appearance standards.</li> </ul>
	Tiggemann (2003).	104 female undergraduates aged 17-26 years.	<ul style="list-style-type: none"> <li>• Both magazines and television are similarly related to body dissatisfaction but demonstrate different patterns.</li> <li>• Magazine exposure was related to internalization and not awareness of thin ideal standards.</li> </ul>
18	<b>Media Influence – Weight/Size/Dieting Issues</b> Dohnt & Tiggemann (2006)	128 girls aged 5-8 years.	<ul style="list-style-type: none"> <li>• Watching more music television and reading more appearance related magazines (or women's magazines) resulted in greater awareness of dieting.</li> <li>• Watching children's television predicted lower levels of dieting awareness.</li> </ul>

No.	Authors	Subjects	Key Findings
19	<b>Weight/Size Issues – Body Image</b> Blyth, Simmons, & Zakin (1985).	210 6 <sup>th</sup> and 7 <sup>th</sup> grade Caucasian girls in different school settings.	<ul style="list-style-type: none"> <li>• In both 6<sup>th</sup> and 7<sup>th</sup> grade early maturing girls were less satisfied with their weight.</li> <li>• Late maturing girls were generally more satisfied with their weight.</li> <li>• Cultural ideal of thinness rather than different school setting appeared to be important with regards to weight.</li> </ul>
	Wills, Backett- Milburn, Gregory, & Lawton (2006).	36 teenagers aged 13- 14 years.	<ul style="list-style-type: none"> <li>• Contrary to other research, this study reported greater acceptance of body shape and size among overweight adolescent.</li> </ul>
20	<b>Weight/Size Issues – Body Dissatisfaction</b> Barker & Galambos (2003).	91 girls and 79 boys from 7 <sup>th</sup> and 10 <sup>th</sup> grades.	<ul style="list-style-type: none"> <li>• Risk factors for body dissatisfaction varied for boys and girls. Girls were more dissatisfied with their bodies than boys.</li> <li>• For girls having a higher BMI predicted greater body dissatisfaction, whereas this was not the case with boys.</li> </ul>
	Presnell, Bearman, & Stice (2004).	531 students ranging from age 16-19 years.	<ul style="list-style-type: none"> <li>• Body mass predicted greater body dissatisfaction for girls but not for boys.</li> </ul>
	Thelen & Cormier (1995).	118 families of 4 <sup>th</sup> grade children.	<ul style="list-style-type: none"> <li>• BMI was significantly and positively correlated with the</li> </ul>

No.	Authors	Subjects	Key Findings
			desire to be thinner.
21	<b>Weight/Size Issues – Clothing Behavior</b> Brock (2007).	41 girls aged 9-14 years and 39 mothers.	<ul style="list-style-type: none"> <li>• Brock (2007) reported some size related results in her study.</li> <li>• Plus sized tween girls reported that they were unable to find clothing they liked and that fit them. Thus plus sized girls expressed more dissatisfaction with clothing.</li> </ul>
22	<b>Income – Clothing Behavior</b> Hamilton & Warden (1966).	130 girls and 164 boys of 13 junior classes.	<ul style="list-style-type: none"> <li>• Clothing behavior was related to the socioeconomic level of the family.</li> <li>• Employment of mothers outside home affected the clothing behavior of boys but not girls.</li> <li>• More boys with unacceptable clothing had mothers employed outside home.</li> </ul>
23	<b>Ethnicity – Body Dissatisfaction, Clothing Behavior</b> Fitzgibbon, Blackman, & Avellone (2000).	389 Caucasian, Hispanic and African-American women.	<ul style="list-style-type: none"> <li>• Differences between Body image discrepancy (BD) and BMI among three ethnic groups were found.</li> <li>• Caucasian women reported BD at a comparatively lower BMI than Hispanic and</li> </ul>

No.	Authors	Subjects	Key Findings
			<p>African-American women.</p> <ul style="list-style-type: none"> <li>• Hispanic and African-American women did not report BD till they were overweight.</li> </ul>
	Forney & Forney (1995).	131 7 <sup>th</sup> and 8 <sup>th</sup> grade students.	<ul style="list-style-type: none"> <li>• Ethnicity had some association with wearing gang dresses and showing group belonging.</li> </ul>
24	<b>Residence - Clothing</b> MacGillivray & Wilson (1997).	478 boys and girls of 6 <sup>th</sup> , 9 <sup>th</sup> , and 12 <sup>th</sup> grades.	<ul style="list-style-type: none"> <li>• There were significant differences in the clothing use of urban and rural adolescents.</li> <li>• Rural adolescents were less likely to use clothing for approval and distinction..</li> <li>• Rural adolescents were more homogenous in their clothing style.</li> </ul>

Appendix B  
Daughters' Questionnaire

## PART 1: CHOOSING CLOTHES

Think about the times that you go shopping for clothes. Imagine standing in front of your closet and deciding what to wear to go to school, be with friends, or do other things. We would like to know about the parts of your life when you decide what to buy and what to wear.

Circle the answer that best describes how often each of the following people go with you when you shop for clothes.

Mother	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Father	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Sister(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Friend(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
I shop by myself	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

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Circle the answer that best describes how often each of the following people help you decide what clothes to buy.

Mother	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Father	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Sister(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Friend(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
I shop by myself	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

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Circle the answer that best describes how often you decide to buy clothes that are exactly like or similar to the clothes worn by other people.

Friends	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Popular girls at school	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Celebrities	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes pictured in magazines	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

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Circle the answer that best describes how often you ask the following people to help you decide what clothes to wear.

Mother	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Father	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Sister(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Friend(s)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
I shop by myself	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

You might think about lots of things when you are getting dressed to go somewhere.

Circle the answer that best describes how often you think about the following things when you decide what clothes to wear.

Clothes that look best on me	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes like those that my friends will be wearing	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are comfortable	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are my favorite color	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are the newest fashion	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes with a popular brand name	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that fit me well	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are not too body revealing	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are appropriate for my age	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

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Imagine getting dressed to go to school, to see your friends, or to go to some special event. You go to your closet and want to pick out an outfit to wear that you like, that you feel comfortable in, or that you think looks good on you.

Circle the answer that best describes how often you feel that you don't have or can't get clothes that you would choose to wear.

Clothes for school	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
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Do you wear a school uniform?	<i>Yes</i>	<i>No</i>
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Clothes for doing things with your friends  
(for example, going to the movies or gathering at a friend's house)

	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>
Dress-up clothes (for example, for school dances or for going to a wedding)	<i>Never</i>	<i>Almost Never</i>	<i>About half of the time</i>	<i>Usually</i>	<i>Always</i>

**PART 2: YOU, YOUR ACTIVITIES, AND YOUR GIRL FRIENDS**

Most girls have school periods when they play games or sports. Some girls play extra school sports like cheerleading. Some play sports like softball or soccer with other teams. And some girls take dance or gymnastics lessons when they are not in school.

Do you take part in any of these extra sports or lessons? *Circle Yes or No*

If you circled Yes, please tell us when during the year and how many days a week you take part in any of these extra sports or lessons.

Fall	<i>One day a week</i>	<i>2-3 days a week</i>	<i>More than 3 days a week</i>
Winter	<i>One day a week</i>	<i>2-3 days a week</i>	<i>More than 3 days a week</i>
Spring	<i>One day a week</i>	<i>2-3 days a week</i>	<i>More than 3 days a week</i>
Summer	<i>One day a week</i>	<i>2-3 days a week</i>	<i>More than 3 days a week</i>

Different things make different people think someone is attractive. We would like to know your opinion.

Circle a number from 1 to 5 that shows how important you think each of the following is in determining whether a girl your age looks attractive. 1 means you do not think that it is at all important; 5 means that you think it is very important.

	Not Important at all		Somewhat Important		Very Important
1. Clothes	1	2	3	4	5
2. Make-up	1	2	3	4	5
3. Hair	1	2	3	4	5
4. Being slender	1	2	3	4	5
5. Nails	1	2	3	4	5
6. Curvy body	1	2	3	4	5
7. Looking "fit"	1	2	3	4	5
8. Nice smile	1	2	3	4	5
9. Not being fat	1	2	3	4	5
10. Jewelry	1	2	3	4	5
11. Clear skin	1	2	3	4	5

Think of the girls with whom you spend time and whose friendship or opinions matter at least somewhat to you. If you don't have a lot of friends, think of the girls and groups with whom you would like to be friends. Let's call these girls your "friends."

*There are no right or wrong answers to the following questions. We are interested in your opinion and your "sense" of how things are. For each question, circle the answer that best describes your opinion.*

About how many of your girl friends would like to be thinner?

*None                  A few                  About half                  Most                  All*

How many of your girl friends would like to be heavier?

*None                  A few                  About half                  Most                  All*

How many of your friends are "on a diet" to try to lose weight or slow down weight gain?

*None                  A few                  About half                  Most                  All*

How often do you and your friends talk about weight, weight loss, and dieting?

*Never                  Rarely                  Sometimes                  Often                  Very Often*

A lot of people spend their free time doing activities other than sports. We would like to know how you spend your free time other than participating in sports.

*For each question, circle the answer that best describes how often you do the following per week.*

How many hours a week do you watch television?

*Less than 1 hour    1-3 hours                  3.5-6 hours                  6.5-10 hours                  More than 10 hours*

How many hours a week do you play video games?

*Less than 1 hour    1-3 hours                  3.5-6 hours                  6.5-10 hours                  More than 10 hours*

How many hours a week do you spend on the internet?

*Less than 1 hour    1-3 hours                  3.5-6 hours                  6.5-10 hours                  More than 10 hours*

When you are on the internet what do you do? (circle all that apply)

*Talk to friends    Look at websites    Shop                  Research things I am interested in                  Email*

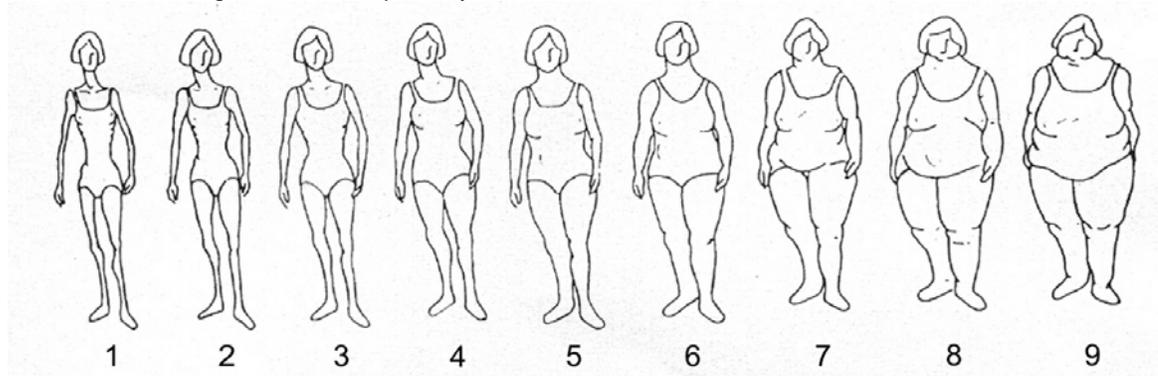
How many magazines do you look at per month?

*0                          1-2                          3-6                          More than 6*

**PART 3: YOUR BODY**

Here are 9 drawings of female figures.

*Please answer two questions about yourself.*



*Which drawing looks most like your own figure?* DRAWING # \_\_\_\_\_

*Which drawing do you most want to look like now?* DRAWING # \_\_\_\_\_

You are growing and changing all of the time.

Circle the descriptions that best fit what you feel about yourself right now.

How happy are you with your height?

*Not at all happy      Somewhat happy      Happy      Very Happy*

How happy are you with your weight?

*Not at all happy      Somewhat happy      Happy      Very Happy*

How happy are you with the development of your figure?

*Not at all happy      Somewhat happy      Happy      Very Happy*

How good looking do you think you are?

*Not at all good looking      Somewhat good looking      Good looking      Very good looking*

Have you ever wanted to be thinner?      *Circle*    *Yes*    *or*    *No*

Have you ever wanted to be heavier?      *Circle*    *Yes*    *or*    *No*

Have you ever tried to lose weight?      *Circle*    *Yes*    *or*    *No*

Have you ever tried to gain weight?      *Circle*    *Yes*    *or*    *No*



Appendix C  
Mother's Questionnaire

**PART 1: YOUR DAUGHTER’S CLOTHES**

Here is a list of types of stores. *Circle the answer for how often you and your daughter buy her clothes at each type.*

How often do your daughter’s clothes come from specialized clothing stores like Limited 2, the Gap, Abercrombie, Express, Old Navy, American Eagle, Limited, Abercrombie & Fitch, G & G, or Rave?

*Never            Almost never            Sometimes            Often*

How often do your daughter’s clothes come from department stores like J. C. Penney, Belk’s, Macy’s, Dillard’s, or Sears?

*Never            Almost never            Sometimes            Often*

How often do your daughter’s clothes come from mass merchandise chains like Target, Walmart, K-Mart, Kohl’s, Sam’s, or Costco?

*Never            Almost never            Sometimes            Often*

How often do your daughter’s clothes come from off-price chains like T. J. Maxx, Marshall’s, Steinmart, or Ross?

*Never            Almost never            Sometimes            Often*

How often are your daughter’s clothes bought from catalogs?

*Never            Almost never            Sometimes            Often*

How often are your daughter’s clothes bought from a website?

*Never            Almost never            Sometimes            Often*

*Who pays for your daughter’s clothes?*

father    *Never            Almost never            Sometimes            Most of the time            Always*

Your daughter    *Never            Almost never            Sometimes            Most of the time            Always*

*When you go shopping for your daughter’s clothes, how easy do you think it is to find clothes that she likes and that fit her?*

	<i>Always hard to find</i>	<i>Sometimes hard to find</i>	<i>Sometimes easy to find</i>	<i>Always easy to find</i>
Jeans	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Pants (except jeans)	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Skirts	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Tops	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Dresses	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>

Your daughter might think about lots of things when she is getting dressed to go somewhere. *Circle the answer that best describes how often you believe she thinks about the following things when she decides what to wear.*

Clothes that look best on her	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes like those that her friends will be wearing	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are comfortable	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are her favorite color	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are the newest fashion	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes with a popular brand name	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that fit her well	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are not too body revealing	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>
Clothes that are appropriate for her age	<i>Never</i>	<i>Sometimes</i>	<i>Half of the time</i>	<i>Usually</i>	<i>Always</i>

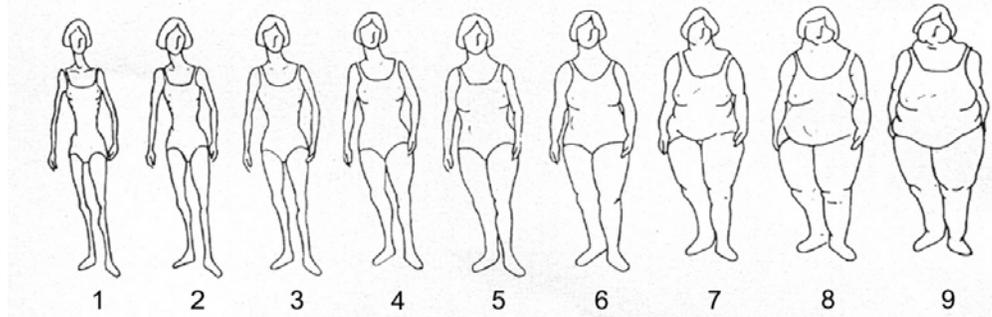
**PART 2: YOUR DAUGHTER’S DEVELOPMENT**

Different things make different people think someone is attractive. We would like to know your opinion of what makes girls your daughter’s age attractive.

Circle a number from 1 to 5 that shows how important you think each of the following is in determining whether a girl your daughter’s age looks attractive. 1 means you do not think that it is at all important; 5 means that you think it is very important.

	<i>Not at all important</i>		<i>Moderately important</i>		<i>Very important</i>
	1	2	3	4	5
Clothes	1	2	3	4	5
Make-up	1	2	3	4	5
Hair	1	2	3	4	5
Being slender	1	2	3	4	5
Nails	1	2	3	4	5
Curvy body	1	2	3	4	5
Looking “fit”	1	2	3	4	5
Nice smile	1	2	3	4	5
Not being fat	1	2	3	4	5
Jewelry	1	2	3	4	5
Good, clear skin	1	2	3	4	5

Here are 9 drawings of female figures. Please answer two questions about your daughter.



Which drawing looks most like your daughter’s figure? DRAWING # \_\_\_\_\_

Which drawing is the best figure for girls your daughter’s age to have? DRAWING # \_\_\_\_\_

Your daughter is growing and changing all of the time.  
Circle the descriptions that best fit what you feel about her development right now.

How happy are you with your daughter's height?	<i>Not at all happy</i>	<i>Somewhat happy</i>	<i>Happy</i>	<i>Very happy</i>
How happy are you with your daughter's weight?	<i>Not at all happy</i>	<i>Somewhat happy</i>	<i>Happy</i>	<i>Very happy</i>
How happy are you with the development of your daughter's figure?	<i>Not at all happy</i>	<i>Somewhat happy</i>	<i>Happy</i>	<i>Very happy</i>
How good looking do you think your daughter is?	<i>Not at all good looking</i>	<i>Somewhat good looking</i>	<i>Good looking</i>	<i>Very good looking</i>

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Has your daughter ever wanted to be thinner?	<i>Yes / No</i>	...to be heavier?	<i>Yes / No</i>
Have you ever wanted your daughter to be thinner?	<i>Yes / No</i>	...to be heavier?	<i>Yes / No</i>
Has your daughter ever tried to lose weight?	<i>Yes / No</i>	...to gain weight?	<i>Yes / No</i>
Have you ever encouraged your daughter to lose weight?	<i>Yes / No</i>	...to gain weight?	<i>Yes / No</i>

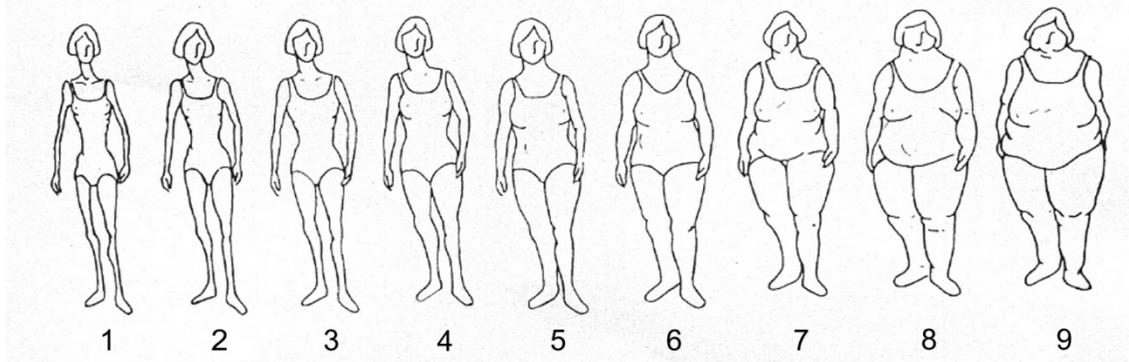
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**PART 3: YOURSELF**

The following statements describe an individual’s potential feelings about clothes. *For each statement, circle the number (on the scale of one to five) that represents how well it describes your feelings about your clothes.*

	<i>Does not Describe</i>				<i>Does Describe</i>
It is very important to me to appear appropriately and fashionably dressed.	1	2	3	4	5
It always gives me pleasure to buy clothes for myself.	1	2	3	4	5
Clothes are important to me because they represent me to others.	1	2	3	4	5
I think carefully about the clothes I am buying so that I will be happy with my purchases.	1	2	3	4	5
When I buy clothes, I feel confident that I am making the right choices.	1	2	3	4	5

Here are 9 drawings of female figures. *Please answer two questions about yourself.*



Which drawing looks most like your own figure?    DRAWING # \_\_\_\_\_

Which drawing do you most want to look like?    DRAWING # \_\_\_\_\_

*Circle the descriptions that best fit your image of yourself.*

I think I am

<i>Very Underweight</i>	<i>Somewhat Underweight</i>	<i>Normal Weight</i>	<i>Somewhat Overweight</i>	<i>Very Overweight</i>
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From looking at me, most other people would think I am:

<i>Very Underweight</i>	<i>Somewhat Underweight</i>	<i>Normal Weight</i>	<i>Somewhat Overweight</i>	<i>Very Overweight</i>
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Use this 1 to 5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

	<i>Very Dissatisfied</i>	<i>Mostly Dissatisfied</i>	<i>Neither Satisfied Nor Dissatisfied</i>	<i>Mostly Satisfied</i>	<i>Very Satisfied</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Face (facial features, complexion)	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Hair (color, thickness, texture)	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Lower torso (buttocks, hips, thighs, legs)	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Upper torso (breasts, shoulders, arms)	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Weight	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Height	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Overall appearance	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>

---

People express feelings about themselves in different ways. We would like to know how you feel about yourself.

On the whole, I am satisfied with myself.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

At times, I think I am no good at all.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I feel that I have a number of good qualities.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I am able to do things as well as most other people.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I feel I do not have much to be proud of.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I certainly feel useless at times.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I feel that I am a person of worth, at least on an equal plane with others.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I wish I could have more respect for myself.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

All in all, I am inclined to feel that I am a failure.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

I take a positive attitude toward myself.

*Strongly Agree*      *Agree*                      *Disagree*                      *Strongly Disagree*

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**PART 4: DEMOGRAPHICS**

Your age \_\_\_\_\_ Your height \_\_\_\_\_ Your weight \_\_\_\_\_  
Your daughter's age \_\_\_\_\_ Your daughter's birth month \_\_\_\_\_  
Your daughter's grade in school \_\_\_\_\_  
Your daughter's height \_\_\_\_\_ Your daughter's weight \_\_\_\_\_

Has your daughter had her first period (menstruation)? YES / NO  
IF YES, please check her age at onset.

9	_____	9 ½	_____
10	_____	10 ½	_____
11	_____	11 ½	_____
12	_____	12 ½	_____
13	_____	13 ½	_____
14	_____	14 ½	_____

Your marital status    Single \_\_\_\_\_    Married \_\_\_\_\_    Divorced \_\_\_\_\_    Widowed \_\_\_\_\_

Your daughter's siblings    None \_\_\_\_\_    Number of sisters \_\_\_\_\_    Number of brothers \_\_\_\_\_

Your daughter's ethnicity	Your ethnicity	Your daughter's father's ethnicity
_____ African-American	_____ African-American	_____ African-American
_____ Asian	_____ Asian	_____ Asian
_____ Caucasian	_____ Caucasian	_____ Caucasian
_____ Hispanic	_____ Hispanic	_____ Hispanic
_____ Native American	_____ Native American	_____ Native American

Please indicate your level of education:

_____ Grade school	_____ Bachelor's degree
_____ Some high school, no diploma	_____ Master's degree (e.g., MBA, MS, MFA)
_____ High school diploma/GED	_____ Professional degree (e.g., MD, DDS, LLB)
_____ Some college, no degree	_____ Doctorate degree (PhD, EdD)
_____ Associates degree	

Check the category that best describes your occupation:

- |   |  |
|---|--|
| <input type="checkbox"/> Upper management/Proprietor/Owner          | <input type="checkbox"/> Service worker                |
| <input type="checkbox"/> Middle management                          | <input type="checkbox"/> Student                       |
| <input type="checkbox"/> Professional (Lawyer, Accountant, Teacher) | <input type="checkbox"/> Homemaker                     |
| <input type="checkbox"/> Sales                                      | <input type="checkbox"/> Retired                       |
|   | <input type="checkbox"/> Other (please specify): _____ |

Your household income (Check if this is a single or dual income.  single  dual)

- Under \$24,999
- \$25,000 to \$49,999
- \$50,000 to 74,999
- \$75,000 to 99,999
- \$100,000 to 149,999
- Over \$150,000