Browsing Perspectives for Impulse Buying Behavior of College Students

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Introduction

Impulse buying behavior which accounts for a substantial percentage of the products sold across a broad range of product categories is widely recognized as an American lifestyle phenomenon (Hausman, 2000; Madhavaram & Laverie, 2004; Youn & Faber, 2000). Impulse buying is a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfill a specific buying task (Beatty & Ferrell, 1998). Impulse buying is more important in some merchandise categories (e.g., fashion products – costume jewelry and apparel) than in others. Apparel often conveys important symbolic meaning for consumers as they seek to construct and express their self-identity (Dittmar et al., 1996). Moreover, consumers may use fashion products, such as apparel, in an attempt to boost their self image.

Consumers are prone to engage in browsing because they are open to spending opportunities that grab their attention. Although trips to a shopping mall may begin as a means of engaging in purposive search, consumers frequently end up being diverted to exploring other possibilities. This browsing is defined as the examination of a retailer's merchandise for information or/and recreational purposes without an immediate intent to buy (Lee & Johnson, 2002). The multisensory, fantasy, and emotional aspects of a consumer's experience with products are referred to as hedonic consumption (Hirschman & Holbrook, 1982).

Browsing can trigger impulse buying to satisfy hedonic needs or emotional gratification and it is made easier through the use of a credit card (Hausman, 2000; Park et al., 2005). However, impulsive buying can have negative consequences such as over–extended credit and debt. Family and consumer sciences (FCS) professionals can play an important role in identifying and developing guidelines that help consumers control behaviors such as impulse shopping (Jeon, Crutsinger, & Kim, 2008). Therefore, understanding the relationship between browsing and impulse buying behavior will be useful when developing FCS educational programs for college students and consumers in general, as well as understanding its impact in the marketplace.

Purpose

The purposes of this study were to (1) identify the dimensions of impulse buying behavior of college students, and (2) predict the effect of browsing on impulse buying behavior among college students.

Method

Sample and Procedures

Data were obtained from college students (N=290) in one metropolitan area in a southwestern state. Data were gathered during scheduled class periods using a self-administered questionnaire developed from the literature. The sample was primarily female (73.7%), ages 21 to 24 (50.5%), and Caucasian (75.7%). Subject selection and data administration were approved by an institutional review board on the use of human subjects in research.

Measures

Using nine items of impulse buying behavior related to apparel (Forney & Park, 2004; Park et al., 2005) and four items of browsing (Beatty & Ferrell, 1998), participants responded to "When purchasing, I . . . " on a 7-point rating scale (1 = strongly disagree, 7 = strongly agree). Mean scores ranged from 5.17 to 4.10 for impulse buying behavior and from 4.80 to 4.22 for browsing. For impulse buying behavior, the highest mean score was for *Memory-oriented Impulse Buying* (e.g. "I buy something I need it, though shopping for other purposes") while the lowest mean score was for *Fashion-oriented Impulse Buying* (e.g. "I buy to try out a garment with a new feature"). Factor analysis with varimax rotation identified underlying dimensions of impulse buying behavior of college students. Path analysis examined the causal relationships between browsing and impulse buying behavior.

Findings

Three dimensions of impulse buying behavior of college students (Purpose 1) were revealed through factor analysis: *Fashion-oriented Impulse Buying, Memory-oriented Impulse Buying, and Browsing-oriented Impulse Buying*. The three factors had eigen values above 1.0 and explained 73.9% of the total variance. Factor loadings ranged from .54 to .90; reliabilities were from .65 to .91. Browsing was a single dimension that explained 80.2% of the total variance with a reliability of .79. See Table 1.

Table 1. Factor Analyses and Means for Impulse Buying Behavior and Browsing of College Students

Items	Factor Loading	Means[a] (S.D.)	Cronbach's alpha
Impulse Buying Behavior			
Fashion-oriented Impulse Buying			.91
I like to buy new clothing that just came out.	.87	4.55 (1.96)	
When purchasing, I buy clothing with a new style if I see it.	.85	4.65 (1.83)	
I buy to try out a garment with a new feature.	.82	4.10 1.81)	
Memory-oriented Impulse Buying			.77
I buy something when I need it, though shopping for other purposes.	.90	5.17 (1.41)	
I decide what to buy only after I look around a store.	.78	4.35 (1.64)	
I expect to find something I want to buy when I get to the store.	.62	4.58 (1.60)	
Browsing-oriented Impulse Buying			.65
I decide what to buy only after I look around a store.	.81	4.92 (1.67)	
I decide what to buy while looking around the store.	.72	4.88 (1.53)	
I expect to find something I want to buy when I get to the store.	.60	4.80 (1.65)	
Browsing			.79
I would say that I was primarily "just looking around."	.90	4.80 (1.78)	
The percent of time I spend just looking around was fairly high.	.90	4.22 (1.87)	

[a] Responses to the statement "When purchasing . . ." using a 7-point Likert-type scale (range: 1 = strongly disagree to 7 = strongly agree.

The effect of browsing on impulse buying behavior among college students (Purpose 2) was predicted using path analysis. For this prediction, browsing served as the independent variable while impulse buying behavior served as the dependent variable. As a result of path analysis, the overall model fit was good and accepted (Chi-square = 11.13, $df = 2$, $p = .003$; GFI = .98; AGFI = .91; CFI = .97; RMR = .04). Browsing significantly influenced *Fashion-oriented Impulse Buying* ($\gamma_{11} = .76$, $t = 3.86$, $p < .001$), *Memory-oriented Impulse Buying* ($\gamma_{21} = .85$, $t = 3.87$, $p < .001$), and *Browsing-oriented Impulse Buying* ($\gamma_{31} = .67$, $t = 3.81$, $p < .001$). See Table 2.

Table 2. Standardized Path Estimates of Browsing and Impulse Buying Behavior for College Students

Causal paths	Estimates	*t*-value	*p* <
Browsing → Fashion-oriented Impulse Buying	.76	3.86	.001
Browsing → Memory-oriented Impulse Buying	.85	3.87	.001
Browsing → Browsing-oriented Impulse Buying	.67	3.81	.001

Conclusions and Implications

Browsing can play an important role in predicting impulse buying behavior related to apparel. From a browsing perspective, college students who spend much time looking around a store are more likely to impulsively purchase fashion-oriented products (e.g., apparel with new style or feature) and memory-oriented products (e.g. something they need or want to buy). Furthermore, these students are prone to decide what to buy after or while looking around the store. Thus, the more in-store browsing that was done by college students the more impulsive buying of apparel was stimulated by fashion, memory, and looking around. Also, the three dimensions of impulse buying behavior suggested by this study may support of college students as a segmentation strategy in the apparel market.

In regards to browsing and impulse buying, FCS educators have an opportunity to instruct students in how to develop decision lists, to compare products using information tables or graphs, and to reduce reliance on heuristics. Similarly, they can help students make purposeful analysis a less frustrating and more productive activity by emphasizing the need for assigning time to gather information and evaluating options before browsing and purchasing. As impulse behavior may be a response to information overload, FCS educators might teach students to reduce the information processing demands by restricting their search to either a few products or to several features.

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Fashion Industry Employer Attitude Toward Hiring International Graduates

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Background of the Problem

Colleges and Universities in the United States aggressively recruit international students to apply and subsequently attend their institutions in order to enhance academic rankings, improve diversity statistics as well as be able to promote the advantages of a multicultural student body. The recruitment process generally does not include what that university will do to assist the international student to find a position within the United States after graduation. In fact, that information is not considered important during the recruitment and admissions process. Traditionally, international students are more concerned with residential life, the weather, variety of food served, availability of merit-based scholarships and academic ranking. According to Karen Scott (Personal Communication, February 15, 2008), an international student recruiter for a medium-sized liberal arts university, students rarely if ever ask about career placement services during the admissions process. Yet, according to John Singleton (Personal Communication, February 18, 2008), an international student director with the same university, one of the primary services requested by international students preparing to graduate from United States' universities involves the Optional Practical Training (OPT) application allowing for an extra year to gain work experience within their career field. Furthermore, because of the time required to process the OPT; students must be prepared to apply as early as possible during their senior year in order to have the approval granted prior to graduation. Nationally, university career services offices provide free access to a web site for international students which list companies interested in hiring international professionals from all disciplines (K. Hickman, personal communication, February 27, 2008). Unfortunately, a review of this web site revealed that companies within the textiles, apparel and retail sectors were not listed among the more than 3,000 organizations within 70 industries.

A 2008 research study of more than 200 employers within the creative industries located in the United Kingdom was conducted by the Creative Careers Division of the University of the Arts London (Knowles, G. 2008). The University of the Arts London is Europe's largest university for art, design, fashion, communications and the performing arts. It is comprised of six internationally renowned colleges which enroll more than 24,000 students from over 100 countries (Knowles, G. 2008). The creative fields included were textiles, printing and publishing, fashion design, fashion management, performance arts, hair and beauty, arts administration, creative enterprises, museum curation and conservation and the media. Employers were asked their opinions on hiring international graduates who require a work permit. They were also asked what advice they would provide to international students and graduates trying to establish a career in the United Kingdom. Ironically, the majority of employers surveyed in the study indicated they cannot consider hiring an international candidate who needs a work permit because of the high cost and the long application process involved. Additionally, the majority of employers (70%) rated insufficient English language skills as a major factor that would prevent them from hiring an international candidate. Most recommended gaining as much relevant work experience within the United Kingdom as possible since employers are more likely to go through the lengthy Visa process if they know the student's work ethic (Knowles, G. 2008). However, 82% of the employers surveyed indicated they would be more likely to hire an international candidate who is on the International Graduate Scheme (IGS). Yet, a greater percentage had not heard of the IGS which is a Visa option that gives the graduate the right to work in the United Kingdom for up to 12 months after completion of their studies (UK Border Agency, 2007). The IGS option is similar to the United States Optional Practical Training Visa.

Purpose

The purpose of this study was to investigate attitudes of fashion industry employers regarding hiring international graduates educated within the United States.

Methods

Initial interviews were conducted with international student recruiters, international student directors, career services directors and a human resource manager responsible for completing sponsorship paperwork when international employees are hired. The information obtained during the personal interviews lead to the researcher developing a seven-question survey to assess human resource managers' attitudes toward hiring and sponsoring recently graduated international students in the United States. The convenience sample of subjects (n=35) were individuals identified as the hiring managers within the human resources departments of major apparel manufacturers, wholesale firms and retailers located in New York City, NY, Dallas and Fort Worth, TX. The survey was sent via email to the subject's address within the organization during the spring of 2008 with an introductory letter describing the purpose for the survey. A follow-up email with the questionnaire attached was sent two weeks after the initial email to those who had not responded. A 100 % response rate was achieved.

Results

Survey results indicated that the majority of the respondents (85.7%) currently do not have any policies related to petitioning employees from other countries to fill positions at company headquarters or at international offices. Additionally, the majority of the respondents (91.4%) do not encourage international students who have graduated from a United States university or college to apply for positions within the organization. However, a slightly smaller number of respondents (57.1%) indicated the company was willing to petition foreigners in the United States that meet requirements for a specific position in order for that individual to work for the company. The criteria identified as minimum when determining if an international student would be considered for full time employment included in rank order: a bachelors degree from an accredited university in the U.S (77%).; work experience gained within the United States which related directly to the job description (71.4%); specific degree related to a special field such as textile design or fashion merchandising (57.1%); a language proficiency (51.4%); and a recommendation from the student's college professor or former United States employer (42.9%). The majority of the respondents (60%) indicated that they will transfer current employees to offices located in other countries if there was a need and would consider hiring an international graduate of a United States university for that purpose if they possessed the skills required especially if related to language proficiency. Two of the respondents indicated that they had sponsored an international graduate with an H1B Visa. The reasons given for hiring the individuals included the fact that they had previous work experience; and the individuals had proficiency in a language that would contribute to the company's business operations. Additionally, both students had graduate degrees in the apparel field. The H1BVisa is specifically used for foreign professionals with specialized knowledge, such as scientists, designers, engineers and others who have a Bachelor's degree or higher and can extend up to six years. This Visa can also be transferred to another employer if the individual changes jobs. The H1B Visa is even suitable for use in hiring distinguished foreign fashion models (Immihelp.com, 2008).

Results of the survey showed that the majority of the companies were not willing to consider international graduates from United States universities in the fashion field unless they possess exceptional skills that can not be found in other candidates. Additionally, the majority of the respondents (94.3%) suggested that the risk was too great to hire international graduates. This includes the high cost ranging from $800 to $2,500; the long lead time required involving from six to eight months, and the possibility that the petition is denied by the United States Citizenship and Immigration Services (USCIS) (R. Roach, personal communication, February 22, 2008). For these reasons, the companies surveyed suggested that they prefer to hire employees who are United States citizens or who already have a work Visa.

Conclusions and Implications

Findings from this study are important to Family and Consumer Sciences educators specifically those teaching in higher education in the fields related to fashion merchandising and design. The fashion industry is global in all aspects except for corporate hiring practices. Educators can assist and prepare international students who are interested in pursuing a career in the United States after graduation by encouraging them to gain meaningful work experience prior to graduation during their internship within the parameters set by the USCIS and to consider applying for the OPT at the beginning of their senior year. The student also may have to consider graduate school in order to meet the requirement for expertise within the field of fashion to be eligible for sponsorship under the H1BVisa program. The United States currently has a cap of 65,000 on the number of Visas granted within one year and therefore, organizations must send in applications early to initiate the process in hopes of receiving a Visa for a sponsored employee. Colleges and universities are exempt from this cap and thus can hire as many international employees as they deem necessary (R. Roach, personal communication, February 22, 2008). Additionally, encouraging international students to begin their career search early will allow companies the time necessary needed to file the appropriate paper work for the H1BVisa. Results generated from the convenience sample will be utilized to develop a more comprehensive study of fashion industry attitudes regarding hiring international students educated within the United States.

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The Influence of Fashion Involvement Level, Part I: Browsing and Buying Partners among Teen Consumers

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Introduction

The United States teen population is 32 million and will continue to grow to 34 million by 2010, resulting in the largest generation in history (Taylor & Cosenza, 2002). Thus, based on segment size alone, teen spending at retail is significant. Teens spend their own and family money as well as influence parental purchasing. From 2005 to 2006, total spending by parents on fashion products for teens rose 35% and included, on average, $1,413 spent on apparel (Klinefelter & Tamminga, 2007). However, teens tend to be a challenging market because they generally are not particular about where they buy merchandise and are cynical toward advertising (Weiss, 2003). Many teens indicate awareness of, and interest in, new fashion products, but reveal that they browse and purchase for nonspecific reasons such as social aspirations and peer influences (Hempel & Lehman, 2005). In addition, in comparison to market segments that use a wide variety of information sources, teens place a high level of importance on browsing and buying partners for information and that peer groups affect teens' retail attitudes and shopping behaviors (Moye & Kincade, 2003; Wilson & MacGillivray, 1998). These buying habits developed by teens at a young age are likely to remain the same as they become adults (Conroy, 2005).

Surprisingly, fashion research regarding teens has been limited. However, as a result of size and spending power, marketers are beginning to examine teen shopping and buying behaviors. For decades, a commonly researched consumer behavior construct has been fashion involvement; an individual's perceived importance of fashion objects, developed because of personal values, lifestyles, attitudes, interests, and influences (Tigert, Ring, & King, 1976). In addition, researchers investigated consumers' use of information sources, particularly personal sources that are used to reduce uncertainty and risk when buying. Studies have determined that, during adolescence, the strongest personal influences on clothing purchases are peers, friends, family, observations of what others are doing, and one's own personal taste (Rabolt & Drake, 1985).

Purpose

For decades, researchers have developed shopping orientation profiles to better understand consumers and their behaviors. Thus, when considering the browsing and buying behaviors of teens, the lack of teen-focused research, and teens' high awareness of new fashions, the researchers determined that evaluating levels of fashion involvement among teens was valid. In addition, the researchers chose to focus on one type of information source, browsing and buying partners, in relation to fashion involvement. Consequently, the purpose of this study was to examine the effect of fashion involvement on the selection of browsing and buying partners as information sources.

Methodology

Subjects were members of Zoomerang.com's panel of 250,000 teen Internet users. Zoomerang developed an email address listing of a random selection of 3,600 members, placed the study survey online, sent an email message that allowed access to the survey through a URL link, and captured responses in a database; 440 useable questionnaires were completed yielding a response rate of 12.2%.

The questionnaire was developed for online administration and elicited demographic, fashion involvement, and purchasing behavior information. Participants responded to five questions that comprised the Fashion Involvement Index (FII) (Tigert, Ring, & King, 1976). The inventory measured each of the fashion innovativeness, fashion interpersonal communication, fashion interest, fashion knowledgeability concepts through a 3-point question and the fashion awareness concept through a 5-point question. Questions measured levels of fashion awareness and reactions to changing fashion trends. Consequently, overall FII scores ranged from 5 to 17. For purchasing behavior information, participants identified their shopping partner when just browsing for apparel as well as when actually buying apparel. Possible shopping partners included *mother, father, both parents, sibling, friend, no one*, and *other*.

Analysis and Results

Participants lived throughout the United States, and were male (49.8%) and female (50.2%). The largest group was age 17 (24.3%), but were fairly evenly distributed from ages 13 to 18. Participants were primarily white, non-Hispanic (87.0%), and the largest percentage (34.1%) reported living with three other people at home. A majority was enrolled in high school (68.4%), did not work during the school year (74.1%) or summer months (53.0%), and listed parents as their primary source of monthly income (71.8%).

Fashion Involvement

Total fashion involvement levels were determined by responses to the five FII questions. Individuals who had FII scores of 5 to 8 (47.5%) were classified as having low levels, while those who had scores of 9 to 13 (43.0%) were classified as having medium levels, and those who had scores of 14 to 17 (9.5%) were classified as having high levels of fashion involvement.

Browsing and Buying Partners

Frequency data were analyzed to determine with whom teens browse and buy apparel. Teens reported browsing with *mother* most often (44.5%) followed by *friend* (35.9%), *both parents* (7.3%), *father* (6.8%), *sibling* (3.4 %%), and *other* (2.0%). When buying apparel, teens reported *mother* most often (54.9%) followed by friend (18.5%), *father* (8.7%), *both parents* (8.7%), *sibling* (4.8%), *no one* (2.3%), and *other* (2.1%).

Fashion Involvement and Browsing and Buying Partners

In order to determine the relationships between fashion involvement and browsing partners as well as fashion involvement and buying partners, one-way ANOVAs were conducted to analyze relationships. Due to the relatively small sample sizes in the other groups, comparisons were only made between *mother* and *friend* for both browsing partner and buying partner analyses. Results revealed a significant effect of total fashion involvement on browsing partner, F (1, 352) = 16.51, $p < .001$, indicating that participants who reported *mother* as browsing partner had significantly less fashion involvement than those who reported *friend* as the primary browsing partner. In addition, results revealed a significant effect of total fashion involvement on buying partner, F (1, 319) = 29.16, $p < .001$, indicating that participants who reported *mother* as buying partner had significantly less fashion involvement than those who reported *friend* as the primary buying partner.

Conclusions and Implications

In the current study, the majority of teen consumers reported that their mother was their most frequent browsing and buying partner. Those same teens overwhelmingly had lower levels of fashion involvement. In contrast, teens with the highest levels of fashion involvement most often browsed and bought apparel when accompanied by a friend. Obviously, many teens browse and shop with their mother because purchases are made with parental funds and, in addition, younger teens must rely on a parent to take them to a retail outlet. However, the differences in fashion involvement scores observed, regardless of age or income, are interesting. Teens that indicated lower levels of fashion involvement may rely upon their mothers, who are more experienced in shopping for apparel, to assist them in the search for appropriate or fashionable goods. In contrast, teens that exhibited higher levels of fashion involvement may be more self-assured in decision making, more independent, and place more importance on time spent with friends, and thus, are allowed to shop without their mother.

Teens are a diverse, growing, critical market for the retail industry today, thus, results of this study provide implications for retailers. Retailers must consider how best to appeal to two distinct groups of teen shoppers, those who shop with mothers and those who shop with friends. Retailers should closely examine browsing and spending patterns of teens to create direct marketing plans that are tailored to teens as well as parents. Marketers tend to target teens directly, but perhaps this tactic is not appropriate for all marketing efforts.

Finally, for family and consumer sciences (FCS) professionals, especially educators, learning more about how teens shop and buy is valuable. Information gleaned can be used to teach teens in high school FCS classes about teen consumer behavior that will lead to improved consumer skills.

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The Influence of Fashion Involvement Level, Part II: Spending Preferences by Category among Teen Consumers

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Introduction

The United States' teen population, which includes individuals age 13 to 19, is growing in size and consumption power (Kim & Kim, 2005). These 32 million young consumers, a key part of the nation's Generation Y segment, are expected to grow to 34 million by 2010, resulting in the largest generation in history (Taylor & Cosenza, 2002). Teenage consumers have significant discretionary spending power, and in the United States, the teen consumer spending group contributes an estimated $175 billion annually (Hempel & Lehman, 2005). A recent survey found that American teens spend 40% of their budget on fashion goods. In addition, teens spend family money and influence their parents' purchasing behaviors. Total annual parental spending on fashion products for teens rose 35% in 2006 and included an average of $1,413 spent on teen apparel (Klinefelter & Tamminga, 2007).

Purpose

Researchers and marketers have evaluated general involvement by examining consumer behavior and segmenting consumer markets (Laurent & Kapferer, 1985; Ohanian, 1990; Zaichkowsky, 1986). Other researchers have studied fashion involvement to determine valuable information regarding consumer behavior (Browne & Kaldenberg, 1997; O'Cass, 2000; Tigert, Ring, & King, 1976). Fashion involvement has been described as the consumer's perceived importance of fashion apparel (O'Cass, 2001). However, most previous studies have focused only on adult consumers; thus, information about teens has been limited. As a result of the growing size and the spending power of the teen segment, marketers are taking great notice of potential consumer product expenditures by category within this group. The purpose of this study was to examine the relationship between fashion involvement level and spending preference by category among teen consumers, ages 13 to 18. By evaluating fashion involvement levels of teen consumers in regards to spending preference by category, this study revealed valuable information to be utilized by researchers and marketers.

Methodology

Subjects were members of Zoomerang.com's panel of 250,000 teen Internet users. Zoomerang segments their members according to age, so the teens surveyed were all between the ages of 13 and 18. Zoomerang developed an email address listing of a random selection of 3,600 members, placed the study survey online, sent an email message that allowed access to the survey through the use of a URL link, and captured responses in a database; 440 useable questionnaires were completed yielding a response rate of 12.2%.

The questionnaire was developed for online administration and elicited demographic, fashion involvement, and spending preference by category information. Participants were asked to respond to five questions of the Fashion Involvement Index (FII) (Tigert, Ring, & King, 1976) that measured levels of fashion awareness and reactions to changing fashion trends. The inventory measured each of the fashion innovativeness, fashion interpersonal communication, fashion interest, and fashion knowledgeability concepts through a 3-point question and the fashion awareness concept through a 5-point question. Consequently, overall FII scores ranged from 5 to 17. For spending preference information, participants identified the product category on which they most often spend money from among *apparel, auto expense, cosmetics, entertainment, food, hair care, video games, and other.*

Analysis and Results

Participants lived throughout the United States, and were male (49.8%) and female (50.2%). The participants were fairly evenly distributed among ages 13 to 18, with 16.4% age 13, 14.8% age 14, 17.5% age 15, 19.3% age 16, 24.3% age 17, and 7.7% age 18. Participants were primarily white, non-Hispanic (87.0%), and the largest percentage (34.1%) reported living with three other people at home. A majority was enrolled in high school (68.4%), did not work during the school year (74.1%) or summer months (53.0%), and listed parents as their primary source of monthly income (71.8%).

Fashion Involvement

Total fashion involvement levels were determined by responses to the five FII questions. Individuals who had FII scores of 5 to 8 (47.5%) were classified as having low levels, while those who had scores of 9 to 13 (43.0%) were classified as having medium levels, and those who had scores of 14 to 17 (9.5%) were classified as having high levels of fashion involvement.

Spending Preference by Category

Data were analyzed to determine spending preferences by product category from among *apparel*, *auto expense*, *cosmetics*, *entertainment*, *food*, *hair care*, *video games*, and *other* categories. Interestingly, a third (33.2%) of teens reported spending their money most often on *apparel*, while 21.8% of teens indicated *video games*. In addition, more than 18% indicated *entertainment* (18.6%) while 10.0% indicated *food*. Finally, 8% of teens reported spending most on *other* products, while 4.3% reported *auto expense*, 2.7% reported *cosmetics*, and 1.1% reported *hair care*.

Fashion Involvement and Spending Preference by Category

In order to determine the relationships between fashion involvement and spending preference by category, one-way ANOVAs were conducted to analyze relationships. Results revealed a significant effect for spending preference on total fashion involvement, F (1, 436) = 69.340, p < .001, indicating that participants who reported that they most often spent their money on *apparel* had greater total fashion involvement scores (M = 12.15) compared to the other groups, including *entertainment* or *food* (M = 8.65), *video games* (M = 8.25), or *other* items (M = 9.48).

Conclusions and Implications

Results of this study regarding fashion involvement level and spending preference by category of teens is valuable, because results confirm that teen consumers with high levels of fashion involvement prefer to spend most of their money on apparel. Additionally, the study determined that teens who reported spending money on apparel had greater total fashion involvement scores compared to teens who preferred to spend their money on entertainment or food, video games, or other items. Therefore, teen consumers with higher levels of fashion involvement may be less price-conscious and more willing to pay more for fashion apparel items. Retailers should focus on offering and promoting trend apparel merchandise that will appeal to the highly fashion-involved teens.

Results of this study support previous findings that consumers with high levels of fashion involvement are also strong buyers of fashion apparel (Fairhurst, Good, & Gentry, 1989; Jin & Koh, 1999; Tigert, Ring, & King, 1976). Teen consumers look for fashions that have mass market appeal, but they attempt to make their style slightly different than their friends and peers. Based on findings, retailers and marketing professionals should study teen consumers and develop merchandise assortments that will appeal to their needs for mass customization. Additionally, by learning more about teen consumers with an interest in entertainment and video games, retailers may be able to develop retail formats and product lines that will appeal to these groups, therefore capturing a larger market share.

As competition in the retail environment is steadily increasing with the addition of imaginative retailers with innovative strategies that enhance consumer interest and patronage, retailers must consider their best position in regards to the viable teen market. Retailers that are most likely to maintain a competitive edge are companies that examine the fashion involvement levels and spending preferences of teen consumers, and then prepare strategic plans that react to consumer demands and create direct market strategies tailored specifically to the teen segment.

Teen consumers are a powerful part of the economy today and will continue to contribute significantly. For fashion industry members, information from this study can be used by designers and manufacturers for product development, as well as by retailers as plans are made to cater to the teen market. For the researchers, this study was successful in providing information regarding the spending preferences of teens that can be used for future studies. Finally, for family and consumer sciences (FCS) professionals, especially educators, learning more about how teens shop and buy is valuable. Information gleaned about teen spending preferences can be used to teach teens in high school FCS classes about teen consumer and buyer behavior, leading to improved consumer skills.

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Career Satisfaction and Educational Needs of Secondary FCS Teachers in Texas

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Corporate Social Responsibility and Consumer Evaluations

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Introduction

The retail marketplace offers today's shoppers a vast array of apparel, accessories, and other products. Consumers are challenged to choose from products and brands that often consist of very few real or perceived differences in quality and price. As a result, consumers rely on other factors to make selections. Recognizing this, companies have sought to differentiate products and brands by focusing on strategies that enhance brand image. One approach that resonates with consumers is corporate involvement in socially responsible initiatives.

The knowledge, or associations, a consumer holds about a company's efforts to be a good corporate citizen is referred to as corporate social responsibility (CSR). Research indicates that favorable CSR associations can enhance consumers' overall sense of well-being as well as generate a heighted awareness of the social cause supported by the company (Bhattacharya & Sen, 2004). Companies also benefit from CSR initiatives through positive perceptions of company reputation, increased sales, and favorable product and brand evaluations (Brown & Dacin, 1997; Mohr & Webb, 2005; Murray & Vogel, 1997; Sen & Bhattacharya, 2001).

What happens, however, when a company perceived as being socially responsible produces goods of mediocre or poor quality? The knowledge consumers hold about a company's ability to operate efficiently and produce quality products is referred to as corporate ability (CA) (Brown & Dacin, 1997). The purpose of this study is to examine the combined effect of CSR associations (knowledge) and CA associations (knowledge) on consumer attitudes and purchase intentions.

Hypotheses

Prior research indicates that CSR associations play an important role in influencing corporate evaluations (Brown & Dacin, 1997). CA associations, on the other hand, are influential in affecting both corporate and product evaluations. A recent study examining product preferences for financial services found that consumers may allow favorable evaluations of one type of association to compensate for weaknesses in the other. More specifically, high CA associations compensated for low CSR associations; however, high CSR associations could not overcome low CA associations, particularly when corporate ability was personally relevant (Berens, van Riel, & Rekom, 2007).

Based on this discussion, the hypotheses are:
H1: Participants will have more positive attitudes toward the company when CSR associations are high than when CA associations are high.
H2: Participants will have more positive attitudes toward the product when CA associations are high than when CSR associations are high.
H3: Participants will have greater purchase intentions when CA associations are high than when CSR associations are high.

Method

<u>Study Design</u>
An experiment was employed to test the hypotheses using a randomized, between-subjects ANOVA design. Written scenarios were created to manipulate CSR associations and CA associations. Participants were told that a jeans manufacturer (fictitious) was interested in their opinions about the company and its products. The CSR manipulation (high, low) described the company's commitment to socially responsible activities (i.e., concern for employees, established code-of-conduct, and community service). Similarly, the CA manipulation (high, low) described company characteristics related to quality (longevity, financial performance, product quality, and production capability).

<u>Measures</u>
Attitude toward the company (AtC) and attitude toward the product (AtP) were assessed using the multivariate attribute model (Fishbein and Ajzen, 1975). Before reading about the company, participants rated the importance of 10 corporate attributes (e.g., community service, production

capability) and 11 product attributes (comfort, durability) on a 7- point scale (1 =

not important at all; 7 = extremely important). After reading the scenario, participants were asked the extent to which they believed the described company and its products possessed each of the 10 corporate attributes and 11 product attributes. Each corporate belief rating was multiplied by its respective importance rating and summed across all attributes to obtain AtC for each participant. The same procedure was applied to the product attribute items to obtain AtP.

Purchase intent was measured by asking the likelihood of 1) buying the brand on the next purchase occasion and 2) choosing the company's brand over other brands. Responses were recorded using a 7- point scale (1 = extremely unlikely; 7 = extremely likely). The two statements exhibited a high degree of reliability with an overall Cronbach alpha coefficient of 0.90.

To check the manipulation for CA associations and CSR associations, participants were asked to indicate their degree of agreement with 7 statements about the company using a 7-point scale (1 = strongly disagree; 7 = strongly agree). Four of the statements tested the effectiveness of the manipulation. Three filler statements helped to reinforce the cover story and minimize demand effects. A high degree of reliability for the CA and CSR manipulation check was indicated by the overall Cronbach alpha coefficients; 0.87 and 0.93, respectively.

Table 1
ANOVA Results

		CSR Associations: Low		CSR Associations: High			
CA Associations	**High**	n=46		n=43		n=89	
		AtC =	198.07	AtC =	311.12	AtC =	254.59
		AtP =	309.15	AtP =	330.05	AtP =	319.60
		PI =	3.00	PI =	4.16	PI =	3.58
	Low	n=44		n=49		n=93	
		AtC =	177.36	AtC =	274.55	AtC =	225.96
		AtP =	242.67	AtP =	264.12	AtP =	253.40
		PI =	2.42	PI =	3.08	PI =	2.75
		n=90		n=92			
		AtC =	187.71	AtC =	292.83		
		AtP =	275.91	AtP =	297.08		
		PI =	2.70	PI =	3.62		

Data Collection
One hundred and eight-two undergraduate students participated in the research on a voluntary basis. A written questionnaire was randomly distributed assigning each participant to one of the four treatment groups. After reading a short cover story, participants completed the attitudinal importance measures. The written scenario containing the CSR and CA manipulations followed. The participants then completed the remaining measures. Once all the questionnaires were completed and collected, the administrator debriefed the participants.

Results

The results of one-way ANOVA indicated that both the CA manipulation and the CSR manipulation were successful. Attitudes and purchase intentions were analyzed using an ANOVA in a 2 (positive CA, negative CA) x 2 (positive CSR, negative CSR) between-subjects design. An interaction effect was not detected in any of the analyses.

To examine H1, the means between high CSR and low CA (M=274.55) and high CA but low CSR (M=198.07) were compared. The high CSR treatment generated a more positive attitude toward the company than did the high CA treatment ($\alpha \leq 0.05$). As a result, H1 was supported.

Similarly, H2 was examined by comparing the high CA mean but low CSR mean (M=309.15) and the high CSR mean but low CA mean (264.12). The high CA treatment generated a more positive attitude toward the product than did the high CSR treatment ($\alpha \leq 0.05$). As a result, H2 was supported.

Finally, H3 was assessed by comparing the high CA but low CSR mean (M=3.00) and the high CSR but low CA mean (M=3.08). The analysis did not indicate a significant difference in purchase intentions. H3 was not supported.

Conclusions and Implications

As expected, high CSR associations played a stronger role in influencing attitude toward the company when CA associations were low than did high CA on low CSR. Consumers appear to be willing to tolerate weaknesses related to the operational and financial capabilities of a firm if CSR efforts are perceived positively. This positive effect on attitude toward the company does not hold true for attitude toward the product. High CA associations had greater influence on AtP when CSR was low than did high CSR on low CA. Consumers appear to be reluctant to sacrifice product quality for good deeds on the part of the company.

For family and consumer sciences, the secondary outcomes associated with CSR initiatives are most noteworthy. First, knowledge of CSR efforts affects consumers personally through an enhanced sense of well-being (Bhattacharya & Sen, 2004). Additionally, favorable CSR associations positively impact consumer attitudes and actions toward company supported social issues. This effect is likely to hold despite lapses in corporate ability and/or whether consumers patronize the firm.

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Cultural Adaptability and Study Abroad: A Measure of Change

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Globalization in the manufacturing and retail sectors is a defining trend that shapes the current consumer market. Universities strive to produce future entrepreneurs and business leaders with a global mindset that parallels or precedes that of the marketplace (Kefalas & Weatherly, 1999). In addition, merchandising and design graduates compete for entry level positions in multi-national organizations with substantial global sales and profits. During the 2005 fiscal year the top 250 global retailers conducted business in 118 countries. These geographically diverse retailers maintain corporate offices located in 27 different countries (Stores Inc., 2006). In 2006, the Global Domestic Product rose at one of the fastest rates ever recorded (5.4%). Relatively rapid economic expansion took place in Argentina, Canada, China, Germany, India, Russia, the United Kingdom and in the US (Stores Inc., 2008). Cultural adaptability is essential for graduates to remain economically competitive in a marketplace focused on global communications and trade (Williams, 2006).

International study programs extend the focus of learning beyond boundaries of the traditional classroom and enable students to experience as well as thrive in diverse environments (Hulstrand, 2006). Current models commonly feature faculty-directed short-term programs with Western European destinations. However, increased interest is growing for programs in Asia, Latin America, Australia and programs offered by host country institutions (USNEI, n.d.).

Cultural Adaptability

Cultural adaptability is the ability of individuals to adapt to other cultures with common yet different feelings, perceptions, and experiences. Cultural adaptability facilitates intercultural effectiveness and the ability to develop synergy among individuals in new and different environments (Harris & Moran, 1991). Cultural adaptability is evident among individuals who possess the ability to respond respectfully and effectively to people of all cultures, classes, races, ethnic backgrounds, beliefs, and faiths in a manner that recognizes, affirms, and values the worth of individuals, families, and communities (Indiana, 2007).

The purpose of this study was to measure the effect of study abroad on the cultural adaptability of merchandising students. Four dimensions, or aspects of cultural adaptability, framed the study and served as dependent variables for statistical analysis.

Emotional Resilience (ER) describes the degree to which an individual can avoid or rebound from frustration, confusion, “culture shock” and/or loneliness and react positively to new experiences and environments (Davis and Finney, 2006).

Flexibility/Openness (FO) means the extent to which a person reacts to the differences encountered in a cross-cultural experience with tolerance, lack of rigidity, comfort and the ability to maintain relationships with a variety of people (Davis and Finney, 2006).

Perceptual Acuity (PAC) is the extent to which a person pays attention to and perceives various aspects of the environment. Unfamiliar languages, customs and behaviors require attentiveness to verbal and nonverbal cues for accurate and positive perceptions of the emotions, sensitivities, logic, and coherence of other cultures (Dinges, 1983).

Personal Autonomy (PA) identifies the extent to which an individual is able to exhibit a personal system of values and beliefs while respecting the value systems of others. Behaviors consistent with this trait are self-knowledge; a strong sense of identity, personal values and beliefs; responsibility for actions; and respect of others (Davis and Finney, 2006).

Method

Fifty-five merchandising majors participated in a pretest/post-test comparison of cultural adaptability (CA). Students completed three-week summer study abroad programs offered by two universities during a period of four years. Similar itineraries and learning experiences were offered to students in France (65.4%) and Italy (34.6%). Preparatory study involved on-campus lectures related to specific courses within the major as well the culture, history, and geography of the host countries.

Participants were typically junior or senior level merchandising students, Caucasian, and 20 to 21 years of age. Most students reported some previous foreign language study (X = 4.5 years) although few spoke with fluency. In addition, foreign travel experience (81.3%) was common among participants.

Instrument
The Cross Cultural Adaptability Inventory (CCAI) was administered by faculty during required, on-campus seminars held prior to and after study abroad participation. Likert-type responses to the 50-question, self-assessment instrument yielded a composite score and four subscale scores for each of the skill sets associated with Cultural Adaptability: Emotional Resilience, Flexibility/Openness, Perceptual Acuity, and Personal Autonomy (Kelley & Meyers, 1995).

Procedures and Analysis
Paired samples t-tests were used to compare the pre- and post-test scores for each of the four cultural adaptability dimensions. Combined pre-test scores were compared to combined post-test scores in this same manner to determine the overall change in cultural adaptability. Multivariate analysis and descriptive statistics were used to measure changes in cultural adaptability based on demographic and program characteristics.

Table 1.

Paired samples t-tests: Evaluation of CCAI pre-test and post-test scores.

Source	Mean Pre-test	Scores Post-test	Df	Mean Difference	T	p<
CA Total	216.298	231.824	56	15.526	-8.150	.000**
ER	81.491	83.280	56	1.789	-2.192	.033*
FO	57.859	65.561	56	7.701	-8.912	.000**
PAC	34.421	47.842	56	13.421	-16.669	.000**
PA	33.486	34.275	56	.789	-1.005	.319
**Significant at the .01 level			* Significant at the .05 level			

Results

Students' combined post-test scores (CA) improved significantly after participation in a study abroad program, t (56) = 8.15, p < .000. Post–test scores increased for all four dimensions of cultural adaptability. Significant increases emerged for Emotional Resilience (H1a), t = (56), = 5.80, p < .033; Flexibility/Openness (H1b), (56) = 8.912, p < .000; and Personal Acuity (H1c), t (56) = 16.699, p < .000. Personal Autonomy (H1d) scores increased minimally, t (56) = 1.005, p < .319. (See Table 1)

Cultural adaptability scores were influenced by two demographic variables (H2). Data showed that Flexibility/Openness increased significantly with age F = (4, 17.199) = 3.443 = p < .035 and years of foreign language F = (4, 34.840) = 3.871 = p < .029. No significant differences in cultural adaptability scores were found based on program variables: university affiliation (H3), (private or public), destination (France or Italy), or program year.

Conclusions and Implications

Study abroad programs provide a successful means to achieve a common goal of colleges and universities--to increase world-mindedness of students (Williams, 2006). Cultural adaptability deserves special emphasis in study abroad and regular academic programs preparing students for careers that provide goods and services to diverse consumer markets of international scope and nature.

Merchandising students who participated in study abroad programs to France and Italy experienced personal growth and increased ability to react positively with flexibility, confidence and appreciation for new environments and learning opportunities. Cultural adaptability deserves special emphasis in study abroad and regular academic programs designed to prepare students for careers that provide goods and services to diverse, international consumer markets.

Cultural adaptability should be addressed directly as a core concept of regular academic and study abroad programs. Knowledge of the world's diverse nature should pervade merchandising, consumer, and study abroad programs (Spencer & Tuma, 2002). Suggested learning activities for general audiences are provided in the *Cross Cultural Adaptability Inventory Manual* (Kelley & Meyers, 1995). Learning activities and strategies specific to merchandising programs could include:

(1) Introduction of conversational language skills for retail environments.
(2) Development of apparel and fashion related consumer products targeted to diverse market segments.
(3) Participation in community service learning opportunities.
(4) Design or analysis of culturally appropriate retail products and interior spaces with promotional and merchandising strategies (including language, images, and media outlets).

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Career Satisfaction and Educational Needs of Secondary FCS Teachers in Texas

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Background

Texas is experiencing the continuing Family and Consumer Sciences (FCS) secondary teacher shortage that has been seen for several years across the nation (Miller & Meszaros, 1999; McGinnis, 2004; Tripp, 2006; Werhan & Way, 2006). Retaining current teachers is necessary to keep FCS classrooms thriving as well as to recruit future teachers into the profession. Career satisfaction was shown to be high among FCS teachers in Missouri, with 87% being either very satisfied or somewhat satisfied (Mimbs, 2000). In addition, 97% of FCS teachers in California reported being either very, usually, or somewhat satisfied (Tripp, 2006).

Remaining current both in content and in educational practice is an important element in career satisfaction, and updates may be obtained through graduate education or through attendance and participation in professional conferences. To meet the educational needs of secondary FCS teachers, institutions of higher education are expanding venues, particularly in electronic arenas. In fact, Moller, Foshay, and Huett (2008, p. 66) contend that distance learning "… is rapidly transforming post-secondary education." This is particularly true for non-traditional students who have family and/or job obligations that prohibit them from participating in on-campus classes, especially with time and/or geographic restraints, but who still need graduate-level coursework (Summers, Waigandt, & Whittaker, 2005).

Purpose

The purpose of this study was to determine specific factors that contribute to career satisfaction so that dissatisfaction can be addressed before it leads to lower retention of FCS teachers. In addition, universities with graduate programs in family and consumer sciences education need to be aware of educational needs of this population so that they can plan curriculum offerings accordingly. In so many ways, the future of the discipline rests with this group of professionals.

Methodology

Beginning in the summer of 2007, a survey conducted with FCS teachers in California (Tripp, 2006) was adapted and replicated in Texas. Permission to conduct the study was granted by the university IRB, and the survey was administered in two ways: 1) a survey was distributed at the annual Tri-Cluster Professional Development Conference along with a letter of explanation and an addressed, postage-paid return envelope, resulting in 248 usable responses, and 2) an electronic survey was sent to members of the Family and Consumer Sciences Teachers Association of Texas with the request that those who had responded to the conference survey not respond a second time; 220 responses were received, yielding a combined total of 468 responses. Descriptive statistics of responses to the survey are used in this paper to report the teachers' level of career satisfaction and perceived educational needs.

Findings

Career satisfaction among secondary FCS teachers in the state of Texas was lower that that of states cited above; 83.9% of teachers answered that they were either "usually satisfied" (32.9%) or "very satisfied" (51%) with their careers. Several items were cited as having the potential to increase career satisfaction. Respondents (51.4%) stated that an increase in salary would increase career satisfaction, and 40.8% indicated that greater administrative support of family and consumer sciences programs would increase career satisfaction. A smaller group (21.4%) believed that career satisfaction would be enhanced with smaller class sizes, and the same percentage indicated that more curriculum resources would increase career satisfaction.

Approximately half of the respondents (52.6%) expressed interest in enrolling in graduate courses, and specific content areas were cited (see below). Regarding their reason(s) for interest, 31.8% stated that graduate work would be helpful to update content knowledge for courses currently taught, and 30.1% wanted to apply graduate work toward an advanced degree. Because respondents were asked to check "all that apply," a strong likelihood exists that some responses are overlapping (i.e., update content and apply courses toward a graduate degree simultaneously).

Many respondents expressed interest in alternative delivery formats, such as live interactive televised delivery (26.1%) and online delivery (47.6%) of courses. Comments indicated that while online delivery could be an option for busy schedules and geographic distances, many wanted a format with "live faces." Some also expressed interest in combining options – courses known as "hybrid" courses done partially with live delivery and partially through an online format.

Respondents expressed interest in updates for all of the various content areas that fall within the family and consumer sciences discipline. The most requested areas for content update were food science and nutrition (34.6%), child development and guidance (29.7%), leadership (28.6%), and parenting (25%). Many respondents (31.6%) expressed interest in receiving a comprehensive update in all areas of family and consumer sciences. The least-requested areas included consumer studies (13%), occupational family and consumer sciences (12.6%), and fashion merchandising (9.2%). In the open comment section that accompanied this series of questions, service learning and career education/administration courses also were mentioned; several respondents noted that upcoming retirement plans precluded a need for updating content.

Conclusions, Implications, and Recommendations

From the responses, it can be concluded that, while family and consumer sciences teachers generally were satisfied with their career choice, career satisfaction in Texas does not nearly equal that of California's teachers and falls below those in Missouri. Courses to update teachers in specific content areas could improve satisfaction, and this problem is best addressed by FCS departments within institutions of higher education. Online and hybrid delivery formats would be helpful in attracting this population, and courses could be used both to update content and toward a graduate degree. The relatively high response to the idea of a course that incorporates updating content across the FCS discipline (31.6%) indicates that this offering would be extremely helpful to FCS teachers. Such a course could be team-taught by several members of a single department or across several departments for some universities without heavily impacting course loads for faculty.

Cross-listing existing graduate courses from related departments and programs is another way to meet updating content needs. For example, child development and guidance is one area where teachers expressed a need for updating content information. If a course taught within a university's education college could meet this need, that course could be taken as part of a master's degree in family and consumer sciences and substituted for a course in the major, given cooperation between the department or college offering the course and the FCS unit.

Universities with graduate programs in family and consumer sciences may explore the possibility of establishing a state-wide or regional distance education alliance, patterned on the one available to students pursuing certification in Texas, for FCS teachers to use in pursuing the master's degree. Alternative delivery methods, and especially interactive televised classes, should be explored, along with hybrid delivery methods where some class sessions meet in a "face-to-face" format (in person or televised) while other class meetings are held online. Traditional online delivery is attractive to many, especially if the online delivery allows for papers and exams to be completed during evening or weekend hours. A survey of secondary FCS teachers within geographic range of a university program would yield data that could give direction to curriculum development.

In summary, there are various ways and means of reaching this population to increase career satisfaction, provide updated content, and encourage secondary FCS teachers to pursue graduate education. A more highly educated group of teachers will serve to enhance the strength of the discipline at the state and national levels, and will help to ensure that future students are recruited into various sectors of the discipline through their high school experiences.

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Prominent Issues of Conflict between Adolescents and Parents in Latino Families

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Introduction

Family and consumer sciences educators and practitioners are challenged to develop educational programs and provide support services to an ever increasing culturally, ethnically, and racially diverse population. The 2000 U.S. Census revealed that nearly one-third of the nation's population belonged to various minority groups (Taylor, 2002), and it was projected that the U.S. population would be fully multicultural in the 21st century, equally divided between European Americans (White) and those of other racial/ethnic groups (McLoyd, Cause, Takeuchi, & Wilson, 2000). This projection will become a reality by mid-century, with the minority population expected to be the majority by 2042 (U.S. Census, 2008a.). By far, the fastest growing segment in the U.S. population and the largest minority group is the Hispanic or Latino population, currently comprising just over 15% of the U.S. population (45.5 million), but expected to triple between now and mid-century (U.S. Census, 2008b).

This large group of Hispanic individuals and families brings culture-specific ideologies, values, and family socialization practices as well as interaction patterns that differentiate them from mainstream White families (Garcia Coll, Lamberty, Jenkins, McAdoo, Crnic, Wasik, & Garcia, 1996; Halgunseth, Ispa, & Rudy, 2006; McLoyd et al., 2000; Smokowski, Rose & Bacallao, 2008; Vega, 1990). The period in the family life of Latino families during which differential patterns of parent-child interactions are more likely to be evident is adolescence, the period marked by transformations and reorganization in family relationships, resulting from maturational and psychosocial developmental changes in adolescents during this stage, and reflected in increasing independence, emotional separation from parents, and the greater salience of peers and friends (Steinberg & Morris, 2001). A considerable body of evidence has shown that the changes in parent-adolescent relationships during adolescence, especially during the early adolescent years marked by the onset of puberty, is accompanied by increasing levels of conflict in mainstream White families (Allison & Schultz, 2004; Laursen & Collins, 1994).

Acculturation, Parenting Practices, and Conflict

Latino families place great value on family harmony, a strong sense of family obligation and parental authority (*familism*), and respect for elders and parents (*respeto*). Latino children are taught that harmony within the family and deference to others is important, and that argumentative behavior is disrespectful and socially unacceptable (Castro, Boyer, & Balcazar, 2000; Valdes, 1996). These values are reinforced in Latino families through a parenting style that has been described as strict and controlling (Halgunseth et al., 2006). Given these values and socialization practices, it might be thought that parent-adolescent conflict would be at low levels, compared to White families. However, this is not the case, as research has demonstrated that there is a heightened level of conflict between adolescents and their parents in Latino families (Gil & Vega, 1996; McQueen, Getz & Bray, 2003; Smokowski et al., 2008). In attempting to determine the reasons for this level of conflict, given the strong value placed on harmony and parental authority, researchers have focused on the acculturation process and adolescents' involvement in, and identification with, the 'host culture', and on conflicts ensuing from their adaptation to the mainstream culture (McLoyd et al., 2000; Smokowski et al., 2008). Further, there is evidence that these family tensions are associated with problem behavior, adjustment problems, and substance abuse (Gonzales, Deardorff, Formoso, Barr, & Barrera, 2006; McQueen et al., 2003; Pasch, Deardorff, Tschann, Flores, Penilla & Pantoja, 2006; Smokowski & Bacallao, 2006; Vega & Gil, 1998).

Purpose

While research has demonstrated heightened conflict between adolescents and their parents in Latino families, the purpose of the present study was to identify the specific issues generating conflict in these families, especially during the early years of adolescence. Given the results of existing studies, it is expected that disagreements would center around behavior problems and disrespectful behavior exhibited by adolescents, and behaviors that appear to be in conflict with the values of their parents and their culture of origin.

Methodology

A total of 283 young adolescents (ages 11-14 years) participated in the study, including 98 Latinos (38 males; 60 females) and 185 White youth (89 males; 96 females). The participants were students in grades 6, 7, and 8 in two middle schools near Orlando FL. The schools reported that most of their Latino students were of Mexican heritage.

Adolescent-parent conflict was assessed via responses of adolescents to the *Issues Checklist* (Prinz, Foster, Kent, & O'Leary, 1979) consisting of 40 issues (items) representing potential areas of conflict between adolescents and their parents (e.g., *talking back to parents; smoking*). For each issue, the adolescent was asked to indicate whether or not it had been a topic of conversation during the last month via a 'Yes' (*scored as 1*) or 'No' response (*scored as 0*).

After obtaining the permission of school principals and parents of the adolescents, the instrument was administered to the students in each of the participating classrooms.

Analysis and Results

Based on the previous research on parental values prevalent in Latino families, the acculturation process and parent-adolescent conflict, a total of 10 issues were selected from the *Issues Checklist* that would be expected to be issues of conflict in these families. These issues included adolescent displays of disrespect for their parents (*talking back to parents*; *cursing*), behavior disrupting the harmony in the family (*fighting with siblings)*, troublesome behavior *(coming home late; getting into trouble; being late for school; lying)*, and issues pertaining to substance abuse (*smoking; drinking beer/alcohol; drug use*).

The unit of analysis was the *frequency of conflict* over each of these 10 issues, determined by calculating the total number of times each issue was marked 'Yes' (*scored as 1*) by the adolescents in each of the two groups, and then converting these total frequencies into percentages to yield the *Mean Rate of Endorsement* (*%*) for each of the 10 issues in each group. The *Mean Endorsement Rates* for each of the 10 target issues for both the Latino and White adolescents are presented in Table 1, figures that show higher *mean endorsement rates* by the adolescents in the Latino group than in the White group across all 10 issues. The results of a series of *t-test* analyses, also reported in Table 1, revealed that the group differences were significant in each case.

Table 1

Frequency of Parent-Adolescent Conflict Over 10 Salient Issues in Latino (n = 98) and White Families (n = 185): Mean Endorsement Rates and Group Comparisons

	Mean Rates of Endorsement				
	Latino Families		White Families		
Issues	M	SD	M	SD	t
Fighting with siblings	.77	5.65	.67	13.38	6.69***
Talking back to Parents	.60	10.68	.56	8.48	2.27*
Cursing	.45	15.36	.33	5.10	3.53***
Getting Into Trouble	. 58	7.35	.43	7.81	15.28***
Lying	.47	12.04	.30	10.91	11.50***
Getting to school late	.46	13.89	.30	9.38	11.22***
Coming home late	.50	19.92	.39	4.58	6.53***
Smoking	.41	18.60	. 26	8.60	8.72***
Drinking beer/alcohol	.42	17.23	.24	11.44	10.08***
Drugs	.47	19.16	.28	13.34	9.73***

* $p < .05$. *** $p < .001$.

Finally, and not surprisingly, there was more conflict between Latino parents and their sons than with their daughters across these 10 issues, t (96) = 2.415, $p < .05$.

Conclusions and Implications

The findings of this study demonstrated a heightened level of conflict between young adolescents and their parents in Latino families, consistent with the previous research (Smokowski et al., 2008). More importantly, this study identified specific issues generating conflict in these families, including problematic behaviors and characteristics displayed by Latino adolescents that were inconsistent with Latino cultural and family values and expectations, possibly reflecting a turning away from their culture of origin towards greater involvement in U.S. culture as part of the acculturation process (Smokowski et al., 2008).

There are a number of implications of these results and this literature for FCS professionals. First, the involvement of Latino adolescents in the host culture in America may very well bring a heightened level of conflict between these adolescents and their parents, and this conflict will likely be generated by a number of particularly volatile or 'hot' issues that are manifested during the early years of adolescence. Further, given the increasing representation of Latinos in the U.S. population, it is important that FCS educators and program planners recognize, respect, and be informed about the distinguishing traditions, values, socialization patterns, and family dynamics in Latino families. A multicultural perspective is imperative in our work.

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The Responses of Children and Adolescents to the Military Deployment of a Parent: A Brief Review of Literature

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The presence of the United States Military in Iraq and Afghanistan remains substantial with approximately 140,000 service members deployed to operations in these areas (Cavallaro, 2008). Although changes in policy may mean decreased deployments to Iraq, military families will likely face the consequences of a high operations tempo for some time to come. They will continue to find ways to cope and adapt while the service member is gone for months at a time. With approximately 155,000 children currently experiencing the deployment of a parent (NMFA, 2008) it behooves those who interact with military families to learn about the unique stress experienced by these young people.

Deployment Separation Stress

Military spouses routinely identify separations as one of the most difficult parts of military life (Black, 1993; Knox & Price, 1999) and the "most disruptive or harmful" aspect of service to family life (Segal, 1986). Notably, these perceptions were gathered before the historic increase in the number and length of deployments of the last few years. Research of the 1990s indicated that, for spouses, loneliness, decreased emotional support, and changes in family roles, responsibility, and routines can accompany deployment separations (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008). These effects may have been exacerbated in the current military climate. Indeed, researchers continue to find separations quite difficult for military families (e.g., Faber et al., 2008).

Although most studies have sampled service members and spouses, there is some evidence that children in military families, are also strongly impacted by deployment. For instance, one study found separations had even more negative impact on adolescents than the death of a parent (Canetti et al., 2000). However, little research has been done exploring how families, children, and adolescents have responded to the lengthy, multiple, often back-to-back deployments of the past seven years of conflict in Iraq and Afghanistan.

Family systems theory would suggest that it is impossible for the absence of a parent *not* to have an impact on family functioning. Boss' (1983, 2002; Boss & Greenberg, 1984) concept of ambiguous absence, (i.e., physical absence and psychological presence) is particularly applicable to the family's experience while the service member is away. Upon return families may face the ambiguous presence (i.e., the physical presence but psychological absence) of the service member. The literature suggests this is so, documenting that upon return the service member may not readily re-integrate into the family, particularly if faced with a subsequent scheduled deployment (e.g., Drummet, Coleman, & Cable, 2003; Faber et al., 2008; NMFA, 2005).

The Experience of the Military Child

Children in military families experience not only with the normative stress typical for their stage of development (i.e., for adolescents the development of autonomy, identity formation), but also with unique stressors related to their parent's military service. In addition to the deployment-related stress, they are challenged by frequent relocations, separation from extended family, and knowing that a parent may be in harm's way. Although these may be considered 'normative' for military families, they are also potentially very stressful (MacDermid, Samper, Schwarz, Nishida, & Nyaronga, 2008).

Relationships have been found between parents' deployments and children's/adolescents' behavior (Hillenbrand, 1976; Yeatman, 1981), irritability and depression (Hillenbrand, 1976; Jensen, Martin, & Watanabe, 1996; Levai, Kaplan, Ackermann, & Hammock, 1995), decreases in academic performance (Hiew, 1992; Yeatman, 1981), discipline problems at home and at school (Rosen, Teitelbaum, & Westhuis, 1993), and impulsiveness (Hillenbrand, 1976). Jensen, Grogan, Xenakis, and Bain (1989) found increased levels of anxiety in children related to the fathers' deployment. However, in a 1996 study Jensen, Martin, and Watanabe found no increased levels of anxiety or behavioral problems for children of deployed parents. Age and sex may influence the response of the child to the deployment of a parent. Boys and younger children seemed to have more difficulty with deployment than girls and older children (Jensen, Martin, & Watanabe, 1996).

Most information about children's or adolescents' responses to deployment is drawn from studies completed in the last century (e.g., Hiew, 1992; Hillenbrand, 1976; Jensen, Martin, & Watanabe, 1996; Rosen, Teitelbaum, & Westhuis, 1993; Yeatman, 1981); studies undertaken when deployments were remarkably different than recent war-time deployments. For military families the last seven years have included significant risk to the service member of injury or death, lengthy time away from home (i.e., routinely 12 months for Active Component soldiers and 15 months for Reserve and Guard Component soldiers), multiple back-to-back deployments, and the continuation of the conflicts for several years (NMFA, 2005) added to the typical stress of earlier deployments.

Two fairly recent studies have added to understanding children's experience with current deployments. Rand Center for Military Health Policy Research (2008) found that military children dealing with deployment may have higher levels of emotional and behavioral problems than what is expected in the general population. They also found that positive cognitive strategies were used by adolescents to manage stress. Huebner and Mancini (2005) found evidence of resiliency as adolescents dealt with the day-to-day changes that accompany deployment of a parent. Although deployment was seen as a negative event, adolescents reported that they willingly shouldered extra responsibilities during that time. Some reported symptoms that could be related to depression (e.g., decreased academic performance) and curtailed involvement in extra-curricular activities due to challenges related to the deployment including disruption of family routines. Adolescents may be prematurely taking-on adult roles as many reported they often felt responsible for the care of younger children and the emotional support of family members (e.g., protection of the 'home front' parent and siblings from stress).

Military families have always been challenged with deployment separations, although not to the extremes they have recently encountered. There is a need to learn more about how children and adolescents in those families experience deployment. More clearly understanding how children and adolescents perceive deployment and the related family stress, as well as their typical responses to the event could help school personnel and others working with this population target services to those who are most at-risk for decreased functioning and increased concern during the deployment of a parent.

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Rebuilding the Family Unit: The Importance of Having the African American Father/Child Relationship

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Introduction

In the year 2000 there were an estimated 281.4 million Americans residing in the United States (U.S. Census Bureau, 2001) and 36.2 million people, or 13% of the population considered themselves African American. Childtrends tracks statistical data of families in America, and reports in 2005, 69.5 percent of African American women who gave birth were unmarried, compared to 63.3 percent American Indians and 47.9 percent Hispanic (2005). A broad range of variables attribute to these phenomena and affect the functions of the family, i.e., socioeconomic status, ethnicity and family structure (McCreary & Dancy, 2004). The well-being of a child can be contributed to a strong family structure which involves a father and mother. The negative outcomes of the disjointed African American family can be contributed to or result from divorce, the abandonment of an unborn child, or in some cases death. Single African American women are raising their children without a father in the home at an alarming rate.

According to Seltzer (2000), children born to unmarried mothers are more likely to be poor, grow up in a single-parent home structure and experience multigenerational living arrangements. Childtrends reported that only 35 percent of Black children lived in a two parent home in 2005 compared to 84% of Asian, 76% of Caucasian and 65% of Hispanic children (2005).When examining the root cause of children living in a fatherless home, one must examine the historical and cultural aspect of the African American family (Allen, 1978).

Researchers have theorized that the act of slavery (which occurred over four hundred years ago) is a contributing factor to the break-up of the African American home today. Slaves brought to America from Africa were forced to separate as families, separating the father from the family and leaving the mother to raise the children. Sciara and Jantz (1974) write that White masters forced family breakups, favored females, and established controls to force Black males into a subdominant position. The matrifocal (or mother centered) family system for Blacks in slavery became the norm; not because it was desired by Black people, but because it was forced upon them.

Family Structure

The lack of a strong family structure can have detrimental affects on the African American child. Examining the importance of the father's role can predict the outcome of a child's behavior. According to McLeod and Kaiser (2004), educational failure, as well as child's mental health and disruptive behavior, can be a contributing factor later in a child's life (Harrington et al., 1990). According to Sheline, Skipper, & Broadhead (1994), children who live without a father present in the home are 11 times more likely to become violent and 6 times more likely to have parents not married.

Adolescent delinquency, alcohol and drug use, tobacco use, lower self-esteem, and leaving school before graduation are all associated with the African American father's absence from the home. A father can build a strong foundation by establishing a father-child attachment. This can occur when the father shares in the responsibility of parenting and spending time with the child. Getting involved with child's activities outside the home has been predicted to build a strong socio-behavioral outcome for the child (Amato & Rivera, 1999; Harris, Furstenberg, & Marmer, 1998; Lamb, 2004; Marsiglio, Amato, Day, & Lamb, 2000).

Gender Role Development and African American Boys

Gender role development has been a highly researched topic, but how it affects various cultures and diverse populations is still to be researched (Harris, 1996; Hilton & Haldeman, 1991; Hofferth & Anderson, 2003; Hunter & Davis, 1992; Ruble & Margin, 2000). A study by Hetherington (1966) showed the difference in gender role development between European boys and African American boys at the age of five. Boys who had no father living in the home had fewer gender type traits and involved themselves less in physical games and were less aggressive than boys who had fathers in the home. A study of 40 boys conducted by Kodandaram also found that 20 father- absent boys showed more feminine traits than the 20 father present boys (1991). Research conducted with girls showed no gendered type differences between father absent and father present girls because girls still had their own sex as a role model. (Beaty, 1995; Ruble & Martin, 2000).

The Extended Family Network

There are many claims that a child growing up without a father in the home is destined for destruction. But research has shown that African American single mothers often receive support from a social and economic standpoint from the extended family (McCord, 1982). Also, the love and support from the extended family may serve to minimize the detrimental effects a child may experience. According to Franklin and Boyd-Franklin (1985), African Americans traditionally have had the value and belief system of raising children, grandchildren, nieces and nephews as a communal task to be shared by all members of the community. Contrary to previous reports, it is believed that a child growing up with warmth, love and support from the extended family can in some cases benefit more than a child growing up in a traditional two parent home (Brown, Hutchinson, Valutis, & White, 1989). It is important to understand that as family diversity continues to grow, researchers must realize the importance of the multigenerational bond (Bengtson, 2001).

Academic Achievement

Children perform better academically if they live in a two-parent home versus a single parent home. The family structure is vitally important for a child's academic development and achievement (Johnson, 1992). Wasserman (1972) examined the relationship between 117 African American boys who lived in father absent homes and resided in housing projects. The ages of these boys ranged from elementary to high school. The results showed there was no difference in the performance of the boys. He stated with both groups adequate performance of ("C average and age-appropriate grade level attainment") was found among 35% of the boys under 12 years of age, but this performance level was reached by only 15% of those boys aged 12 and over (Wasserman, 1972, pp.137-141).

Implications

Research has also shown the risk of deviant behavior increases regardless of a child's ethnicity, family structure or a mother marrying for a second time (Amato, 2000; Cherlin, 1999; McLanahan & Sandefur, 1994). It is very obvious that the family structure has drastically changed over the last sixty years, and the family structure is just as important today as it was decades ago. Black children born into a single parent home have a greater risk of living in an impoverished environment; black children are also at risk for developing behavioral problems, lower self-esteem, and lower academic achievement scores. It is suggested that a Black child can still grow up to be successful if he has a supportive father, whether he lives in or out of the home. Wilson and Tolson (1988) suggest that the diversity of the African American family structure and involvement has not only been dependent upon the traditional two-parent home but the extended kinship that has for decades characterized family life in the African-American community. This is the model for survival in the family structure and in the larger Black community. The good news is that if a single mother has the love and support from the extended family, the child will have a greater opportunity to succeed.

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The Relationships between Perceived Parenting Style, Academic Self-Efficacy and College Adjustment of Freshman Students

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Introduction

Student adjustment to college is a universal experience shared by all entering first-year students (Lu, 1994). Student adjustment affects numerous domains of a student's life, including academic, personal-emotional, and social. The ability of a student to successfully adjust to college is related to a positive college experience, whereas unsuccessful adjustment is related to negative college experience (Baker & Siryk, 1986, 1999; DeBerard, Spielmans, & Julka, 2004; Lapsley, Rice, & Shadid, 1989; McGaha & Fitzpatrick, 2005) and increased likelihood of college termination (Astin & Astin, 1992; Tinto, 1993). Research has shown a relationship between self-efficacy and college adjustment (Chemers, Hu, & Garcia, 2001; Devonport & Lane 2006; Elias & Loomis, 2000; Hall & Ponton, 2005; Lent, Brown, & Larkin, 1984, 1986; Tong & Song 2004; Wilson, 2002) as well as a relationship between parenting style and college adjustment (Beyers & Goossens, 2003; Chao, 2001; Gonzalez, 2001; Hickman, Toews & Andrews, 2001; Mason, 2005; Strage, 1998; Wintre & Yaffe, 2000).

Style of parenting has either negative or positive effects on various aspects of adjustment, including academic performance and achievement, social adjustment, and personal-emotional adjustment (Beyers & Goossens, 2003; Mason, 2005; Strage, 1998; Wintre & Yaffe, 2000). Academic self-efficacy relates to numerous aspects of college adjustment, including academic performance and achievement, social adjustment, and personal-emotional adjustment. Weak self-efficacy is correlated with university withdrawal, lower grades, and more frequent changes in major selection. Strong self-efficacy is associated with higher levels of student well-being, higher grades, and longer enrollment in college (Chemers et al., 2001; Devonport & Lane, 2006; Elias & Loomis, 2000; Hall & Ponton, 2005; Lent et al., 1984, 1986; Tong & Song, 2004; Wilson, 2002).

The purpose of this exploratory study was to examine the relationships between perceived parenting style, academic self-efficacy, and college adjustment of freshman engineering students. The hypotheses for this study were as follows: (a) a relationship exists between ratings of mothers' parenting style and academic self-efficacy scores of students, (b) a relationship exists between ratings of fathers' parenting style and academic self-efficacy scores of students, (c) a relationship exists between ratings of mothers' parenting style and mean scores on college adjustment of students, (d) a relationship exists between ratings of fathers' parenting style and mean scores on college adjustment of students, and (e) students who display strong academic self-efficacy will have higher mean scores on college adjustment than students who display weak self-efficacy.

Methodology

Participants included 27 male and 4 female, English-speaking, freshman students recruited from a large public Southwestern university in a metropolitan area. Participants were enrolled in a freshman level computer programming course designated for engineering majors only. The computer programming course was chosen because it is the only common course required of all engineering programs at the university. Engineering students were chosen because of a particularly high level of attrition and because there is little research about factors such as adjustment and parenting compared to family and consumer sciences and other majors. The measures used in this research study were the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999), the Parental Authority Questionnaire (PAQ) (Buri, 1991), and the Academic Self-Efficacy Scale (ASES) (Elias & Loomis, 2000).

The SACQ (Baker & Siryk, 1999) is a 67-item questionnaire with each item a statement to which the participant responds on a 9-point Likert scale ranging from 1 (doesn't apply to me at all) to 9 (applies very closely to me). The SACQ provides a Full-Scale adaptation score as well as 4 sub-scale scores relating to different aspects of college adjustment including (a) Academic Adjustment, (b) Social Adjustment, (c) Personal-Emotional Adjustment, and (d) Goal Commitment/Institutional Attachment. The PAQ (Buri, 1991) is a questionnaire which consists of separate evaluations of mothers' and fathers' parenting style (30-items for each parent). Scores are categorized as: (a) mother's authoritativeness, (b) mother's authoritarianism, (c) mother's permissiveness, (d) fathers' authoritativeness, (e) father's authoritarianism, and (f) father's permissiveness. Participants responded to only questions 23-34 of the ASES (Elias & Loomis, 2000), questions applicable to general self-efficacy of all university students, with each item a statement to which the participant responds on a 9-point Likert scale ranging from 1 (no academic confidence) to 10 (total academic confidence).

Data analysis was calculated from participants' responses to a demographics survey, the SACQ, the PAQ, and the ASES. Mean scores were computed for all data to determine if the data was normally distributed. Hypotheses 1, 2, 3, and 4 were analyzed using Chi-square and Pearson's correlation. Hypothesis 5 was analyzed by a *t*-test.

Results

The hypothesis that a relationship exists between parenting styles, as measured by the Parental Authority Questionnaire (PAQ), and academic self-efficacy, as measured by the Academic Self-Efficacy Scale (ASES), of freshman engineering students was partially supported by this data. A relationship was shown to exist between maternal parenting and academic self-efficacy, $x^2 (1, N = 29) = 4.97$, $p = .03$, although no relationship was shown to exist between paternal parenting and academic self-efficacy. Students whose mothers were categorized as authoritative reported stronger academic self-efficacy. This indicates maternal authoritativeness results in stronger academic self-efficacy in these freshman engineering students. This supports previous research which reports authoritative parenting is associated with higher levels of various aspects of academic self-efficacy (Chao, 2001; Strage, 1998).

Parenting style of mothers was not found to be related to college adjustment when using the total score of the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999). Although not significant, the correlation between authoritative paternal parenting and college adjustment was moderate and indicated a positive trend, $r(29) = .32$, $p = .09$.

Analyses were conducted to investigate whether a relationship exists between maternal and paternal parenting style and academic adjustment, as measured by the PAQ, and SACQ sub-scales. Based on correlation analysis, a positive, moderate, and significant relationship was found between both maternal, $r(29) = .388$, $p = .031$, and paternal, $r (29) = .462$, $p = .009$, authoritative parenting and the SACQ sub-scale of academic adjustment. A negative, moderate, and significant relationship was found between authoritarian maternal, $r(29) = -.424$, $p = .017$, and paternal, $r(29) = -.402$, $p = .025$, parenting and the SACQ sub-scale of academic adjustment. Although the sample was small, these findings suggest authoritative parenting results in better academic adjustment and authoritarian parenting results in poorer academic adjustment of students.

Implications

Individual well-being of college students has as its foundation the family systems of which students are a part. These research findings indicate that maternal authoritativeness results in stronger academic self-efficacy in freshman students. These findings also suggest that authoritative parenting results in better academic adjustment and authoritarian parenting in poorer academic adjustment of freshman students. There is a need to educate parents about the first year transition into college. Family professionals and university representatives can inform parents of the importance of authoritative relationships with their college-bound children. Secondary and postsecondary academic programming may be implemented which addresses the influence of family dynamics on students' transition, academic success, retention, and attrition during the freshman year. Researchers in Family and Consumer Sciences are encouraged to conduct research with larger samples of engineering college students and college students with different majors. Family dynamics including educational attainment of parents, educational support of parents, parents' martial relationships, and sibling relationships may be explored to see if these characteristics affect aspects of adjustment in students to college.

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Compromising Quality for Cost: The Childcare Dilemma

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Introduction

The search for quality child care coupled with the expense of care leaves many parents in a conundrum. Parents may understand the importance of quality child care, but they might not have sufficient financial resources to cover the cost of quality care. Financial resource constraints often force parents to settle for low quality care. This paper examines the gap between the desire for high quality care and the ability to pay for it. Family financial resources impact choice along with the family's values and understanding of the child's needs.

The National Association of Child Care Resource and Referral Agencies [NACCRA] combines data collected from state and local Child Care Resource and Referral Agencies and national databases to release reports and research related to child care need, cost, quality, and availability in the U.S. The NACCRRA (2009c) reports that there are more than 1.2 million Texas children under age 6 whose parents are in the labor force and need child care. Parents must choose between regulated child care, such as licensed child care centers or family child care homes; and unregulated child care, such as relative care or babysitters. There are pros and cons to all child care arrangements; however, cost can be the final determining factor (Blau & Hagy, 1998; Brandon, 1999; Brandon & Hofferth, 2008; NACCRRA, 2009c; Van Horn, Ramey, Mulvihill, & Newall, 2001). Unregulated low quality care is often considerably less expensive than regulated high quality care (Blau & Mocan, 2002; NACCRRA, 2009c), but leaves parents without a system of accountability. In Texas, the average cost of preschool care is $6,084 per year and the average cost of infant care is $7,176 per year (NACCRRA, 2009a).

The Cost of Quality

Many parents report that child care arrangements were ultimately determined according to affordability, rather than quality (Blau & Hagy, 1998; Blau & Mocan, 2002; Brandon, 1999; Brandon & Hofferth, 2008; MACCRRA, 2008, 2009c). Child care as a percentage of family budget is high for families at all income levels. A single parent family with an income of $22,152 can expect to spend 32% for infant care in Texas and a two parent family with an income of $66,653 can expect to spend 11% (NACCRRA, 2009b). Matching the parent's values and the needs of the child with affordability can be a significant challenge for families. Ideally, a parent may want to send their child to a program that has highly qualified teachers, small classes, and an established curriculum. However, according to NACCRRA (2009c) child care that meets high quality care standards can cost as much as 30% more than low quality care. The cost of care has strong implications for families. Unregulated and low quality care can be less expensive, but costly in other ways. High quality, developmentally appropriate child care supports later success, particularly for children living in poverty (Blau, 2002).

Almost one-quarter of the nations 1,004 parents surveyed in NACCRRA's study (2008) reported alternating work schedules to avoid the high cost of child care. For parents working traditional work schedules and single-parent households this would not be a viable option. Among the parents survey, 30% reported using relative or kinship care as a tactic for avoiding the high cost of child care. While this type of care may have advantages it often lacks a system of accountability and quality of care in a regulated program. Lenient state licensing requirements for regulated centers and day homes in Texas ensure only a modicum of quality when compared to national standards. Continuity of care, in which a primary caregiver is consistently available to meet the needs of the child, may not occur because of a prevailing industry pattern of high staff turnover (Blau; NAEYC, 2004). In Texas, there are relatively high child-to-teacher ratios in classrooms, when compared to the recommendations of the National Association for the Education of Young Children's [NAEYC]. For example, licensing for the state of Texas requires that no more than five infants are cared for by one adult, while NAEYC recommends one caregiver to no more that three or four infants (Bredekamp & Copple, 1997). Texas also has relatively low expectations for staff training compared to the expectations of NAEYC. In Texas, caregivers in licensed homes or centers are required to complete 8 hours of pre-service training and 15 hours annually. NAEYC recommends that caregivers have a minimum of a two- or four-year degree in child development, early childhood education, or a related field, and complete 20 training hours annually.

Implications

Opportunity is what parents give up for their children by making child care choices based on affordability, regardless of whether the choice was true choice or a forced choice based on resource constraints. Child care impacts a child's development along with other variables such as hours spent in care, parental relationship, and quality of care (Blau, 2002; Brazelton & Greenspan, 2000; Deiner, 2009; NACCRRA, 2009c). Brazelton and Greenspan stated that "quality child care is essential to the optimal development of small children" (p. XIII). The researchers noted that only 10% of infants and toddlers are in high quality programs and that many parents do not even have access to high quality care assuming they could afford to pay. We have moved beyond the question of parental care versus out-of-home care as families have evolved to include two full-time wage-earners as well as numerous single-parent families. The question is which type of childcare setting is right for the child and affordable to the family. The reality is childcare is expensive and quality childcare is even more expensive (Blau; Blau & Hagy, 1989; Blau & Mocan, 2002; NACCRRA, 2009c, Van Horn et al., 2001). Parents must consider both their value system and available financial resources when making the choice of who cares for their child. Although some families are eligible for subsidies, there is limited funding to cover all low income families and no assistance is extended to middle-class families. Even among children from higher-income families, the average quality of care is identical to that of lower income children (Blau). Although child care choice is clearly impacted by constraints of family economics (Brandon, 1999), the supply of quality centers (Blau & Hagy) and an unwillingness to pay for much more quality (Blau), can have serious ramifications for the development and later success of young children. Choices for child care based on quality, values, and the needs of the child are essential if our children are to flourish in the 21st Century.

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Community Gardening Holds Promise for Public Health Challenges

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Rationale

Community gardening holds promise for increasing food security and improving diet quality and physical activity among people with limited resources while fostering civic engagement and community-building strategies (Glover & Parry 2005; Shinew, Glover, & Parry, 2004; Twiss, Dickinson, Kleinman, Paulsen, & Rilveria, 2003). Research shows that people with limited resources, food-insecure families, and racial-ethnic minorities are at greater risk for obesity and related chronic disease (U.S. Department of Health and Human Services, 2006). Key contributors associated with these public health issues include dietary intake of less-healthy, calorie dense foods and physical inactivity (Centers for Disease Control and Prevention, 2004a; 2004b). Lower income people in the U.S. are particularly vulnerable because nutritious foods are less affordable or difficult to find and leisure-time physical activity is limited, especially in dense urban-centered populations that lack adequate resources to support health promoting lifestyles (Drewnowski & Spector, 2004). Community gardening is gaining attention nationwide as a public health intervention that helps urban residents improve food security, increase physical activity, and decrease barriers to accessing affordable and convenient healthful food options (Alaimo, Packnett, Miles & Kruger, 2008).

Background: Developing a Community and Demonstration Garden

Health professions students in dietetics and nursing and faculty from Texas Christian University (TCU) partnered with the Tarrant County Master Gardener Association (Master Gardeners) and the Tarrant County Resource Connection (Resource Connection) in a community-based participatory research initiative. *Community Gardening for Active Citizenship* explores community gardening as a service-learning and community-building strategy that fosters skills for effective practice among health professions students and engages community members in learning about sustainable local-food systems and the health benefits of gardening. The two-acre demonstration community garden (Garden) is located on the Resource Connection campus – a unique, public-private collaboration on a 328-acre campus that promotes cross-agency cooperation and service integration for more than 40 different programs and serves over one thousand clients daily. The Resource Connection links people who have educational, employment, and health or human service needs with available resources. The Garden's mission is to provide a teaching and learning environment "designed to improve the health and quality of life for persons of all ages and abilities through education and application of current horticultural practices."

Purpose

The purpose of this research was to examine university health professions students' evaluation of the *Community Gardening for Active Citizenship* initiative as a service-learning and community-building strategy that fosters skills for effective public health practice.

Procedures

Research methods used in this study were approved by the Nutritional Sciences Review Committee for Human Research at Texas Christian University. Ninety-two junior and senior level dietetics and nursing health professions students participated in this study. Students were enrolled in public health practicum classes during the spring and fall semesters, 2007-2008. The service-learning activities for the Garden initiative helped students engage in community-based participatory research as partners and work with the community to enhance the community's capacity to promote its own health. Each semester, students participated in gardening classes, experiential training in the Garden, and outreach education for a local elementary school and agency staff and clients at the Resource Connection. Online evaluation of service-learning experiences for the Garden initiative and related application of knowledge and skills was assigned to students at specific timelines throughout the semester to assess learning outcomes during each phase of their training and outreach. Online Journey and Event Mapping (Kibel, 2004) provided the framework for designing evaluation instruments that would engage students in reflective practice to help capture their stories and perspectives about learning experiences related to the Garden and outreach education. Journey Mapping (nursing students; 30 questions/evaluation criteria) and Event Mapping (dietetics students; 20 questions/evaluation criteria) addressed discipline-specific learning progress for developing public health practice skills (American Nurses Association, 2007) and service-learning outcomes congruent with criteria identified by the Council for the Advancement of Standards in Higher Education (CAS, 2006). Journey and Event Mapping results were analyzed using SPSS-XVI (SPSS, 2008). Percentage of student responses and descriptive statistics were calculated to meet study objectives.

Results

Fall 2008 marks the fourth semester for engaging dietetics and nursing students in *Community Gardening for Active Citizenship*. Based on service-learning criteria and outcomes (CAS, 2006), the averaged 2007-2008 online Event Mapping evaluation results for dietetics students at the completion of each semester showed the majority thought the learning experiences at the Garden and outreach education emphasized student learning, community service, and civic responsibility (93%); strengthened the community and was a meaningful service to the community (86%); and enriched their knowledge and skills for practicing as dietetics professionals (82%). Table 1 shows mean results of students' responses at the completion of each semester (2007-2008) based on developing public health practice skills related to dietetics. Additional findings showed nursing students attained novice level competency (54% to 100%, Fall 2007) in selected civic skills. These skills included

- Thinking constructively (54%), listening and conferring (54%), analyzing and synthesizing information (64%), and acting to improve civic life
- Understanding perspectives of others in the community (85%)
- Building cooperative relationships and interacting with others to promote personal and common interest (92%)
- Working as a team and identifying and solving problems (100%)

Discussion and Implications for Family and Consumer Sciences

Results from this study suggest that *Community Gardening for Active Citizenship* is an effective service-learning and community-building initiative that fosters skills for public health practice among dietetics and nursing students. Based on students' evaluations, participation in gardening activities and community experiences helped them develop skills that (1) support outreach in the community and education about the health benefits of gardening, and (2) foster the collective actions needed in addressing public health issues related to risk of chronic disease, food security and sustainable food systems.

Current research substantiates the value of developing community gardens in impoverished urban neighborhoods as a means for increasing physical activity and access to and consumption of fresh and affordable produce, improving food security, and creating social capital and community-building (Alaimo, Packnett, Miles & Kruger, 2008; Drewnowski & Spector, 2004; Glover & Parry 2005; Shinew, Glover, & Parry, 2004; Twiss, Dickinson, Kleinman, Paulsen, & Rilveria, 2003). This is especially critical in states such as Texas, with higher rates of obesity, more food-insecure and low-income households, and larger racial-ethnic populations with a greater risk for obesity-related chronic disease (Kant, 2004; Keppel, Pearcy & Wagener, 2002; Must et al., 1999).

Public health interventions require collective action and community-building strategies and are a primary concern for family and consumer sciences professionals. Service-learning initiatives that encourage community gardening and education outreach can foster skills for effective practice among health professions students and engage community members in learning about sustainable local-food systems and the health benefits of gardening.

Table 1

Dietetics Students Responses & Public Health Practice Skills Reached, 2007-2008* (N=40)

Response	"Partially" and/or "Yes"
I am able to understand and discuss issues related to poverty, food insecurity, and public health concerns.	87%
I am able to evaluate and think constructively about how to improve nutritional health outcomes in the community.	96%
I am able to collaborate and build cooperative relationships for collective decision making and promoting common interests.	96%
I am able to demonstrate effective horizontal and vertical communications, plan strategies, and take on responsibilities and challenging tasks in an organizational setting and/or community agency.	96%
I am able to participate actively in community meetings and/or workshops that focus on increasing civic engagement and solving public health issues.	90%
I am able to assess needs, develop and implement programs, and demonstrate effective teaching skills when educating community groups about community-building strategies.	87%
I am able to practice effective written and verbal communications that are responsive to group diversity, multi-cultural preferences, and different values.	97%
I am able to explain, analyze, and synthesize information about community-building strategies and civic engagement for improving nutritional health outcomes in the community.	93%
I am pro-active as a professional in nutrition and dietetics about civic engagement and community-building strategies.	90%
*Online Event Mapping (Kibel, 2004)	

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Emerging Trends in the Foodservice Industry for 2008: A Survey of Members of the Texas Restaurant Association

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Background of Problem and Relevancy to Family and Consumer Sciences

In 2007, Americans consumed meals at restaurants an average of 3.3 times per week. Texas cities currently lead the nation in consumption of restaurant meals, with residents of Houston eating out 4.2 times per week and Austin and Dallas/Fort Worth restaurant diners averaging 4.0 meals per week. New York remains the most costly U.S. city in which to dine, with an average meal cost of $39.46. Austin is one of the least expensive cities in which to dine with an average meal cost of $25.30. (QSR News Resource, 2008)

The Bureau of Labor Statistics predicted in the 1990s, that the number of workers within the restaurant industry would reach 12.5 million by 2008 (Restaurants USA Online, 2008). In the year 2008, 70 billion meals and snacks were sold in 945,000 restaurants in the United States and sales totaled $558 billion dollars. According to the National Restaurant Association, more than 13 million employees worked within the restaurant industry, which is one of the largest private sector employers in the United States (National Restaurant Association, 2008). Sales within the restaurant industry in Texas are among highest for any state in the nation and account for four percent of national restaurant sales. The National Restaurant industry projects sales in Texas restaurants will reach $35 billion in 2009, and over one million Texans will work within the restaurant industry (TRA News/Events, 2008).

The mission of the Texas Restaurant Association (TRA) is "to serve as the advocate in Texas and indispensable resource for the hospitality and foodservice industry" (Texas Restaurant Association, 2008). The members of TRA represent eating establishments of all sizes and types from all geographical areas in Texas and form an accountable population from which to determine current trends within the restaurant industry. The members of TRA have not had the opportunity recently to express their opinions on a variety of issues facing the restaurant industry in Texas.

Purpose

The purpose of this research project was to determine factors that influence current trends in menu planning and customer service among TRA restaurateurs. Specific objectives were to determine demographic information from members of the Texas Restaurant Association (TRA) who operate Table-Service Restaurants, to determine current menu items offered at TRA member restaurants, and to determine emerging trends in the foodservice industry.

Methodology

A questionnaire was developed to determine demographic characteristics and opinions regarding current trends within the restaurant industry. After obtaining a list of addresses of current TRA board members, the survey was sent to all 250 members of the Texas Restaurant Association. Study participants were all current TRA members who were owners of restaurants of any size located anywhere in Texas. The questionnaire contained a variety of question types, including closed- and open-ended questions as well as rank-order opinion questions. The study was given institutional human subjects approval prior to initiation of the research. Following survey completion, data were analyzed using SPSS (version 14.0, 2005, SPSS Inc, Chicago, IL).

Results

A total of 250 board members of TRA were mailed the research instrument. Responses were obtained from 72 of the 250 board member of TRA

(Response rate = 29%). The majority of the respondents represented restaurants that accommodate between 100 and 200 guests at a time. Table 1 indicates the type of restaurant operated by TRA respondents. A total of 70% of respondents operated restaurants categorized as casual or fine dining.

Table 1: Types of Restaurants Operated by Texas Restaurant Association Member Respondents (N=72)

Casual	Fine Dining	Fast Casual	Quick Service	Hotel Catering and Events	Other
51%	19%	14%	6%	4%	6%

The restaurant type of 57% of respondents was designated as a private corporation and most restaurateurs had been in business for $\geq$ 27 years (57%). A total of 94% of respondents indicated that menu prices were raised in their restaurants in an effort to increase total check averages during 2007. When asked about trends in menu planning, respondents indicated using rotating "chef's selections", ala carte menus and trial dishes most frequently out of the many menu options offered. Reduced-calorie (28%) and sugar-free (15%) items were chosen most frequently by respondents as recent menu additions. Forty-three percent of respondents serve meat, seafood, fruits, and vegetables that have been nationally grown or farmed, while 15% import the same items. The number of respondents who purchase varying percentages of domestic/imported meal, seafood, fruits, and vegetables was not determined. Almost one-half of respondents charge between $8-15 for a single entrée, while 28% charge between $16-24. Thirty-five percent of respondents do not have a separate lunch menu with lower prices, and 17% of respondents' restaurants provide nutritional information for menu items available to customers. More than one-half of TRA members surveyed indicated that dishes emphasizing familiar, classic flavors and ingredients were the most important factors in making menu offerings. Table 2 represents the greatest future business challenges identified by restaurant owner respondents. More than half of restaurateur respondents reported that food and/or labor costs were the greatest future restaurant challenges.

Table 2: Greatest Future Restaurant Challenges Identified by Texas Restaurant Association Member Respondents (N=72)

Rising Food Costs	Labor Costs	Customer Satisfaction	Employee Turnover	Other
30%	27%	21%	18%	4%

Conclusions and Implications for Family and Consumer Science Professionals

This research determined factors that influence trends in menu planning and customer service among TRA restaurateurs. Trends, for the most part, seem to favor simply stated flavors and techniques (Caranfa, 2008; French, 2003). New directions in restaurant style are driven by the type of establishment and size of the operation (Sobal & Wansink, 2007; Nielson & Popkin, 2003). Consumer science professionals and restaurant owners can utilize the information from this research to plan for changes in the restaurant environment that will enable operators to remain competitive in the rapidly changing restaurant industry.

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Management of Student Food Allergies in School Foodservice Operations

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Introduction and Purpose

Food allergies are a growing health and safety concern in the United States. They affect almost 11 million Americans and an estimated 6-8% of U.S. children (Weiss, Munoz-Furlong, & Arbit, 2004). Food allergy is a reaction of the body's immune system to a food ingredient – usually a protein (National Institute of Allergy & Infectious Diseases, 2007). Common symptoms include skin irritations, nausea, diarrhea, vomiting, sneezing, runny nose, and shortness of breath. Some individuals may experience a more severe reaction called anaphylaxis. The eight most common foods causing allergic reactions are milk, eggs, peanuts, tree nuts, soy, wheat, fish, and shellfish.

Children spend up to 50% of their waking hours in school and foods containing allergens are commonly found in schools. Thus, the likelihood of allergic reactions occurring at schools is high. The purpose of this study was to identify school foodservice practices, policies and training related to risk management of food allergies in school children.

Methodology

The method chosen for this study was telephone interviews with use of a structured questionnaire. Researchers first developed a questionnaire and script. Topics included school demographics, food allergy training for employees, and practices and policies related to food allergies. School foodservice administrators were also asked to rate on a Likert-type scale their level of agreement or disagreement with nine statements concerning practices that would reduce risk of allergic reactions to foods eaten at schools. The questionnaire and script were reviewed by six individuals who were nutrition educators or foodservice directors and then pilot tested with three area school foodservice directors. Revisions were made as appropriate.

Thirty foodservice administrators at school districts that included nine or more schools in north Texas were invited to participate in the study. Initial phone calls were made to obtain approval for interviews and set appointment times. Fifteen individuals agreed to be interviewed. Average interview length was 12 to 14 minutes. Since the sample was small, data was compiled using descriptive statistical methods.

Results and Discussion

The 15 respondents in this study were foodservice administrators at school districts that ranged in size from 11 to 208 schools with an average daily attendance of 34,261 students (See Table 1). At 13 schools, administrators were aware of students who had food allergies, as some parents had provided statements from medical professionals

Table 1. Demographic characteristics of schools participating in study (N=15)

Characteristics	No. of Respondents	Mean	Range
Number of schools in district	15	38	11 – 208
Average daily attendance	15	34,261	8,500 - 118,124
Documented students with food allergies •	6	143	10 - 400

• Nine participants could not provide an estimate of students with food allergies.

Table 2

School foodservice administrators' level of agreement with statements regarding food allergies (N=15)

Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	Number of Respondents				
Foodservice employees are aware that students could become seriously ill because of a food allergy reaction.	0	0	0	5	10
Menu alternatives should be available for students who have food allergies.	0	0	0	10	5
School foodservice staff should keep records of students who have food allergies	0	1	0	7	7
Foodservice employees should know ingredients of all menu items served for school lunches.	1	3	0	8	3
Foodservice employees working on the cafeteria line are responsible for making sure that students allergic to certain foods do not get them on their lunch trays.	0	5	1	8	1
Food items for students who have food allergies should be prepared at a separate kitchen work counter.	0	8	2	4	1
Students with food allergies should eat in a separate dining area.	1	6	5	3	0
Food items to which students are commonly allergic should be removed from school lunch menus.	1	12	0	1	1
School staff should monitor student sharing of food items in the lunchroom	1	12	1	1	0

all of the seven topics considered important for food allergy training. These topics were common allergens, food labeling, food preparation, food service, cross contamination, recognition of allergic reactions and emergency treatment. Abbot, Byrd-Benner and Grasso (2007) contacted 36 New Jersey foodservice operators, both commercial and institutional, and also concluded that few had policies on food allergies or provided employees with formal training.

School administrators expressed a variety of opinions concerning statements on practices related to managing food allergies (See Table 2). All respondents strongly agreed or agreed with statements that foodservice employees are aware that students could become seriously ill because of allergy reactions and that menu alternatives should be available for students with food allergies. Fourteen strongly agreed or agreed that school foodservice staff should keep records of students with food allergies while only eleven agreed that foodservice employees should know the ingredients of menu items prepared for school lunches. However, four disagreed or strongly disagreed.

Nine administrators agreed that foodservice employees working on the cafeteria line are responsible for ensuring that students allergic to certain foods do not get them on their lunch trays. However, five disagreed with this statement. Some felt that foodservice employees should not be held responsible, but that it is a responsibility to be shared between parent and child. They stated that parents should educate the child to identify foods to which they are allergic in the cafeteria line. Other respondents felt that this responsibility belongs to cafeteria managers and not the foodservice employees because of educational background.

Eight administrators disagreed with the statement that food items for students who have food allergies should be prepared at a separate kitchen work counter. This disagreement may indicate a lack of knowledge of the ease of accidental cross-contamination from utensils, cutting boards or countertops. Seven participants also disagreed or strongly disagreed that students with food allergies should eat in a separate dining area, while one-third were undecided. Several said that it depends on the severity of the allergy.

Thirteen administrators disagreed or strongly disagreed with the statements that food items to which students are allergic should be removed from school lunch menus. Most felt that students who are not allergic shouldn't have to suffer because a few students have allergies. However, nine participants stated that peanuts and peanut products had been removed from school menus because of concerns about allergies, and some said they were using substitutes such as sun butter made from sunflower seeds.

Conclusions and Implications

Study results for this small sample of schools in north Texas suggest that many school foodservice administrators are not aware of the total number of students with food allergies enrolled at their schools. Most administrators, but not all, have specific policies on food allergies. Most, but not all, provide food allergy training on a limited number of topics. Because of the increasing number of food allergies among children, it would be prudent for all school foodservice administrators to adopt policies for managing food allergies at their schools and also to provide specific training on food allergies for foodservice employees on an annual basis. This training should make employees aware of the possible allergic ingredients in various school menu items and the need to prepare menu items for children with allergies in a separate work area to prevent cross-contamination. An excellent example of guidelines and practices for managing food allergies in schools is that developed by Ann Arbor Public Schools (2005). There may also be a need to develop additional training materials such as DVDs to train school foodservice employees regarding food allergies. Family and consumer science professionals have appropriate educational background to be involved in developing these educational materials and providing training.

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Accuracy of Self-Reported Height and Weight in Rural Adolescents

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Introduction

Anthropometric measures are fundamental assessment tools when used to evaluate health and nutrition status of individuals. Height and weight are effective anthropometric parameters used to address an individual's growth and nourishment beginning at birth and continuing through the lifespan. Traditionally, these serve an important purpose in assessing weight status of individuals in research protocol. Although various devices can be used to accurately measure height and weight in clinical practice, self-reporting has been used as a simple, inexpensive and non-invasive method for collecting information from a large number of individuals (Engstrom, Paterson, Doherty, Trabulsi, & Speer, 2003). However, it is possible that some discrepancies occur when self-reported data are used. A review of the literature shows this might be a frequent occurrence.

One study conducted to determine the sensitivity and specificity of self-reports in estimating rates of overweight and obesity concluded that based on self-report data, 13.9% of the sample self-identified as overweight and 2.8% self-identified as obese. But, in reality measured data showed rates of 18.7% and 4.4%, respectively (Elgar et al., 2005).

Another study addressing the accuracy of measurements with six hundred and eighty-three school students 11-18 years of age showed that subjects, in reporting their heights and weights, incorrectly reported their heights. Height was underestimated by younger students and overestimated by older female students (Abraham, Luscombe, Boyd, & Olesen, 2003).

A study using a sample taken from 61 high schools in 20 states, including the District of Columbia, found that when self-reporting height, students in grades 9 - 12, over reported their heights by 2.7 inches and under reported their weights by 3.5 pounds. Resulting body mass index (BMI) values were an average of 2.6 kg/m greater when based on self-reported heights and weights than BMI values using measured heights and weights (Brener, Mcmanus, Galuska, Lowry, Wechsler, 2003). This discrepancy affected the percentage of students classified as "overweight" or "at risk for overweight" by lowering the BMI value when compared to data collected using standard measuring devices (Brener et al., 2003). Another study designed to determine consistency of using BMI from self-reported as compared to measured height and weight as an indicator of obesity demonstrated adolescent males and females both under-reported weight (Goodman, Hinden, Khadnelwal, 2000).

In the past few years, statistics have shown an alarming increase in the prevalence of obesity among adolescents in the United States, so reporting of height/weight information is vital. Recent statistics show obesity prevalence of male and female adolescents escalating to 15.5% of the population (American Obesity Association, 2006). This has become a public health concern. Obesity has been linked to chronic diseases such as diabetes mellitus, asthma, hypertension, orthopedic complications, cardiovascular diseases, and sleep apnea.

Purpose

This study sought to determine the accuracy of self-reported versus measured height and weight in rural adolescents based on anthropometric measures.

Methodology

This study used a convenience sample of adolescents in grades 9-12 from two rural East Texas high schools, with a median per capita income of $26,839.00 (Census, 2000). Rural youth have lower educational aspirations and attainment than those in urban settings (Demi, 2006). Therefore, getting proper nutritional information, accurate weight/height data and specific statistics relative to physical well-being is vital to providing accurate information early-on to rural youth. In this study 32% of those less than 18 years of age live in poverty. Accurate and professional information is critical for this population. Procedures were followed according to the Institutional Review Board for the Protection of Human Subjects in Research. Students were given packets containing parental and student permission forms, survey instructions, and survey information to be taken home and returned the following day to their teachers. Students returning the completed survey had their heights and weights recorded by the school nurse. Using a standard beam scale, students were clothed with shoes. One hundred and ninety six students participated; 113 were male and 83 were female.

Results

Males over reported their heights to a greater degree when compared to females (mean difference in self-report height vs. measures $\pm$ 1.07 cm for males and for females $\pm$ 0.06 cm). The weights reported vs. measured was under-reported by both males and females. However, females showed a greater difference between their actual and reported weights when compared to males (mean difference in self-report weights vs. measured weights was - 2.37 kg for females and -0.69 kg for males) as seen on Table 1.

Table 1. Mean weight and height by gender based on measured and self-report data

	Males (n=113)	Females (n=83)
Measured data		
Height (cm)	174.37	162.91
Weight (kg)	71.67	63.98
BMI	23.59	24.11
Self-report data		
Height (cm)	175.44	162.97
Weight (kg)	70.98	61.60
BMI	23.07	23.22
Difference between self-report and measured data		
Height (cm)	$\pm$1.07	$\pm$0.06
Weight (kg)	- 0.69	- 2.37

Ethnicity as a single factor was considered in determining the presence of any bias when adolescents of either gender were asked to self-report their heights and/or weights. The sample consisted of 95 African-Americans, 83 Caucasians, 15 Hispanics, and 3 other. As shown in Table 2, students in three ethic groups over reported their heights. However, those who self classified as other (n=3) under-reported their heights (mean difference in self-report height vs. measured = -4.85). Hispanics showed greater discrepancy on the mean difference between self-reported and measured heights followed by Caucasian and African-American respectively. All ethnic groups under reported their weights.

Table 2. Mean weight and height by ethnicity based on measured and self-report data

Ethnicity	African American (n=95)	Caucasian (n=83)	Hispanic (n=15)	Other (n=3)
Measured data				
Height (cm)	168.88	171.12	166.12	164.03
Weight (kg)	66.57	70.44	71.30	64.09
BMI	23.36	24.06	25.85	23.83
Self-report data				
Height (cm)	169.14	171.86	169.85	159.18
Weight (kg)	65.23	68.87	70.51	61.04
BMI	22.82	23.34	24.56	24.12

Conclusions

Data from this study are consistent with other studies in that both gender and ethnicity show levels of discrepancy and bias when self-reported data is compared to measured data. Both males and females under-reported their weight and over-reported their height (Table 1). Much research relies on self-report; data that are being furnished to the public could be inaccurate. This is particularly crucial in a rural population who may not be provided with as many life-long learning opportunities as those in urban areas (Demi, 2006). It is particularly important that youth in rural areas be provided accurate nutritional and physical information because they may not be exposed to other opportunities for this information. Clearly these differences could impact the accuracy of nutritional and health assessments of individuals when self-reported data are used.

Implications

As obesity becomes increasingly common among the young population, anthropometric measures such as height and weight used in research to gather data should be objectively measured and evaluated in order to minimize bias and discrepancies that can interfere and not allow for accurate results. When self-report data are used to determine overweight, at risk of overweight, or obesity, the data may be skewed. These inconsistencies could lead to a distortion of the incidences of obesity. Family and Consumer Science professionals, specifically in the field of nutrition and dietetics, rely on precise and accurate information when assessing the nutritional status of adolescents. This study has highlighted the importance of accurate and reliable height and weight measures and how it can impact nutritional and health assessment of adolescents.

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