

Teenagers' use of alternative shopping channels: A consumer socialization perspective

Jason E. Lueg^{a,*}, Nicole Ponder^{a,1}, Sharon E. Beatty^{b,2}, Michael L. Capella^{c,3}

^a Department of Marketing, Quantitative Analysis, and Business Law, College of Business and Industry,
Mississippi State University, Box 9582, Mississippi State, MS 39762, USA

^b Department of Management and Marketing, Culverhouse College of Commerce and Business Administration,
The University of Alabama, P.O. Box 870225, Tuscaloosa, AL 35487-0225, USA

^c Department of Marketing, College of Commerce and Finance, Villanova University, 800 Lancaster Avenue, Villanova, PA 19085-1678, USA

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Abstract

The consumer socialization (CS) perspective is applied to explore factors that influence a developing consumers' use of different shopping channels—mall and Internet. The effects of channel involvement, access to funds, access to the channel, and socialization agent communication on adolescent shopping and intentions are examined using a high school student sample. Results indicate that involvement with a channel has a major influence on agent communication, time and money spent, and future intentions to shop in that channel. Agent communication was also found to influence shopping behaviors and intentions. Differences between channels are noted. Additional findings, implications, limitations, and future research directions are also presented.

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Introduction

American adolescents are growing up with the Internet. It pervades their daily lives. They are as comfortable with computers and the Internet as previous generations were with television. Teens, who are learning to be consumers, are the Internet shoppers of today and the future. But they are also the mall shoppers of today and the future. Therefore, we ask: What are the factors that influence a developing consumer's propensity to utilize alternative shopping channels (the Internet and the mall) for shopping and purchasing? The distinctive buying habits they display today will likely follow

them as they enter their higher spending years of young adulthood (Neuborne and Kerwin 1999). However, as Haytko and Baker (2004) and Mangleburg et al. (2004) point out, teens are a substantial consumer market about which there is little academic research.

To better understand this important market segment, this study seeks to investigate adolescents' usage of two shopping channels—the mall and the Internet—from a consumer socialization (CS) perspective. Investigating shopping channels phenomena is consistent with previous research (cf., Wallace et al. 2004; Mathwick et al. 2002, 2001; Tang and Xing 2001). The mall was chosen because it represents a traditional venue in which developing consumers learn to shop and purchase. We also chose to examine how they are socialized in a relatively new and exciting shopping channel—the Internet. First, literature regarding adolescent shopping patterns and CS is provided. Next, a theoretical model and hypotheses, based on relevant literature and depth interviews with teenagers, are presented. Data are gathered from high school students across both shopping channels and our results

* Corresponding author. Tel.: +1 662 325 7011; fax: +1 662 325 7012.

E-mail addresses: jlueg@cobilan.msstate.edu (J.E. Lueg), nponder@cobilan.msstate.edu (N. Ponder), sbeatty@cba.ua.edu (S.E. Beatty), michael.l.capella@villanova.edu (M.L. Capella).

¹ Tel.: +1 662 325 1998; fax: +1 662 325 7012.

² Tel.: +1 205 348 6184; fax: +1 205 348 6695.

³ Tel.: +1 610 519 4350; fax: +1 610 519 5364.

are presented for both the mall and Internet, followed by a discussion of the findings. Implications for retailers and directions for future research are also provided.

Literature review

Adolescent shopping patterns

Generation Y (Gen Y), an age cohort consisting of 60 million people born between 1979 and 1994, is the largest consumer demographic group to hit America since the baby boomer generation (Neuborne and Kerwin 1999). This generation is the first to be comfortable with the idea of transmitting information via a computer. Because Gen Y has used the Internet since preschool, they are likely to go online for news, weather, information, and research as well as recreation and “human contact” through chat rooms and the like (Noble and Noble 2000). Nielsen Media Research reports that younger teenagers today spend fewer hours watching television than the eighteen to 49 age segment, and spend more time online than any other demographic group (Noble and Noble 2000). Teens are technologically savvy and will soon drive the digital economy (Tweney 1998). Already, thirteen percent of all American teenagers have their own credit cards, which allow them to easily shop on the Internet (Gunter 2004). Therefore, *how* teens are socialized relative to the Internet is of great interest to practitioners and academicians alike.

The traditional channel through which adolescents become socialized as consumers is the mall. During the 1980s and early 1990s, the mall was considered to be the “in” place to shop and socialize, but recent trends suggest that mall shopping is on the decline, especially for non-teen segments (Nicholls et al. 2002; Pacelle 1997). However, according to Teenage Research Unlimited, 75 percent of teens aged thirteen to seventeen spend an average of four hours a week “hanging out” and shopping at the mall (Hovanesian 1999). While only 55 percent of Americans aged 21–62 like shopping, 88 percent of girls between thirteen and seventeen like to shop at malls and they spend an estimated \$85 billion a year (Brooke 1998). Haytko and Baker (2004) found that these girls go to the mall for a variety of reasons, including the number and variety of stores available and comfortable surroundings.

An overview of consumer socialization (CS)

Our goal here is to examine some of the factors that produce greater utilization of particular channels—specifically, the mall and Internet. The CS perspective is helpful for this investigation. CS is defined as the process by which young people acquire the skills, knowledge, and attitudes needed to become functioning consumers in the marketplace (Ward 1974). This perspective has been applied to a wide variety of consumer-related topics, including the influence of parental style on children’s and adolescents’ perceptions of consump-

tion and advertising (Rose 1999; Rose et al. 1998; Carlson et al. 1990; Moschis 1985; Grossbart and Crosby 1984), the influence of socialization agents on brand sensitivity (Lachance et al. 2003), the influence of television advertising on children’s and adolescents’ perceptions of consumption (Sherry et al. 1999; O’Guinn and Shrum 1997; Reece and Kinnear 1986; Grossbart and Crosby 1984; Churchill and Moschis 1979), ethnic differences in CS (Singh et al. 2003; Bush et al. 1999; Shim and Gehrt 1996), and cross-cultural patterns in CS (Rose et al. 2002; McNeal and Ji 1999; Rose 1999; Sherry et al. 1999; Rose et al. 1998).

The model of CS initially presented by Moschis and Churchill (1978) is based on the communication socialization perspective (McLeod and O’Keefe 1972). There are five key variables in this model. The first is *age* or *life-cycle position* (LCP), which is when socialization takes place in an individual’s life. It is the point at which cognitions and behavior patterns change (Churchill and Moschis 1979). The second variable is *social structure constraints* affecting learning. These are variables such as social class, gender, and race. They serve to associate an individual in a social group with relatively homogeneous behaviors (Moschis and Churchill 1978). The third variable is *agent* or *source of the influence*. This is a person or an organization directly involved in socialization because of frequency of contact with the individual, primacy over the individual, and control over rewards and punishments given to the individual (Brim 1966). The fourth variable is *learning processes* involved in socialization. This refers to the ways in which the learner acquires specific values and behaviors from these socialization agents (Churchill and Moschis 1979). Finally, the fifth variable is *content or criterion behavior*. This refers to the values, attitudes, beliefs, or behaviors necessary for the performance of a given social role (Churchill and Moschis 1979).

The manner in which these five variables are linked together is as follows: Social structure variables and age or LCP are antecedents to socialization processes, which include both the socialization agent and the type of learning process actually operating. Socialization processes then directly affect the content or criterion variables. Thus, the CS perspective suggests that consumer behavior is acquired through various interactions between the learner and various agents (i.e., parents, peers, school, etc.) in specific settings. Drawing on both this perspective and our qualitative research, we next present our hypothesized model of how adolescents become socialized to specific shopping channels.

Model and hypotheses of adolescent shopping behavior

A review of the marketing literature reveals that no studies have specifically considered the CS factors that influence a consumer’s propensity to use a particular shopping channel. Particularly lacking is research on developing consumers’ socialization to the Internet, which is especially needed today

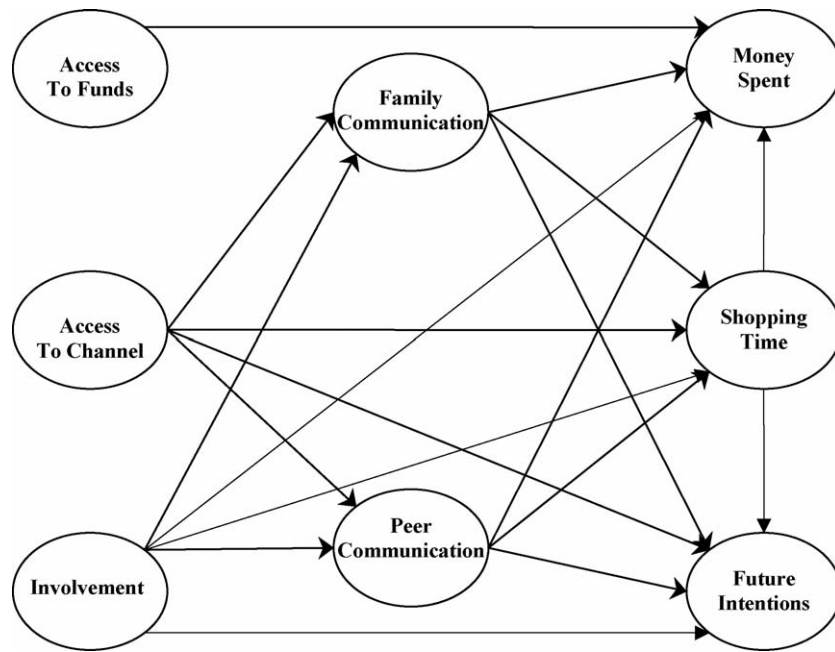


Fig. 1. Theoretical model of consumer socialization across shopping channels.

given our diverse retail shopping environments. Therefore, qualitative research was an appropriate first step in considering CS to a specific shopping channel. A series of ten depth interviews with teens was conducted in order to better understand their motivations for shopping via the mall and Internet. Another reason for conducting these interviews was to aid in the development of a survey instrument to investigate the influences on shopping channel usage. Our model is shown in Fig. 1 and should apply to both the mall and Internet. Development of specific hypotheses related to the model appears below.

Antecedent variables

The CS process takes place throughout an individual's entire life, and what, how, and when people learn differs from person to person based on the achievement of various LCPs (McLeod and O'Keefe 1972). LCPs are the points at which cognitions and behavior patterns change and consumption patterns are formed within the individual consumer (Churchill and Moschis 1979). LCPs such as first jobs, graduation, switching careers, getting laid-off, marriage, the birth of a child, etc., can have profound impacts on consumers and can happen to a consumer at any point in time, regardless of age.

While age is commonly used as an antecedent variable in the study of children, it is not necessarily a great predictor of behavior; therefore, the concept of LCPs is preferred over age when studying socialization (McLeod and O'Keefe 1972). Furthermore, as Moschis (1987) states, "The use of only one index, that of chronological age, would be an incomplete indicator" (p. 19). Additionally, in the teen years, people do not

all achieve LCPs at the same time. For example, one fifteen year old may be allowed to go to the mall without parental supervision and may have Internet access in her room, while another fifteen-year-old may only be allowed to go to the mall with her parents, and her Internet access may be tightly controlled by parents. Thus, we chose to focus on the LCPs that reflect the achievement of greater freedom and independence as a consumer as this is a more relevant concept. Furthermore, we used LCPs when studying teens because this has not been done before.

Adolescents experience many events that can result in different patterns of consumption. They will soon date, hang out with friends independent of their parents, and get (or have) first jobs and driver's licenses. These various adolescent events result in a teen achieving general LCPs of greater freedom and greater individual and consumer autonomy. This freedom allows a teen to separate from parents and evolve into his or her own consumer (Bristol and Mangleburg 2005). Choosing stores at which to shop or to avoid, brands to purchase or ignore, and shopping channels to use represent the various decisions that teens begin to make on their own. Rather than focus on the specific teenage events, this study instead focuses on the outcome of the achievement of various events—the LCPs of greater independence and consumer autonomy as reflected in greater *shopping channel access* and greater *access to funds*. These adolescent LCPs allow a teen consumer to have greater independent *access* to different shopping channels and more spendable income (Mangleburg and Brown 1995).

Access to the shopping channel represents how readily an individual can use the channel when he or she desires. Haytko and Baker (2004) point out that although studies have

considered a construct similar to accessibility—convenience (cf., Jones et al. 2003a; Schiffman et al. 1977)—they are investigating the distance between malls and consumers' homes. Few studies have empirically investigated the impact of accessibility on a shopping channel. When Haytko and Baker (2004) considered mall accessibility, they found that middle school girls must rely on parents for transportation to and from the mall. This restriction in mall access may lead to reduced use of the mall for entertainment and shopping behaviors. After turning sixteen, however, teens have the potential for greater mall access because of the LCPs of obtaining a driver's license (which, of course, must be associated with access to a vehicle to drive) and/or being entrusted with more independence (i.e., being allowed to take public transportation or to go along with friends who have vehicle access).

Additionally, given the tremendous growth in popularity of online shopping, it is appropriate to also consider the teen's Internet access. There is likely to be considerable variability in access levels to the Internet for teens, which may or may not be related to age. Greater Internet access means that there is more opportunity for online shopping to occur.

Shopping time is the amount of time a consumer spends shopping (looking for and examining goods and services) in a given period of time. In this study, the term "shopping" is used to refer to the full richness of the experience as discussed by Bloch et al. (1989, 1986). Their consumer search, comprised of both prepurchase and ongoing components, is equivalent to our view of shopping. Shopping includes browsing (i.e., on websites or in physical stores), interacting in the channel (i.e., in chat rooms or to sales staff), and reading (i.e., information in-store or online). If the initial experience with the channel is successful, consumers are likely to spend more time shopping via that channel (Menon and Kahn 2002). Thus, we offer the following hypotheses:

H1a. Access to the mall has a positive effect on time spent shopping at the mall.

H1b. Access to the Internet has a positive effect on time spent shopping on the Internet.

Since we focus on teens as they are becoming socialized as consumers, and because they are a substantial market, their intentions to shop and purchase via a particular shopping channel in the future are also of great interest. *Future intentions* represent a teen's plans to shop and/or purchase at the mall or on the Internet in the future. However, in order for a consumer to effectively use a shopping channel, he or she must first understand the consumer script related to that channel. A consumer script is the cognitive procedural structure and content of an activity that is shared by consumers (Stoltman et al. 1989). The repetition of, or exposure to, a particular consumer script allows a consumer to cognitively absorb and consequently use this new script (Peracchio 1992). The greater access a teen has to a shopping channel,

the more likely he or she is to be exposed to new consumer knowledge, and thus adopt the shopping script relative to that channel. Once this knowledge is acquired and the consumer becomes comfortable with the script, the more likely he or she is to develop favorable intentions to continue utilizing the shopping channel in the future. Stated formally:

H2a. Access to the mall has a positive effect on future intentions to shop and purchase at the mall.

H2b. Access to the Internet has a positive effect on future intentions to shop and purchase on the Internet.

Also, as a young consumer becomes socialized, his or her access to a shopping channel will result in more communication with socialization agents about consumer matters in that channel (the communication variables will be defined in a later section of this paper). That is, due to channel access, a teen has the motivation to learn more about the channel and will have the incentive to communicate with socialization agents and, likewise, the agents will be more likely to be motivated to talk to the teen regarding the channel. Therefore, the following hypotheses are presented:

H3. Access to the mall has a positive effect on (a) family communication and (b) peer communication about shopping and purchasing at the mall.

H4. Access to the Internet has a positive effect on (a) family communication and (b) peer communication about shopping and purchasing on the Internet.

Another access issue related to greater consumer autonomy is the degree to which the adolescent has available funds (i.e., first job, allowances, gifts from family members) that can be spent in a shopping channel. *Access to funds* represents how readily an individual can obtain funds for expenditures. Most adolescents have greater discretion over the use of their own money than money provided by parents (Mangleburg and Brown 1995; Tootelian and Gaedeke 1992). Greater access to funds should result in greater spending levels in a shopping channel, as teens are accustomed to immediate gratification (Banks 2005). *Spending levels* represent the amount of funds the consumer spends (exchanged money for a service or item) during a given time period. Specifically, we hypothesize the following:

H5a. Access to funds has a positive effect on spending levels at the mall.

H5b. Access to funds has a positive effect on spending levels on the Internet.

The objective of the CS perspective is to explain consumer behavior. As such, it provides a rough blueprint for integrating theories previously used independently to explain

consumer behavior (Churchill and Moschis 1979). Although involvement is not an explicit part of Moschis and Churchill's (1978) model, its addition to the CS perspective is both appropriate and useful as involvement has been found to be a strong indicator of consumer behavior (cf., Bloch et al. 1986). Furthermore, this variable arose as important in the qualitative interviews, where teens talked about the fun and excitement experienced when shopping at the mall or on the Internet.¹ In many empirical studies, involvement is treated as an antecedent variable (cf., Jones et al. 2003b; Bloch et al. 1989; Beatty and Smith 1987; Bloch et al. 1986). Therefore, it is included in the proposed model as an antecedent variable under the CS perspective.

Based on Zaichkowsky's generalized definition (1985), *shopping channel involvement* is a person's perceived personal relevance of the shopping channel based on inherent needs, values, and interests. The more interested a teen is in shopping at the mall or online, the more they want to share these interests with friends and family members. In addition to an increase in communication, higher involvement levels also produce more complete and diligent consumer information processing (Chandrashekar and Grewal 2003; Celsi and Olson 1988; Petty et al. 1983) and greater external search (Balabanis and Vassileiou 1999).

Wakefield and Baker (1998) found that involvement with the shopping activity had a positive effect on excitement, mall repatronage intentions, and desire to stay at the mall for a longer time. Also, Roy (1994) found that recreational motivations for visiting a mall lead to greater shopping frequency. Similarly, Novak et al. (2000) found that greater involvement was positively associated with greater focused attention in their model of the customer experience in online environments. If a teen has a high level of computer competency and is highly involved with this technology, then he may also place greater time and effort on shopping via this channel. Thus, we believe that a teen's involvement with a shopping channel will have a positive impact on all the dependent variables identified in our model. Stated formally:

H6. A teen's level of shopping involvement with the mall has a positive effect on (a) family communication, (b) peer communication, (c) shopping time, (d) spending level, and (e) future intentions related to shopping and purchasing at the mall.

H7. A teen's level of shopping involvement with the Internet has a positive effect on (a) family communication, (b) peer communication, (c) shopping time, (d) spending level, and (e) future intentions related to shopping and purchasing on the Internet.

¹ Representative qualitative quotes: "I love to shop at the mall. It's like a second home. . . . [I]t just feels good. It feels like where I should be. I feel happy. That's why I shop at the mall. . . . It's what I build my life around!" and "It's fun to shop on the Internet. It's exciting. I like to see if I can find the same stuff using different search engines or the next day."

Socialization processes variables

Most studies using the CS perspective capture the effect of socialization agents by examining the level of communication regarding consumer issues. Agent–learner communication patterns have been found to affect a variety of consumer behaviors (cf., Lachance et al. 2003; Bush et al. 1999; Shim 1996; Moschis 1985; Moschis and Churchill 1978). The two socialization process variables presented here—peer communication and family communication about the shopping channel—are hypothesized to partially mediate the relationship between the antecedents of channel involvement and access to the shopping channel and the outcome shopping variables. Haytko and Baker (2004) found in their interviews that peers and family had an influence on how long a female teen consumer stayed in the mall and how much was purchased. We discuss the two communication variables below in greater detail.

Family communication

As related to shopping behaviors, *family communication* may be defined as overt interactions between family members and adolescents about goods and services (Moschis and Churchill 1978). We focus specifically on communication about shopping and purchasing in a particular channel.

Family communication is an important source of adolescent CS (Brown and Mann 1990). Greater family communication about consumption leads to increases in consumer activity (Palan 1998). For instance, parents can help their children to establish economic motivations for consumption (Churchill and Moschis 1979; Moschis and Churchill 1978). As adolescents interact with parents, they show more concern with high quality, price, and value, and they become less conscious of brand names (Shim 1996). Furthermore, exposure to marketplace-related communications from parents increases a teen's use of product label information (Mangleburg et al. 1997). Parent–child communication also contributes to adolescent participation in family consumer tasks and decisions (Lachance et al. 2000; Palan 1998). Therefore:

H8. Family communication about shopping and purchasing via the mall is related positively to (a) shopping time, (b) spending level, and (c) future intentions at the mall.

H9. Family communication about shopping and purchasing via the Internet is related positively to (a) shopping time, (b) spending level, and (c) future intentions on the Internet.

Peer communication

Peers can also help adolescents learn important consumer skills (cf., Mangleburg et al. 1997). In the context of shopping behaviors, *peer communication* may be defined as overt peer–adolescent interactions concerning goods and services

(Moschis and Churchill 1978). We focus specifically on communication about shopping and purchasing in a particular channel.

Previous evidence suggests that positive peer communication influences a developing consumer. For example, peer communication has been found to have a positive effect on adolescent product evaluation (Moschis and Moore 1979), materialistic values and social motivations for consumption (Churchill and Moschis 1979), and a teen's use of product label information (Mangleburg et al. 1997). Peer communication not only has a positive influence on an adolescent's consumer decision process and social motivations for consumption, but also makes the adolescent aware of products and services available and more cognizant of the buying process (Moschis and Churchill 1978). Furthermore, during adolescence, family influence on the teen tends to diminish (Larson and Richards 1994) and overall communication with parents becomes less frequent (Larson and Richards 1994; Noller and Bagi 1985). Since adolescents communicate frequently with peers prior to purchasing in order to maintain identity with a group (Bearden and Rose 1990), they may develop favorable intentions to use the channel as consumers based on this communication.

H10. Peer communication about shopping and purchasing via the mall is related positively to (a) shopping time, (b) spending level, and (c) future intentions at the mall.

H11. Peer communication about shopping and purchasing via the Internet is related positively to (a) shopping time, (b) spending level, and (c) future intentions on the Internet.

Outcome variables

A major outcome of the CS process is consumer activity, which is defined as the frequency of engaging in rational and efficient consumer behaviors (Palan 1998). One such behavior is spending time to gather information and comparison shop before making a purchase (Moschis and Churchill 1978). The more time spent shopping in a particular channel, the more the teen is socialized to this shopping script and comfortable with the channel. For instance, in order to use the Internet as a shopping channel, a teen must be comfortable with the "point-and-click" format to search the Internet for information. This level of comfort helps in their development of favorable future intentions to shop and purchase via that channel.

In addition, the more time an adolescent spends shopping in a channel, the more money he or she spends (cf., Mangleburg et al. 2004). Beatty and Ferrell (1998) found that increased in-store shopping resulted in increased impulse purchases (as mediated by the urge to buy impulsively). They explained this effect by addressing the idea of physical proximity (Hoch and Loewenstein 1991). That is, when one shops more, one sees more items she or he would like to own, and therefore, this produces more urges to buy and more purchases result. Thus, the following hypotheses are suggested:

H12. Shopping time at the mall is related positively to (a) spending level and (b) future intentions at the mall.

H13. Shopping time on the Internet is related positively to (a) spending level and (b) future intentions on the Internet.

Method

Survey development

In order to test our hypothesized model across the two shopping channels, we developed a survey instrument. See Appendix A for a list of scale and index items used for this study. A discussion of how *access to funds*, *access to the mall*, and *access to the Internet* were measured by the development of indices is presented in Appendix B. Prior to the main data collection, the survey was thoroughly pretested with a group of teens. Based on this process, minor changes were made.

Sample information

The survey instrument was administered to students in four high schools in a mid-sized Southeastern city. Of the three public schools, one is more urban, one is more suburban, and one is more rural in location and student body. The remaining school is private and more suburban. The chosen schools allow for reasonable representation of various socioeconomic and ethnic groups, as well as alternative curricula—regular versus honors/advanced.

Because this sample was comprised of minors, appropriate channels of approval were used to gain access to their responses. The respective governing bodies for each of the target schools were contacted for approval to collect data in their schools. The governing bodies then informed the principals at each of the target high schools that permission had been granted to conduct the research. The principals, in turn, allowed the researchers to contact teachers at their schools directly to arrange data collection times. The 24 teachers who allowed data collection in their classrooms received a summary report of the findings of this research and a small class donation. Control was exercised in the collection process to obtain equal representation across the four grades (ninth through twelfth), the curricula (regular vs. advanced), and the four schools.

Response rate

The primary researcher personally administered all surveys over a six-week period. Respondents were informed that the survey "asks you a number of questions concerning your shopping and buying activities." They were also assured that the survey was not a test, and that their responses would remain anonymous and confidential. A total of 1,401 surveys

Table 1
Demographic characteristics of the sample

Characteristic	Frequency	Percent
Gender		
Male	583	46.3
Female	675	53.7
Total	1258	100.0
Age		
14 or younger	123	9.8
15	316	25.1
16	326	25.9
17	322	25.6
18 or older	171	13.6
Total	1258	100.0
Grade		
Ninth	310	24.6
Tenth	355	28.2
Eleventh	284	22.6
Twelfth	309	24.6
Total	1258	100.0
Ethnicity		
African American	367	29.2
Asian American	26	2.1
Caucasian/White	821	65.3
Hispanic American	18	1.4
Multi-Cultural/Other	26	2.1
Total	1258	100.0
Curriculum		
Regular	606	48.2
Advanced	652	51.8
Total	1258	100.0

were completed and returned. The authors then discarded surveys that contained missing data, inappropriate messages in the margins, or inappropriate responses, resulting in 1,258 usable surveys, or an effective response rate of 89.8 percent.

Respondent characteristics

Demographic characteristics of the sample are provided in Table 1. Adolescents from grades nine to twelve across both curricula types and both genders are well represented. With respect to ethnicity, the sample is representative of the state (<http://factfinder.census.gov>) where the data collection took place.

Check for order effects

Due to the length of the survey and the age of the sample, respondent fatigue could be a problem. Thus, four different versions of the survey were randomly administered to the respondents. Scale items were rotated in each version. Order effects were assessed with analysis of variance (ANOVA), which compared the means for the main constructs across the four versions. No means were different ($p < .05$), suggesting that no order effects were present.

Validation of scales

In order to establish trait validity of the two communication scales which were created for this study, as well as the shopping involvement scale, principal components analysis (PCA) was conducted for the mall and Internet separately. Table 2 presents the final PCA results along with reliability levels and average variances extracted for each scale. Each item loaded on the construct on which it was supposed to load, and each item was able to discriminate between the construct it was supposed to be with and the constructs with which it was conceptually unrelated. In addition, coefficient α levels were strong, ranging from .88 to .96. These statistics indicate acceptable levels of validity and reliability.

Data analysis

The model depicted in Fig. 1 was tested using LISREL 8 (Jöreskog and Sörbom 1996) with the maximum likelihood estimation method. This method of analysis was chosen because it allows the specification of measurement errors associated with each of the indicators in the model. All analyses were conducted using the observed covariance matrix in order to retain the original measurement units.

Once evidence of reliability and validity of the communication and involvement scales was established, single indicator composites were created by averaging the individual scale items. Because an assumption of *SEM* is that the indicator error terms are uncorrelated, testing our model with the individual items as indicators is not appropriate. The peer and family communication items are worded too similarly and thus would require too many error term cross-loadings. Also, responses to the Involvement scale are typically summed or averaged for data analysis (cf., Chandrashekar and Grewal 2003; Wakefield and Baker 1998).

Each single indicator composite was used to test the structural model. With single item indicators, a level of error must be assigned in order to ensure a properly identified model. Thus, error was set at (variance of the scale) $\times$ (1 – reliability) for each indicator. In addition, all outcome indicators as well as both accessibility indices were assigned an error term with a conservative estimate (Fornell 1983) of (variance of the index indicator) $\times$ 0.15. The correlation matrix with means and standard deviations of all the indicators are provided in Table 3.

Results

The structural model results for CS at the mall are presented in Table 4, while Table 5 provides the structural model results for CS on the Internet. A summary of all of the final relationships is provided in Fig. 2.

Both socialization models provided a good fit to the data. The goodness of fit index, adjusted goodness of fit index, and comparative fit index are all well above the accepted

Table 2

Assessment of trait validity for the scales

	α	Average variance extracted	Component loading (three components explain 78.37 percent of the total variance)
Mall Model			
Peer communication about the mall	.878	.564	
Pcommall1			.690
Pcommall2			.770
Pcommall3			.767
Pcommall4			.777
Family communication about the mall	.890	.592	
Fcommall1			.777
Fcommall2			.803
Fcommall3			.803
Fcommall4			.823
Mall shopping involvement	.960	.811	
Mallinv1			.843
Mallinv2			.857
Mallinv3			.878
Mallinv4			.865
Mallinv5			.860
Mallinv6			.836
Internet Model			
Peer communication about the Internet	.899	.615	
Pcommint1			.805
Pcommint2			.844
Pcommint3			.811
Pcommint4			.812
Family communication about the Internet	.932	.716	
Fcommint1			.840
Fcommint2			.865
Fcommint3			.870
Fcommint4			.855
Internet shopping involvement	.936	.793	
Intinv1			.856
Intinv2			.876
Intinv3			.873
Intinv4			.817
Intinv5			.851
Intinv6			.843

0.90 cutoff (Hu and Bentler 1999). While the χ^2 -statistic is approaching non-significance, this statistic is influenced by large samples, in which there is an increased chance of rejecting the fit of the model to the data. However, by examining the ratio of the χ^2 to the degrees of freedom, we see that this ratio is equal to 3.07 for the mall model, and 2.79 for the Internet model. These values fall well within the “five or less” ratio value suggested by Wheaton (1987) to be an acceptable fit. Taken together, all of our indices suggest good overall fit for both models.

The squared multiple correlations (SMC's) for the structural equations indicate the proportion of variance in the endogenous variables accounted for by its predictors (Jöreskog and Sörbom 1996). This statistic may be interpreted similarly to an R^2 statistic in regression. In the mall model, for example, mall shopping involvement and access to the mall explained 50.6 percent of the variance in peer com-

munication. The SMC's for the structural equations in the mall model range from 19.8 percent to 50.6 percent, while the SMC's for the structural equations in the Internet model range from 14.1 percent to 30.2 percent.²

As can be observed in Fig. 2, most hypotheses were supported. There were five influential CS factors that were significant for both shopping channels. First, shopping involvement with each channel has a strong positive influence on communication with socialization agents (both peer and family) about shopping and purchasing in that channel, time spent shopping in the channel, spending level in the channel, and

² Two rival models were also tested using LISREL 8. In one model, the Involvement construct was removed, and in the other, Age was substituted for Access to the Channel. By comparing overall fit statistics and structural parameter estimates, our model produced better results. Details of this analysis are available from the authors.

Table 3
Correlation matrices

	Item	y1	y2	y3	y4	y5	x1	x2	x3
Construct/Mall Model									
Peer communication	y1	1.000							
Family communication	y2	.651 ^a	1.000						
Shopping time	y3	.343 ^a	.329 ^a	1.000					
Money spent	y4	.201 ^a	.197 ^a	.361 ^a	1.000				
Future intentions	y5	.408 ^a	.346 ^a	.251 ^a	.170 ^a	1.000			
Involvement	x1	.625 ^a	.510 ^a	.351 ^a	.231 ^a	.469 ^a	1.000		
Access to mall	x2	.266 ^a	.221 ^a	.128 ^a	.133 ^a	.041 ^a	.139 ^a	1.000	
Access to funds	x3	.075 ^a	.077 ^a	.100 ^a	.160 ^a	.042 ^a	.017	.138 ^a	1.000
Means		4.548	4.103	10.984	147.221	5.173	5.041	1.774	1.573
Standard deviations		1.721	1.768	13.032	131.457	1.404	1.675	0.850	1.081
Construct/Internet Model									
Peer communication	y1	1.000							
Family communication	y2	.605 ^a	1.000						
Shopping time	y3	.237 ^a	.221 ^a	1.000					
Money spent	y4	.318 ^a	.278 ^a	.320 ^a	1.000				
Future intentions	y5	.268 ^a	.256 ^a	.251 ^a	.208 ^a	1.000			
Involvement	x1	.390 ^a	.335 ^a	.304 ^a	.291 ^a	.454 ^a	1.000		
Access to Internet	x2	.207 ^a	.181 ^a	.159 ^a	.152 ^a	.244 ^a	.249 ^a	1.000	
Access to funds	x3	.096 ^a	.085 ^a	.088 ^a	.103 ^a	.020	.025	.101 ^a	1.000
Means		2.371	2.105	2.586	13.033	3.489	2.797	2.085	1.573
Standard deviations		1.467	1.477	5.417	34.277	1.747	1.585	0.978	1.081

^a $p < .01$.

Table 4
Structural model results (Mall)

Hypothesis	Parameter	Standardized parameter estimate	T-value
H1a Access to the mall → shopping time	β_1	.046	1.401
H2a Access to the mall → future intentions	β_2	−.089	−2.894 ^a
H3a Access to the mall → family communication	β_3	.175	6.277 ^a
H3b Access to the mall → peer communication	β_4	.208	8.275 ^a
H5a Access to funds → money spent	β_5	.149	4.860 ^a
H6a Involvement → family communication	β_6	.525	20.020 ^a
H6b Involvement → peer communication	β_7	.649	27.381 ^a
H6c Involvement → shopping time	β_8	.210	4.993 ^a
H6d Involvement → money spent	β_9	.104	2.454 ^a
H6e Involvement → future intentions	β_{10}	.335	8.326 ^a
H8a Family communication → shopping time	γ_1	.161	3.260 ^a
H8b Family communication → money spent	γ_2	.029	0.588
H8c Family communication → future intentions	γ_3	.064	1.359
H10a Peer communication → shopping time	γ_4	.121	2.023 ^b
H10b Peer communication → money spent	γ_5	−.012	−0.210
H10c Peer communication → future intentions	γ_6	.193	3.400 ^a
H12a Shopping time → money spent	γ_7	.365	10.441 ^a
H12b Shopping time → future intentions	γ_8	.080	2.450 ^a

Overall fit statistics (χ^2 ; 6 df = 18.413; $p = .005$)

GFI = .996	AGFI = .978	CFI = .995	RMSEA = .041	RMR = .020
SMC's for structural equations				
Peer communication	Family communication	Shopping time	Spending level	Future intentions
.506	.334	.198	.206	.310

^a Significant at the .01 level.

^b Significant at the .05 level.

Table 5
Structural model results (Internet)

Hypothesis	Parameter	Standardized parameter estimate	T-value
H1b Access to the Internet → shopping time	β_1	.081	2.444 ^a
H2b Access to the Internet → future intentions	β_2	.135	4.364 ^a
H4a Access to the Internet → family communication	β_3	.113	3.624 ^a
H4b Access to the Internet → peer communication	β_4	.130	4.206 ^a
H5b Access to funds → money spent	β_5	.068	2.269 ^b
H7a Involvement → family communication	β_6	.328	11.009 ^a
H7b Involvement → peer communication	β_7	.389	13.160 ^a
H7c Involvement → shopping time	β_8	.250	7.281 ^a
H7d Involvement → money spent	β_9	.134	3.988 ^a
H7e Involvement → future intentions	β_{10}	.396	12.043 ^a
H9a Family communication → shopping time	γ_1	.082	1.930
H9b Family communication → money spent	γ_2	.076	1.867
H9c Family communication → future intentions	γ_3	.072	1.831
H11a Peer communication → shopping time	γ_4	.092	2.048 ^b
H11b Peer communication → money spent	γ_5	.180	4.188 ^a
H11c Peer communication → future intentions	γ_6	.029	0.687
H13a Shopping time → money spent	γ_7	.259	7.878 ^a
H13b Shopping time → future intentions	γ_8	.110	3.483 ^a

Overall fit statistics (χ^2 ; 6 df = 16.707; $p = .010$)

GFI = .997	AGFI = .980	CFI = .994	RMSEA = .038	RMR = .021
SMC's for structural equations				
Peer communication	Family communication	Shopping time	Spending level	Future intentions
.196	.141	.146	.235	.302

^a Significant at the .01 level.

^b Significant at the .05 level.

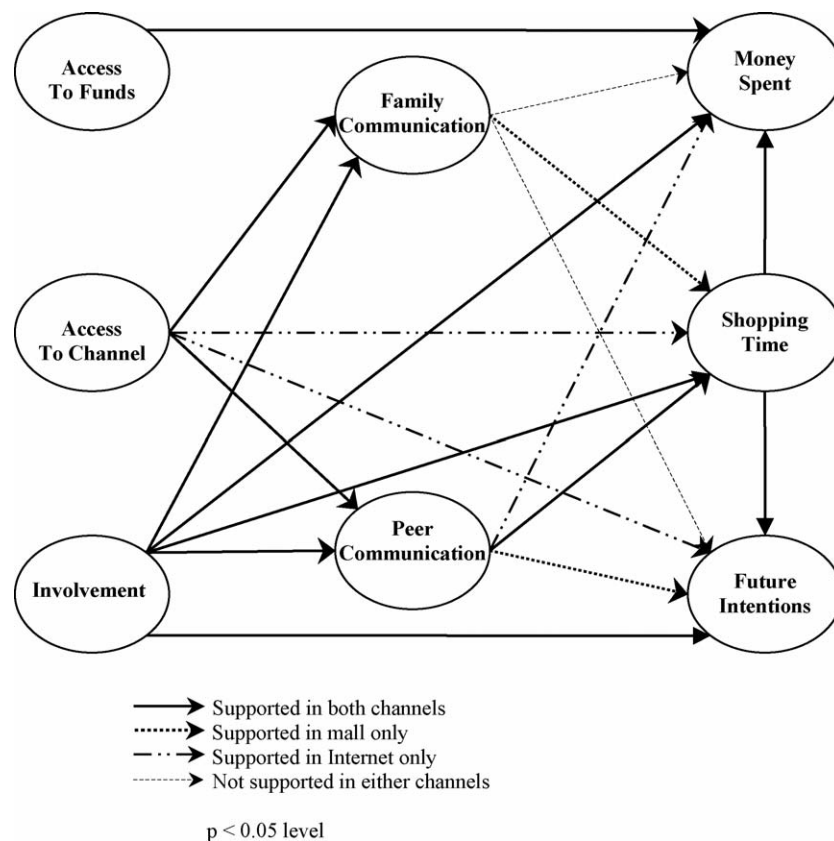


Fig. 2. Final socialization model.

future intentions to shop and purchase via the channel. Second, access to each shopping channel increased the amount of agent (peer and family) communication about shopping and purchasing in the channel. Third, time spent shopping in the channel increased spending levels and future intentions to shop and purchase in the channel. Fourth, peer communication about shopping and purchasing via the channel had a positive influence on shopping time related to the shopping channel. Fifth, access to funds had a positive effect on spending levels in each channel. All of these relationships are discussed further in the next section.

Because family communication did not have a strong impact on the outcome variables (significant for only one of the six tests), we conducted an additional post hoc analysis to further explore the relationships between the independent variables. In this analysis, the antecedent variables in our model were treated as potential moderator variables. Interaction terms were created for access to funds, access to the channel, and involvement and both of the communication variables regardless of the a priori hypothesized relationships found in our model. These variables were mean centered to decrease the chance of multicollinearity (Aiken and West 1991). The observation of variance inflation factors less than two indicated that this was not a concern. Moderator regression analysis was then used to test for significant interactions (Aiken and West 1991). This assessment produced a number of interesting interactions, which are shown in Table 6.

The results of this analysis for the mall indicate that, when the interaction terms between the variables were added, the effects of family and peer communication on mall shopping time depended on the level of mall shopping involvement. Agent communication about the mall had an influence on time spent shopping at the mall but only under conditions of greater shopping involvement with the mall. Further, there was a negative relationship between the effect of peer communication on future mall intentions, depending on the level of access to the mall. Peer communication about the mall had a significant influence on future intentions at the mall but only under conditions of lower access to the mall.

For the Internet, when the interaction terms between the variables were added, the effects of family and peer communication on Internet spending level depended on access to funds, access to the Internet, and the level of shopping involvement with the Internet, respectively. Agent communication about the Internet had an influence on money spent on the Internet, but only under conditions of greater access to funds. Additionally, agent communication about the Internet had an influence on money spent on the Internet but only under conditions of greater access to the Internet. Further, agent communication about the Internet had an influence on money spent on the Internet, but only under conditions of greater Internet shopping involvement.

Finally, the effect of agent communication on Internet shopping time depended on the level of access to the Internet. Agent communication about the Internet had an influence on

Table 6
Moderated regression results; significance of interaction terms

Interaction term between		Outcomes		
Variable 1	Variable 2	Money spent	Shopping time	Future intentions
Internet				
Family communication	Access to funds	0.291 4.541	<i>ns</i>	<i>ns</i>
Family Communication	Access to Internet	0.342 4.172	0.300 3.605	<i>ns</i>
Family communication	Internet shopping involvement	0.328 4.188	<i>ns</i>	<i>ns</i>
Peer communication	Access to funds	0.307 4.672	<i>ns</i>	<i>ns</i>
Peer communication	Access to Internet	0.482 5.901	0.332 3.949	<i>ns</i>
Peer communication	Internet shopping involvement	0.405 4.972	<i>ns</i>	<i>ns</i>
Mall				
Family communication	Access to funds	<i>ns</i>	<i>ns</i>	<i>ns</i>
Family communication	Access to mall	<i>ns</i>	<i>ns</i>	<i>ns</i>
Family communication	Mall shopping involvement	<i>ns</i>	0.517 4.316	<i>ns</i>
Peer communication	Access to funds	<i>ns</i>	<i>ns</i>	<i>ns</i>
Peer communication	Access to mall	<i>ns</i>	<i>ns</i>	−0.252 −2.692
Peer communication	Mall shopping involvement	<i>ns</i>	0.589 4.746	<i>ns</i>

Note. The top number in each cell is the β and the bottom number is the t -value. Only interactions significant at the $p < .05$ are reported here.

time spent shopping on the Internet, but only under conditions of greater access to the Internet.

Discussion

The most interesting and strongest finding of this study is that involvement with the shopping channel has a very strong influence on all hypothesized variables. When a teen is involved with a channel, he or she is motivated to expend more time and effort fully talking about, exploring, and experiencing the channel. Without this involvement, the teen displays less favorable behaviors and intentions towards the channel. These findings add support to the literature that the role of involvement in consumer information processing is substantial and suggests its importance in the CS process.

The second general socialization factor we noted was the strong influence of access to the shopping channel on agent (peer and family) communication about shopping and purchasing via the channel. The agent might initiate this communication—and thus reflect his or her attitudes toward the different shopping channels—or it may be initiated by the teen. For instance, regarding the Internet, a family member might initiate communication with the adolescent since the teen may be viewed as a knowledgeable and competent source of information about this newer shopping channel. Since Internet education and access is a component of contemporary school education, a family member might seek Internet shopping advice from the teen.

The third socialization factor that generalizes across the channels is that time spent shopping in the channel increases spending levels and future intentions to shop and purchase in the channel. Besides giving the consumer more time to find those preplanned items, increased shopping also encourages more impulse (time-inconsistent) purchasing as proximity-induced impatience overrides willpower in the shopping environment (Hoch and Loewenstein 1991). This may be particularly true for teens, who may be more interested in immediate gratification. Moreover, increased shopping time leads to greater future shopping intentions. This could be because the young consumer who enjoys shopping in a particular channel will most likely plan to continue this activity in the future. Also, increased shopping in a channel makes the consumer more comfortable with this shopping script (Peracchio 1992), thus making it a more desirable shopping channel.

The fourth socialization aspect consistent across the channels is that peer communication about shopping and purchasing via the channel relates positively to shopping time with that channel. As an adolescent socializes as a consumer, peers have influence over how much time he or she spends shopping in a particular channel by communicating consumer information and encouragement about the channel. The young consumer is then armed with knowledge that can either demystify the channel shopping experience or gives her information to test out in the shopping environment. There-

fore, as a result of peers' discussing shopping and purchasing in a channel, the young consumer spends more time shopping in that channel.

The final socialization factor affecting both channels is that access to funds positively influences spending levels in each channel. This is a logical connection, as obviously a developing consumer must have access to funds in order to purchase offerings via any shopping channel. Although, as illustrated by the \$175 billion spent by teens in 2003 (Howard and Dugas 2004), these young consumers are well-experienced with consumer expenditures.

We also identified channel-specific CS factors that influence shopping channel utilization—three for the Internet and two for the mall. For the Internet, access to the Internet has a positive direct influence on (1) Internet shopping time and (2) future intentions to shop and purchase on the Internet. Also, communication from peers about shopping and purchasing on the Internet influenced (3) spending level related to the Internet. For the mall, peer communication about shopping and purchasing in the channel influenced (1) future intentions to shop and purchase at the mall, while (2) family communication about shopping and purchasing in the channel impacted shopping time related to the mall.

Access to the mall had no direct effect on time spent shopping at the mall. This might indicate that this relationship is at least partially mediated by both peer and family communication about shopping and purchasing at the mall. Also, access to the mall had a negative influence on future intentions to shop and purchase at the mall. However, access to the Internet did have an important direct impact on time spent shopping and future intentions to shop and purchase on the Internet. These findings might reveal three fundamental differences between the uses of the two channels.

First is the amount of information available to a consumer. In effect, a mall has relatively stable retailing choices. Thus, a consumer can quickly achieve information saturation about the retailing options available. Furthermore, if the information learned about the retailers is not desirable to the consumer, she may develop negative future mall intentions. Unless one ranks high on mall shopping involvement, is perhaps actively engaged in prepurchase search, or has become aware of a change in the retailing mix at the mall, mere access to the mall does not result in greater mall shopping time but even results in negative future mall intentions. The Internet, on the other hand, has a virtually unlimited number of retailing choices to shop that can change daily or within a single online shopping excursion based on the search engines used. The Internet allows a consumer to shop at numerous stores that might not have a presence anywhere near the shopper. It is very difficult for an online consumer to reach information saturation. Hence, the consumer with Internet access has the incentive to spend more time shopping via this channel. Therefore, access to the Internet is related positively to Internet shopping time and future intentions.

Second, the Internet is at an earlier adoption stage than the mall. Therefore, teens of all ages intend to shop and purchase

via the Internet in the future. Third, the effects could be age-relevant. Younger adolescents, with more limited mall access (and not yet at the information saturation point), express greater intentions to shop and purchase at the mall in the future while older adolescents, with greater mall access (and already at the information saturation point), intend to shop and purchase less at the mall. Furthermore, older adolescents might already be shopping often at the mall and expect to decrease mall shopping in the future in lieu of catalog or other shopping channel or develop interests other than mall shopping (i.e., attend college).

When considering both shopping channels, peer communication was important for both the mall and the Internet for time spent shopping in each channel. Furthermore, peer communication had an influence on spending levels on the Internet and future intentions to shop and purchase at the mall. In fact, four out of the six hypothesized relationships between peer communication and the outcome variables were significant. However, only one of the six hypothesized relationships between family communication and the outcome variables was significant. Thus, it appears that peers were the more influential socialization agent across the channels. Similarly, Tootelian and Gaedeke (1992) found that teens mainly prefer peers over family as an information source for almost all product purchases.

There were few interaction effects in the post hoc moderator analyses for the mall. Only three of the possible eighteen interactions were significant, suggesting that the antecedent and mediating variables do not build on each other to amplify their effects. The negative interaction of access to the mall and peer communication regarding mall future intentions confirms our earlier finding that greater mall access leads to lower future intentions.

On the other hand, in regards to the Internet, many of the interactions were significant, especially when examining the money spent variable. Thus, it appears that both access variables and involvement interact with the agent communication variables to produce higher levels of money spent. This indicates that access and involvement beget more communication by and with both parties and all of these variables build on each other to increase potential spending levels of the teen. This was also found to be true for access to the Internet and agent communication in regards to increased shopping time on the Internet.

Theoretical contributions

There are three theoretical contributions of this study. First, we have a better understanding of the CS process that occurs via two shopping channels. This is the first study to examine socialization factors that draw a young consumer to shop and purchase in a particular channel. The consistency of findings across the two channels suggests that our model is reasonably applicable across these channels, with some interesting exceptions. Second, this study expands the CS perspective by including channel shopping involvement.

Since the CS perspective allows for evolution, it is important to include involvement in this perspective as it provides considerable explanatory power. The third contribution is the empirical examination of accessibility variables (both to funds and to the specific shopping channel), which have received little prior attention but which are highly relevant for both channels.

Managerial implications

Based on our findings, Internet retailers should increase Internet shopping involvement by creating more interactivity on their website or online communities. Having a fun or exciting website through which users discover the joy of surfing the Internet might accomplish this. Further, retailers can offer prizes or other incentives to encourage consumers to have a more interactive relationship with their site. Overall, this could increase Internet shopping involvement and produce more time shopping, higher future intentions, and more money spent.

Additionally, a consumer must have Internet access in order to shop via the Internet both now and in the future. Internet access, therefore, becomes a variable of interest in the continued growth and development of consumer electronic commerce. A practitioner seeking a strong Internet presence should find ways to help facilitate Internet access. This is similar to the findings of La Ferle et al. (2000) who state, “it is up to advertisers and marketers to attract teens to the web by supplying them with information on the ways the Internet can fulfill many of their needs” (p. 62). Also, Internet retailers would benefit by encouraging peer communication about their offerings (i.e., tell-a-friend offers, etc.).

Furthermore, it appears that mall retailers should try to increase mall shopping involvement. Perhaps they could do this by providing fun events and/or seminars on shopping in this environment. Similar to the Internet, mall retailers can offer prizes or other incentives to try and introduce consumers to a more interactive relationship with the mall or stores in the mall. This may produce increased mall shopping involvement, which could result in increased shopping time, money spent, and future intentions. Also, by encouraging consumers to spend more time shopping in the mall, this will lead to increases in the money spent and future intentions. One way to accomplish this is by encouraging peer and family communication about mall shopping and purchasing. Providing a family-oriented environment to encourage parents to bring children to the mall may increase socialization at an even earlier age. This can ensure that a developing consumer becomes a mall shopper in the midst of multiple shopping channel choices.

Limitations and directions for future research

Although much effort has been put into ensuring proper execution, there are still some limitations in this study worth noting. For instance, the sample was drawn from only one

city at one point in time. Thus, its applicability to other situations is not known. Further, conducting such a study longitudinally could provide fascinating insights. Obviously, this study also has the usual problems of self-reporting from only one data collection. Future studies could collect information from relatives, peers, and teachers and match these responses with the self-disclosed items. Finally, a teen respondent might consider brothers and sisters to be peers as well as “relatives,” thus potentially confounding the results.

Future research should concentrate on learning more about the antecedents of shopping channel involvement, since it was so important in the current study and other recent research. For instance, what can mall developers and planners do to increase teen communication about mall shopping, actual mall patronage and more importantly, purchasing in the mall?

Belch et al. (2005) looked at the enhanced influence in the family decision-making process of teen Internet mavens, i.e., those more involved with the Internet. But many more questions could be addressed in regards to Internet socialization. For example, does Internet shopping involvement depend on whether family members are Internet savvy? Also, how does a teen’s confidence or efficacy level with respect to computer usage and advances in technology affect Internet shopping?

And what other personality variables influence these shopping variables? Finally, do retailer websites that are more interactive in nature lead to increased levels of Internet shopping learning and/or involvement?

Lastly, future research should consider whether there are other variables—such as socioeconomic status, the influence of children on their parents and sibling on sibling, the effects of mass media and exposure in school, and the issue of time constraints on the shopper—that influence the socialization of a consumer to particular shopping channels. The CS perspective is a broad framework, and there are likely to be many other variables not considered in this study that add to the understanding of the process. These future research directions could provide a better understanding of the influence of CS in the usage of alternative shopping channels. These research efforts may better prepare academics and practitioners alike for the next innovation in retailing.

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Appendix A. Measures

Access to Funds:	<u>Job:</u>	I have a job outside of my home. ^a Average number of hours worked per week: _____ HOURS/Week
	<u>Other Sources:</u>	I have other sources of funds besides salary and allowance. ^a
	<u>Allowance:</u>	I have an allowance. ^a I receive a reasonable allowance. ^b I am satisfied with my allowance. ^b
Access to the Mall^c:	<u>Self-access:</u>	I drive myself to the mall.
	<u>Other-access:</u>	A relative gives me a ride to the mall. I ride to the mall with my friends. I take public transportation (bus, taxi) to the mall.
Access to the Internet^c:	<u>In-Home:</u>	I use the Internet at home.
	<u>Out-of-home:</u>	I use the Internet at a friend’s or relative’s house. I use the Internet at school. I use the Internet at the local library.
Socialization Agent Communication about the Channels^b (Appeared four times) :		
		I spend a lot of time talking with my peers [relatives ^j] about shopping at the mall [on the Internet]. ^f
		My peers [relatives ^j] encourage me to make purchases at the mall [on the Internet]. ^g
		My peers [relatives ^j] and I tell each other where to find items for sale at the mall [on the Internet]. ^h
		I ask my peers [relatives ^j] for advice about buying things at the mall [on the Internet]. ⁱ
Shopping Time^c:		
		On average, about how many hours per month do you spend shopping (for anything) at the mall [on the Internet]?
Spending Level^c:		
		On average, about how much money do you spend buying things (anything) per month at the mall [on the Internet]?
Future Intentions^d:		
		I intend to shop (<i>for anything</i>) at the mall [on the Internet] in the future.
		I intend to buy (<i>anything</i>) at the mall [on the Internet] in the future.

Appendix A (Continued)

Shopping Involvement (Wakefield and Baker 1998):	In general, ____ shopping is:
Important—Unimportant	Boring—Interesting+
Means a lot to me—Means nothing to me	Unexciting—Exciting+
Matters to me—Doesn't matter+	Appealing—Unappealing
+ Indicates item that is reverse-coded	

^aItems measured as a dichotomy: yes or no.

^bItems measured on a seven point scale: Strongly Disagree to Strongly Agree.

^cItems measured on a seven point scale: Never to A Lot.

^dItems measured on a seven point scale: Much Less to Much More.

^eOpen-ended.

^fFrom Bush et al. (1999).

^gOriginal item.

^hFrom Mangleburg et al. (1997).

ⁱFrom Moschis and Moore (1979).

^jThe term “relatives” was used instead of family because it is more inclusive and provides a better reference point for young people, many of whom are living in nontraditional households. For clarification, a definition of relatives was provided in the survey and read as follows, “Relatives include any parents, brothers, sisters, grandparents, or any other relative with whom you have contact.”

Appendix B. Access indices

Each access index was constructed following the framework described by Diamantopoulos and Winklhofer (2001). That is, the content for each construct was specified, indicators covering the scope of the construct were developed, multicollinearity was assessed, and external validity was established. The *access to funds* index was measured with items from Mangleburg and Brown (1995) as well as original questions and thus assessed several different teen sources of income. According to Tootelian and Gaedeke (1992) and Mangleburg and Brown (1995), the primary sources of adolescent funds are a job and an allowance. Each of these received equal weighting in our index. An additional item inquired about other sources of funds because in the teen depth interviews, the adolescent's also relied on monetary gifts for birthdays, holidays, and other events as a source of income. The reported number of *job* hours worked per week (0–40) was rescaled to a range of 0–2, with a value of 0 for no job outside the home. Similarly, satisfaction with *allowance* (2–14) was rescaled to a value from 0 to 2, with a value of 0 for no allowance. The *other sources* of funds question was a binary response. These components (job, allowance, and other sources of funds) were summed to create an *access to funds* index. A higher value (five maximum) indicated higher access to funds and a lower value (zero minimum) indicated lower access to funds.

The *access to the mall* index included a component for getting oneself to the mall (*self-access*) and another for others (*others-access*) providing access. Since the number of indicators was not the same for these components, simply summing the indicators would automatically place greater emphasis on the component with more indicators. To avoid this, we first rescaled each component to range from 0 to 2 (0 for no mall access up to 2 for greater access), then added the rescaled components. The maximum value of four represented greater access, and the minimum of zero represented very restricted access to the mall.

Finally, the *access to the Internet* index had two components: *in-home* and *out-of-home* access. Similar to the *access to the mall* index, simply summing the indicators would place greater emphasis on the component with more indicators. It was important to weigh each access equally due to *in-home* access possibly representing a more substantial amount of Internet access time. To avoid this, we rescaled each component to range from 0 to 2 (0 for no Internet access up to 2 for greater access) and then added these. A maximum value of four represented higher Internet access and a minimum value of zero represented poor access. To improve understandability of the survey, the verb “use,” instead of “access” was used in these items (i.e., I use the Internet at home.).

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