Television and Interpersonal Influences on Adolescent Consumer Learning

GILBERT A. CHURCHILL, JR.
GEORGE P. MOSCHIS*

A model of consumer socialization is developed and tested. The development of the model is guided by theoretical notions and empirical findings drawn from various disciplinary areas, and the model is tested using two-stage least squares. The empirical results presented contribute to the understanding of the influence of television, family, and peers on adolescent consumer learning.

A commonly accepted belief among behavioral scientists is that childhood experiences are of great importance in shaping patterns of adult behavior. This contention is reflected in the recent emphasis on the study of socialization, i.e., the process by which people acquire various patterns of cognition and behavior (Brim 1966). Socialization explanations of human behavior make the following key assumption: "To understand human behavior we must specify its social origins and the processes by which it is learned and maintained" (McLeod and O'Keefe 1972, pp. 127–8).

The adaptation of the socialization approach to consumer research was only recently proposed as a vehicle for the study of consumer behavior (Ward 1974a). The area commonly known as "consumer socialization" has received considerable interest and attention mainly as a result of various contemporary issues related to public and corporate policy formulation. Public policy makers have developed an interest in the area because of various issues surrounding the effects of marketing activities (advertising in particular) on youths and their families. Marketers are primarily interested in understanding how young people develop consumer-related thoughts and actions, as a means of improving their communication campaigns directed at this rather lucrative segment of the market. Consumer educators need to understand consumer socialization in order to design appropriate consumer education materials and prepare young people for efficient and effective interaction with the marketplace. Finally, the area has become of interest to students of socialization and consumer behavior because it seems to present new directions and opportunities for studying and understanding consumer behavior. As Ward (1974b) notes:

> . . . at least some patterns of adult consumer behavior are influenced by childhood and adolescent experiences, and the study of these experiences should help us to understand not only consumer behavior among young people, but the development of adult patterns of behavior as well (p. 49).

Although there is a growing interest in consumer socialization (i.e., the processes by which young people acquire consumer-related cognitions and behaviors), little information is available to answer the increasing number of questions regarding consumer learning. One main issue is the effect of television and other sources of consumer information on the development of young people's consumer behavior, values, and attitudes. Advertising critics, for example, argue that advertising strongly influences youths and results in undesirable socialization (e.g., materialistic values and nonrational, impulse-oriented choices). On the other hand, defenders of advertising practices argue that parents modify advertising influences, that the main sources of such cognitions and behaviors are parents and peers, and that advertising sets up the agenda for positive parent-child interaction and provides a consumption-learning experience for the child (Banks 1971; Robertson 1972). These and similar differences of opinion seem to exist partly because research has not focused on the influences of various sources of information on consumer socialization, and are generally the result of lack of conceptualization and explication of consumer socialization concepts (Ward 1974a).

One recent study has attempted to generate empirical data for the purpose of theory construction in this area

*Gilbert A. Churchill, Jr., is Professor of Marketing, School of Business, University of Wisconsin, 1155 Observatory Drive, Madison, WI 53706. George P. Moschis is Assistant Professor of Marketing, College of Business Administration, Georgia State University, University Plaza, Atlanta, GA 30303.

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(Moore and Stephens 1975). Because of the exploratory nature of the study, the variables and hypothesized relationships were not derived from any conceptual or theoretical framework, but rather were used in ad hoc fashion (pp. 87–91). A more elaborate study investigated the development of selected (mainly advertising-related) information-processing skills among children (Ward, Wackman, and Wartella 1977).

Given the growing interest in the area of consumer socialization and the lack of systematic research on the topic (Ward 1974a), this article (1) offers a general conceptual framework that is useful in organizing and conceptualizing variables for the study of consumer socialization, and (2) applies the general theoretical and conceptual notions of socialization to the specific context of consumer socialization, and empirically tests the resulting model. The findings should prove useful in answering questions relating to the influence of mass media, family, and peers on consumer socialization.

SOCIALIZATION PERSPECTIVES

Although no single set of socialization concepts, assumptions, and hypotheses has been agreed upon to guide research efforts in the area of consumer socialization, a rough blueprint does exist outlining what data should be included and what a socialization theory of consumer behavior might look like. McLeod and O'Keefe (1972), for example, maintain that a complete socialization theory must deal with five types of variable: (1) content or criterion behavior; (2) agent or source of the influence; (3) learning processes involved in socialization; (4) social structural constraints affecting learning; and (5) age or life cycle position of the person being influenced.

Content or Criterion Behavior

Socialization research focuses on the study of the development of learning properties (cognitions and behaviors) necessary for the performance of a given social role. For example, researchers have investigated the socialization of people to marital, occupational, and political roles (Brim 1966; Chaffee, Ward, and Tipton 1970).

Learning properties can be divided into (1) properties that help a person function in any given social system and (2) properties related to a person's individual behavior regardless of the standards set by any larger system (McLeod and O'Keefe 1972). The criteria relevant to the functioning in any given social system are prescribed by that society. They are based on normative theories of human behavior and, in a sense, are efforts on the part of some members of that society to regulate the behavior of other members so that certain "desirable" consequences follow (Brim 1966). In the consumer field socially desirable properties can be found in assumptions underlying much consumer legislation. Truth-in-packaging and truth-in-lending legislation, for example, is based on the assumptions that the shopper (1) shops around for good buys, (2) is able to judge and therefore secure the best values, and (3) is aware of his/her legal rights and is willing to use legal remedies for protection (Schnapper 1967).

Criteria relevant to individual behavior, on the other hand, include cognitions and behaviors that enable the person to enact a given social role, regardless of whether the behaviors are functional or dysfunctional in any larger system. Examples of such consumer learning properties are the various social motivations for consumption and for brand and store preferences. While one cannot entirely ignore gratuitous assumptions about human behavior (e.g., the world would be better off if people conformed to socially prescribed behaviors), it seems particularly useful in socialization research to sort out the behaviors defined in terms of their relevance for performing some functions for society from the cognitions and behaviors defined in terms of their relevance only to the individual (McLeod and O'Keefe 1972).

Agent or Source of Influence

Socialization is often viewed as a social process by which norms, attitudes, motivations, and behaviors are transmitted from specific sources, commonly known as "socialization agents," to the learner. "Socialization takes place through interaction of the person and various agents in specific social settings" (McLeod and O'Keefe 1972, p. 135). A socialization agent may be 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). These agents are of high salience to the learner and continue to influence the development of his/her character, even as new agents are added and older ones are displaced. The result of these interactions is the development of a series of "self-other systems" in which the individual is oriented toward the evaluations of significant others and the role prescriptions. Such conceptual notions can be traced to Cooley's (1902) discussion of the "looking glass self," and Mead's (1934) "generalized other."

The main implication of including specific-influence agents in the socialization model is that the unit of analysis becomes the agent-learner relationship (McLeod and O'Keefe 1972). Talmon (1963) classified these agent-to-learner relationships into four categories on the basis of the formality of the type of agent and the role of the learner: (1) formal organization (agent), role of learner specified (e.g., school); (2) formal organization, role of learner not specified (e.g., mass media); (3) informal organization, role of learner specified (e.g., family); (4) informal organization, role of learner not specified (e.g., peers).

Learning Processes

The processes by which the learner acquires specific values and behaviors from the socialization agents, while interacting with them, can be divided into three categories: modeling, reinforcement, and social interaction.

Modeling. Modeling explanations involve imitation either through a conscious attempt to emulate the socialization agent or because the agent's behavior is the most salient alternative open to the person (McLeod and O'Keefe 1972); for example, children do the same things their parents do in an effort to be like them. This type of learning process has also been referred to as observational and imitation learning (Bandura 1969). Common operational definitions of modeling processes are correlations between the agent's and child's behaviors (Chaffee, McLeod, and Atkins 1971).

Reinforcement. These explanations of learning involve either reward (positive reinforcement) or punishment (negative reinforcement) mechanisms. The person learns to duplicate past behaviors that have been rewarded by the socializing agent and/or to avoid repeating those behaviors for which s/he has been punished (McLeod and O'Keefe 1972). Among the most common examples of operational definitions of positive and negative reinforcements are affection and psychological punishment by the parent.

Social interaction. The social interaction mechanism is less specific as to the exact type of learning involved. It may involve a combination of modeling and reinforcement (McLeod and O'Keefe 1972). This explanation holds that the characteristic social norms involved in the person's interactions with other significant persons shape the individual's attitudes, values, and behavior. Thus, what is learned is a series of interpersonal relationships relating to a given social role (Brim 1960; 1966; Thorton and Nardi 1975). The social interaction process may have content and structure. Content often refers to expectations (norms) held by agents as to what the prescribed role should be; these may be attitudinal, behavioral, or cognitive (Thorton and Nardi 1975). Specific examples in the area of consumer socialization would include parental norms regarding saving and spending (Ward et al. 1977), and skills in selecting and using products rationally, which are normally taught in school (Gavian and Nanassy 1955). The structure of the social interaction mechanism, on the other hand, usually refers to agent-child relations concerning power and communication. For example, with respect to parent-child relations one finds power structures such as "controlling-permissive" and "traditional-modern" types of families. Parent-child communication relations include "socio-oriented" and "concept-oriented" communication structures (Chaffee et al. 1971), with specific examples in the area of consumer socialization, e.g., "lectures" ("one-way" talks by the parent to the child regarding consumer activities) and discussion with the child about consumer decisions ("two-way" communication regarding consumption) (Ward and Robertson 1970).

Social Structural Constraints

Social structural explanations of socialization emphasize the person's social environment within which learning takes place. Social variables such as social class, sex, and birth order can have a direct as well as indirect effect in socialization, by influencing learning processes (McLeod and O'Keefe 1972).

Age or Life Cycle Position

Although the study of socialization was once restricted to learning that takes place during childhood, it has been extended in recent years to include the study of learning that occurs throughout a person's lifetime (Brim 1966). Because people learn continuously and because they learn different things at different times in their lives from different agents, the emphasis is on changes in a person's cognitions and behaviors as the individual moves through the life cycle, specifically in the postadolescent period when the person gets married, takes a job, and so forth, at different ages. The term "life cycle" is preferred over "age" as a more relevant variable in adult socialization, because life styles associated with particular cycles become more crucial in terms of reorganization of various cognitions and behaviors (McLeod and O'Keefe 1972). Theory and research also suggest that people at different age or life cycle levels may be influenced differently by environmental factors, e.g., socialization agents (Kagan and Moss 1962; Baldwin 1969; Ward et al. 1977; Crandall, Orleans, Preston, and Rabson 1958), and may respond differently to stimuli in general and commercial stimuli in particular (Wells and Gubar 1964; Cunningham 1974, Phillips and Sternthal 1977). Thus, all generalizations are dependent upon a particular phase in the developmental process or life cycle, and a different cluster of variables tends to dominate each stage.

Conceptually, learning properties may be viewed as dependent variables while social structural variables and age may be viewed as antecedent (independent) variables. The socialization agent and the specific learning process(es) operating may be incorporated into forming intervening variables, which are often referred to as "socialization processes" (Moschis and Churchill 1978; Moschis and Moore 1978; Moore and Stephens 1975). Although a complete socialization theory must deal with all types of variables, it is unlikely that any single research study would handle all five types as measured or manipulated variables (McLeod and O'Keefe 1972).

Typical research on development of consumer patterns of thinking and behaving is based on two models

of human learning: the cognitive developmental model and the social learning model. Studies utilizing the cognitive developmental approach attempt to explain socialization as a function of qualitative changes (stages) in cognitive organization occurring between infancy and adulthood. Stages are defined in terms of cognitive structures the child can use in perceiving and dealing with the environment at different ages. As the child "moves" from one stage to another, s/he is assumed to be developing and integrating various learning properties. Thus, age is used as a proxy variable for cognitive development (Kohlberg 1969). The social learning model, on the other hand, seeks explanations for the formation of cognitions and behaviors from the sources of influence (socialization agents) transmitting attitudes, motivations, and values to the person. Learning is assumed to be taking place during the person's interaction with these socialization agents in various social settings (McLeod and O'Keefe 1972).

A CAUSAL MODEL

In this study, consumer learning is viewed not only as a cognitive-psychological process of adjustment to one's environment, but also as a social process, since various aspects of consumer behavior may not be equally amenable to a given theoretical perspective (Robertson and Feldman 1975). Three criterion variables are investigated: (1) economic motivations for consumption, (2) social motivations for consumption, and (3) materialistic values. These variables were selected not only because of their relevance to contemporary consumer socialization issues, but also because such motivations and values are believed to be central factors defining the person's orientation toward consumption in general (Bauer 1964) and consumer role in particular (Riesman and Roseborough 1955).

The study focuses only on the social interaction learning mechanism, since a cross-sectional design is inappropriate for studying the processes themselves. Cross-sectional designs, however, appear to be suitable for studying the extent of agent-learner interactions. Thus, in line with previous cross-sectional studies of consumer socialization (e.g., Ward and Wackman 1971; Ward et al. 1977; Moore and Stephens 1975; Moschis and Moore 1978), this process was conceptualized in terms of the learner's frequency of interaction with three agents believed to be important in consumer socialization: television, parents, and peers (Ward 1974a; Moore and Stephens 1975). The theoretical justification for using frequency of interaction to capture this complex process is found in various social learning theories (e.g., Gerwitz 1969). For example, learning resulting from the repetitive nature of television advertising, i.e., frequency of interaction with the television, and the pairing of attractive outcomes with advertised products (or unattractive outcomes with failure to use advertised products) may be linked to theories of classical and instrumental conditioning (Bandura 1971).

The social structural constraints investigated are social class, sex, and birth order. Previous theory and research suggest these variables may be important antecedents in consumer socialization (Ward 1974a; Kagan 1977; Maccoby and Jacklin 1974). Finally, the specific lifetime span examined is adolescence because this period appears to be crucial for socialization in general (Campbell 1969) and consumer socialization in particular (Ward 1974b; Moore and Stephens 1975; Moore, Moschis, and Stephens 1977; Moore, Moschis, and Stephens 1978).

Influence of Antecedent Variables

Age. The adolescent's age is expected to affect the criterion variables both directly as well as indirectly by influencing the socialization processes. Direct influence is postulated on the basis of the cognitive development theory of socialization [especially Piaget's (1960) theory of intellectual development], which assumes that all socialization occurs by the age of 15. To the extent that younger adolescents are at their formal operation stage—ages 11 through 14—they are expected to still be developing their consumer-related cognitions; older adolescents are expected to have acquired such cognitions. Thus, the adolescent's age is expected to relate positively with the strength of his/her materialistic values, as well as with his/her economic and social motivations for consumption. In addition, sociological theory and research suggests that as the adolescent matures s/he strives for independence from his/her parents, spending more time interacting with peers (Coleman 1961; Sebald 1968). The time spent outside the family context may in turn affect his/her frequency of television viewing (Schramm, Lyle, and Parker 1961). Thus, age is expected to be related positively with the adolescent's frequency of interaction with his/her peers about consumption matters; it is expected to be negatively related to the frequency of interaction with his/her family about consumption matters and the amount of television s/he views.

Socioeconomic Status. Theory and research also suggest that upper- and middle-class families, as opposed to lower-class families, are more conscious of the normative standards of their class and are more likely to closely supervise their children's consumption activities in an effort to socialize them into the class norms (Psathas 1957; Moschis et al. 1977; Robertson and Rossiter 1975.) This parental involvement in adolescent consumer behavior may result in more frequent discussion of consumption with the child (see Ward et al. 1977, pp. 134–5). These arguments and findings suggest that social class could be expected to be related positively to the adolescent's frequency of interaction with his parents about consumption.

While an adolescent's socioeconomic status can be hypothesized as positively related to the frequency of communication with family about consumption matters, there is scant justification for suggesting a relationship between socioeconomic status and frequency of interaction with peers about consumption. On the one hand, it could be argued that infrequent family interactions about consumption would lead to a higher frequency of interaction with peers. On the other hand, adolescents from lower-class families may not have as many opportunities for consumption (and as a result they may not discuss consumption as frequently) as their upper-class counterparts. Furthermore, findings of an exploratory study showed no significant relationship between the adolescent's socioeconomic background and the frequency of interaction with peers about consumption matters (Moore, Moschis, and Stephens 1975). As there is no theory or empirical evidence to support it, no direct link between socioeconomic status and communication with peers about consumption is hypothesized.

Birth Order. Parents tend to award the firstborn a position of privilege, and the child becomes accustomed to the exclusive affection of the parents. The arrival of the second child poses a threat to the firstborn's relationship with the parents and becomes an incentive to differentiate himself or herself from the younger. This is often done by modeling after parental values or standards valued by the family (Kagan 1977). Research also suggests that firstborn children have a stronger tendency than the later-borns to turn to their parents for values, and to use them, rather than their peers, as models (Schachter 1959). The later-born, on the other hand, is likely to feel resentment toward other siblings because they are aggressive and domineering toward him/her and enjoy the privileges s/he does not, causing him/her to turn to peers for values (Kagan 1977). These differences in orientations between parents and peers may result in differential interaction and influence regarding consumption. Thus, firstborn adolescents are expected to interact more frequently than later-borns with their parents regarding consumption matters, while communication about consumption with peers is expected to be more frequent among later-borns than firstborns.

Sex. Studies have shown that females have a stronger orientation toward their peers than do males (e.g., Millson 1966; Hamilton and Warden 1966; Solomon 1963). Sociologists have speculated that this greater dependence on one another among females may result from the desire to clarify and boost an unsatisfactory role identification and feel more certain of their competence and achievement for future roles (Parsons 1949; Lynn 1959), as well as to learn standards and criteria for the various elements of attractiveness that are expected to be of crucial importance in competing for husbands in the future (Solomon 1963). Peers are not as important to boys because they have more objective indices of their potential to which they can turn (e.g., education, occupation). The findings of a study of wishes of older children and adolescents appear to be in line with these speculations. Boys' wishes for personal aggrandizement and achievement exceeded those of girls, while girls' wishes about social and family relations and personal characteristics exceeded those of boys (Solomon 1963). On the basis of these speculations and research findings, girls are expected to interact more frequently with their peers about consumption matters and to be more susceptible to social influence (possess stronger social motivations for consumption and value products on the basis of their perceived effects on others) than their male counterparts.

Neither the literature on sex differences (Maccoby and Jacklin 1974) nor the results of an exploratory study reporting the relationships between sex and family communication about consumption (Moore et al. 1977) provide any basis for suspecting a link between the sex of the adolescent and the frequency of that person's interaction with his or her parents about consumption matters.

Influence of Television, Family, and Peers

Television. Several behavioral scientists have speculated that television may directly affect the youth's acquisition of "expressive" aspects of consumption (Parsons, Bales, and Shils 1953; Riesman and Roseborough 1955; Bandura 1971). Research that supports these speculations shows that adolescents may aspire to the material blessings (e.g., clothes) of certain television characters (Vener 1959). Television may also spur interpersonal discussions about consumption with others. Research findings of several studies show that young people are likely to discuss with their parents (e.g., request) products they have seen advertised on television (Ward and Wackman 1972; Caron and Ward 1975; Frinders 1973; Burr and Burr 1977). Research also suggests that young people may pay attention to television commercials and discuss them with their peers (Ward and Wackman 1971; Moore and Stephens 1975). On the basis of these speculations and research findings it is expected that the amount of television viewing would be related positively to the adolescent's strength of social motivations for consumption and materialistic values, and to his/her frequency of interaction with parents and peers regarding consumption matters.

Family. Riesman and Roseborough (1955) as well as Parsons and his colleagues (1953) have suggested that young people learn from their parents the "goal-oriented" or "rational" aspects of consumption. Recent research findings in the area of consumer socialization appear to support this contention (Moore and

Stephens 1975; Ward and Wackman 1973; Ward et al. 1977). Thus, the adolescent's frequency of communication with his or her parents about consumption matters is expected to be related positively to the strength of the individual's economic motivations for consumption.

Furthermore, social comparison theory (Festinger 1954) suggests that adolescents need to evaluate some of their perceived knowledge about consumption acquired from their parents by comparing it with the knowledge of other persons who are likely to have similar value perspectives about consumption. Such persons are likely to be peers (Sebald 1968), and empirical findings are in line with this type of reasoning.

For example, a study of adolescent females by Brittain (1963) showed that in areas like taste in clothes, in which girls perceived their ideas to be like that of their peers, the girls tended to favor peer-suggested alternatives. Similarly, another study suggests that the typical teenager is responsive to peer opinions on topics that the person perceives his or her peer to have similar value perspectives (similar interest, opinions, and attitudes), e.g., clothes choice and hair style (Remmers 1957).

In addition, parent-initiated discussions about consumption were found to be related to the adolescent's frequency of interaction with peers about similar matters (Moore et al. 1975; Moore and Moschis 1978). Thus, it is expected that the adolescent's frequency of interaction with parents regarding consumption would be associated with the individual's frequency of interaction with his or her peers about consumption.

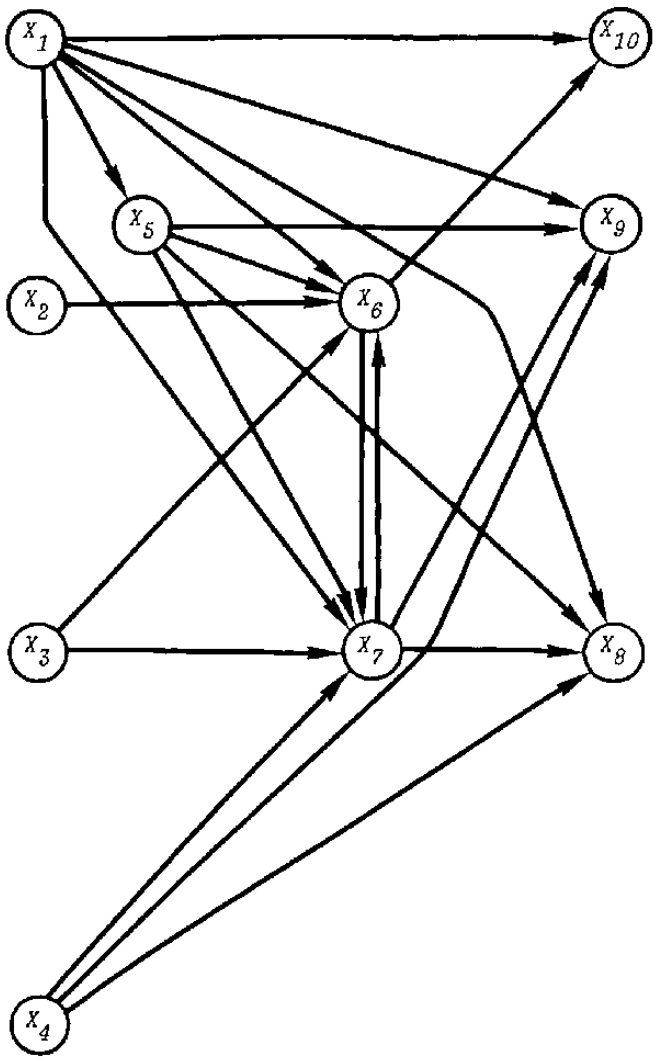
Peers. Sociologists suggest that young people learn the symbolic meaning of goods from their peers (Riesman and Roseborough 1955; Parsons et al. 1953). Research findings also indicate that peer influence may be of significance in situations involving conspicuous consumption (see, Sanders, Salmi, and Tozier 1973). These speculations and findings support a hypothesized positive relationship between the adolescent's frequency of communication with his/her peers about consumption matters and the strength of his/her (1) social motivations for consumption and (2) materialistic attitudes.

It is also likely that consumer-related cognitions learned from interacting with peers will influence the consumption of the individual's parents. Riesman and Roseborough (1955) have termed this influence as "retroactive socialization." Under such conditions the child may be viewed, in Stone's (1955) terms, as an "agent of his peers" (p. 23), communicating the acquired information to his parents.

These speculations are supported by research findings that show a positive relationship between the adolescent's frequency of communication about consumption with his/her peers and the individual's frequency of initiating discussion about consumption with his/her parents (Moore et al. 1975). Thus, the adolescent's frequency of interaction with peers would hypothetically increase the likelihood of interpersonal discussions about consumption at home.

FIGURE A

CONCEPTUAL MODEL OF CONSUMER SOCIALIZATION PROCESS



X_1 = age, X_2 = socioeconomic status, X_3 = birth order, X_4 = sex, X_5 = amount of television viewing, X_6 = family communication about consumption, X_7 = peer communication about consumption, X_8 = materialism, X_9 = social motivations for consumption, X_{10} = economic motivations for consumption.

From the previous discussion, the conceptual diagram in Figure A is suggested as a model of the process of consumer socialization. According to the Figure, the following structural equations need to be solved to assess the sources of the various consumption influences:

X_1, X_2, X_3, X_4 exogenous,

$$X_5 = \beta_{51}X_1 + \mu_5, \quad (1)$$

$$X_6 = \beta_{61}X_1 + \beta_{62}X_2 + \beta_{62}X_2 + \beta_{63}X_3 + \beta_{65}X_5 + \beta_{67}X_7 + u_6, \quad (2)$$

$$X_7 = \beta_{71}X_1 + \beta_{73}X_3 + \beta_{74}X_4 + \beta_{75}X_5 + \beta_{76}X_6 + u_7, \quad (3)$$

$$X_8 = \beta_{81}X_1 + \beta_{84}X_4 + \beta_{85}X_5 + \beta_{87}X_7 + u_8, \quad (4)$$

$$X_9 = \beta_{91}X_1 + \beta_{94}X_4 + \beta_{95}X_5 + \beta_{97}X_7 + u_9, \quad (5)$$

$$X_{10} = \beta_{10,1}X_1 + \beta_{10,6}X_6 + \mu_{10}. \quad (6)$$

METHOD

Sample

The sample for this study consisted of 806 adolescents from 13 schools in seven towns and cities in urban, suburban, semirural, and rural Wisconsin. Some of the schools were chosen on a convenience basis and some on a random basis. Cooperation was requested from school officials at middle schools and senior high schools, and questionnaires were delivered to those who agreed to participate. Two of the schools initially contacted refused to cooperate because they had already used up much classroom time by participating in different surveys earlier in the quarter. As a result, additional schools from the same geographical areas were contacted and included in the sample. There was no obvious reason to assume that the sample might be biased because of differential cooperation. These self-administered questionnaires were filled out by students during regular class sessions and took approximately 30–45 minutes to complete.

Most of the classes chosen by school officials to participate in the survey were in consumer-related courses, such as home economics and consumer education. Because of this, the sample contained a disproportionate number of females, almost two-thirds. The sample was well balanced, though, with respect to age group, geographical location, and social class.

Measures

Three of the exogenous variables (age, birth order, and sex) were treated as dummy variables; age and birth order were dichotomized to be consistent with previous research (Kohlberg 1969; Ward and Wackman 1971; Moore and Stephens 1975; Kagan 1977) while sex is naturally dichotomous. More specifically these three variables were coded as follows:

Age

X_1 = 1 if respondent was 15 or over, an older adolescent.
= 0 if respondent was under 15, a younger adolescent.

Birth Order

X_3 = 1 if respondent had no older brothers or sisters.
= 0 if respondent had an older brother or sister.

Sex

X_4 = 1 if respondent was female.
= 0 if respondent was male.

Socioeconomic Status (X_2). This was measured using Duncan's SES index (Duncan 1961) by converting the response to an open-ended question regarding father's occupation to the appropriate index value.

All of the endogenous variables were measured by summing appropriate items to form scales and using the coefficient alpha (Nunnally 1967) to assess the reliability of the scales. Reliability coefficients for the scales ranged from 0.60 to 0.85 (Moschis 1976) above the 0.50 to 0.60 reliability coefficients often recommended for constructs in the early stages of research (Nunnally 1967, p. 226).

Amount of Television Viewing (X_5). This was measured by asking respondents how frequently they watched specific program categories (Chaffee, McLeod, and Atkin 1971; McLeod and O'Keefe 1972). These program categories were national and local news, sports events, movies, variety shows, cartoons, police shows, and adventure shows. The responses were measured on a five-point scale (every day = 5; never = 1), and summed to form the television viewing index.

Family Communication about Consumption (X_6). This was operationally defined as overt interaction between parent and adolescent concerning goods and services (Ward and Wackman 1971; Moore and Stephens 1975). It was measured by summing responses to 12 items. A typical item was "My parents and I talk about buying things," with responses measured on a five-point scale (very often = 5; never = 1).

Peer Communication about Consumption (X_7). This was operationally defined as overt peer-adolescent interaction concerning goods and services (Moore et al. 1975; 1977; 1978; Moore and Moschis 1978; Moschis and Moore 1978). It was measured by summing the responses to six items like "My friends and I talk about buying things," again using a five-point scale (very often = 5; never = 1).

Materialism (X_8). Materialism was operationally defined as an "orientation emphasizing possessions and money for personal happiness and social progress" (Ward and Wackman 1971, p. 426). It was measured by summing responses to six items like "It is really true that money can buy happiness." The possible re-

sponses ranged from strongly agree (= 5) to strongly disagree (= 1).

Social Motivations for Consumption (X_9). This was operationally defined as a cognitive orientation emphasizing conspicuous consumption and its importance to self-expression (Riesman and Roseborough 1955; Bauer 1964; Ward and Gibson 1969). The index reflected the summed responses to consumption situations of relevance to the adolescent's consumer behavior (Gilkinson 1973; Moore and Stephens 1975) with various degrees of social visibility. Respondents were asked to indicate whether they thought it was important to have certain information (four different items, e.g., what friends think of different brands) before buying each of five products (bicycle, watch, camera, pocket calculator, and hair dryer).

Economic Motivation for Consumption (X_{10}). This was operationally defined as a cognitive orientation concerning the importance of functional and economic features of products (Riesman and Roseborough 1955; Bauer 1964). Respondents were asked to check whether they thought it was important to have information about five different items (e.g., guarantees on different brands) before buying each of the above products; the responses were summed to generate the index.

Analytical Problems

The path analytic diagrams of Figure A and resulting equations suggest that variables X_5, X_8, X_9, and X_{10} are all part of recursive relationships in that they are not involved in any loops, and the disturbances in them are uncoordinated with any of their source variables (Heise 1975, p. 153). The regression coefficients in Equations 1, 4, 5, and 6 can consequently be estimated by ordinary least squares (OLS).

This is not the case for variables X_6 and X_7, Equations 2 and 3. Family communication about consumption (X_6) affects and is simultaneously affected by peer communication about consumption (X_7). Ordinary least squares can not therefore be used to estimate the coefficients in Equations 2 and 3, because OLS produces biased, inconsistent estimates when a system of equations is nonrecursive (Duncan 1975, pp. 67–79; Hanushek and Jackson 1977, pp. 217–81).

The basic reason OLS does not work in such a mutual dependency situation is that X_6 is now correlated with the disturbance term u_7 reflecting unmeasured causes of X_7, and X_7 is correlated with the disturbance u_6 reflecting unmeasured causes of X_6. This violates one of the key assumptions underlying the derivation of the least squares equation (the error term is uncorrelated with the predictor variables) and if OLS were to be applied to Equation 3 to estimate the effect of X_6 on X_7, the estimate would be biased by the extent of the correlation between X_6 and the unmeasured causes of X_7. The same would be true if OLS were to be applied to Equation 2 in estimating the impact of X_7 on X_6.

What can one do in such a situation? How can one, say, isolate the variance in family communication about consumption (X_6) that is a cause of peer communication (X_7), but is *not* related simultaneously to unmeasured causes of peer communication and vice versa? The key lies in finding adequate instrumental variables. An adequate instrument for family communication (X_6) in Equation 3 is one that (a) has no direct effect on peer communication (X_7), (b) does affect family communication (X_6) directly or through an intervening variable that has no direct effect on X_7, (c) is not affected by either family communication or peer communication about consumption, and (d) is uncorrelated with the unmeasured causes of peer communication. (For a discussion of why these conditions are necessary and how they facilitate the coefficient estimating task, see Heise 1975, pp. 160–8.) Only X_2 satisfies the criteria of serving as an instrument for X_6.

A similar set of conditions must be satisfied for isolating the variance in peer communication (X_7) that is a cause of family communication (X_6), but is not related simultaneously to unmeasured causes of family communication (u_6). Only X_4 qualifies as an instrument for X_7 under these conditions. Note that variables X_1, X_3, and X_5 do not meet the conditions for instruments in either relationship.

Given the availability of such instruments, it is possible to estimate the equations using two-stage least squares (2SLS). In 2SLS, one regresses the endogenous variables in the troublesome equations on all of the exogenous variables, that is, one forms and estimates what are called the reduced form equations. The estimated values of the endogenous variables are then inserted in the appropriate equations and OLS is used to secure coefficient estimates.

In the case at hand, the troublesome equations are 2 and 3, which involve X_6 and X_7 as endogenous variables. The reduced form equations for X_6 and X_7 are:

$$\hat{X}_6 = \hat{\beta}_{61}X_1 + \hat{\beta}_{62}X_2 + \hat{\beta}_{63}X_3 + \hat{\beta}_{64}X_4 + \hat{\beta}_{65}X_5,$$

$$\hat{X}_7 = \hat{\beta}_{71}X_1 + \hat{\beta}_{72}X_2 + \hat{\beta}_{73}X_3 + \hat{\beta}_{74}X_4 + \hat{\beta}_{75}X_5,$$

which are solved by OLS.

In the second stage of the 2SLS procedure, the contaminated independent variables, X_7 and X_6, in Equations 2 and 3 are respectively replaced with $\hat{X}_7$ and $\hat{X}_6$, and these equations are also solved by OLS. That is, Equations 2 and 3 now become:

$$X_6 = \beta_{61}{}^*X_1 + \beta_{62}{}^*X_2 + \beta_{63}{}^*X_3 + \beta_{65}{}^*X_5 + \beta_{67}{}^*\hat{X}_7 + u_6{}^*$$

$$X_7 = \beta_{71}{}^*X_1 + \beta_{73}{}^*X_3 + \beta_{74}{}^*X_4 + \beta_{75}{}^*X_5 + \beta_{76}{}^*\hat{X}_6 + u_7{}^*.$$

TABLE

HYPOTHESIZED (H) AND ESTIMATED (E) RELATIONSHIPS BETWEEN VARIABLES

Predictor variable	X_5 H	X_5 E	X_6 H	X_6 E	X_7 H	X_7 E	X_8 H	X_8 E	X_9 H	X_9 E	X_{10} H	X_{10} E
X_1	−	−.757[a] −.300	−	−.459[c] −.130	+	.731[a] .318	+	−0.47 −.021	+	−.029 −.012	+	.411[a] .127
X_2			+	−.005 −.020								
X_3			+	.573 .037	−	−.873[c] −.086						
X_4					+	−.944 −.106	+	−1.646[a] −.183	+	−1.117[a] −.118		
X_5			+	.203[b] .145	−	−.544[c] −.597	−	.101[c] .110	+	.125[a] .130		
X_6					+	2.239[b] .815					+	.087[b] .095
X_7			+	.789[c] .126			+	.150[a] .149	+	.154[a] .146		
R^2		.089[a]		.050[a]		.054[a]		.061[a]		.047[a]		.020[a]

[a]Significant at 0.001 level.
[b]Significant at 0.01 level.
[c]Significant at 0.05 level.
⌐ ⌙ = Inconsistent with hypothesized model.

If the estimated values of β_{67}* and β_{76}* are statistically significant [given conditions (a) to (d) above are satisfied], then evidence for reciprocal causation exists.

It is important to understand why the instrumental variable conditions are necessary, that is, why X_2, for example, must be unrelated to unmeasured causes of X_7 or to X_7 directly, if it is to serve as an instrument for X_6. If X_2 were related to unmeasured causes of X_7, then the reduced form equation would not control for this variance and the unmeasured causes of X_7 would be fed into X_6 by way of X_2. Similarly, if X_2 were related to X_7 directly, it would also be related to the unmeasured causes of X_7, and again $\hat{X}_6$ would include variance related to unmeasured causes of X_7 and there would be correlation between the error term and one of the predictors in the equation. Should either of these conditions obtain, the relationship between $\hat{X}_6$ and X_7 would again be spurious (Miller 1971).

RESULTS

The results of the estimating procedure are displayed in the Table. The first line shows the raw score coefficients, and the second line displays the standardized coefficients. Both are reported because there are arguments supporting the value of each.[1] The boxed entries reflect the relationships that are inconsistent with the hypothesized model. R^2 values are shown at the bottom of the Table. The reader should note that the goodness-of-fit is very low, suggesting caution in interpreting the results.

While the results are somewhat consistent with the structural model, they are not entirely so. The amount of television viewing among adolescents (X_5) does decline with age (X_1) as hypothesized. Further, family communication about consumption matters (X_6) declines with age (X_1), increases with the amount of television viewing (X_5), and increases with the amount of peer communication (X_7), all as posited. The impact of birth order (X_3) on family communication is positive, as hypothesized, but the estimated relationship is not significant. Note, however, that the impact of socioeconomic status (X_2) on family communication is negative, though hypothesized to be positive, but is not significant.

With respect to peer communication about consumption (X_7), there are two deviations from the hypothesized model. First, the influence of sex (X_4) is not significant, indicating females do not discuss con-

[1]See Kim and Mueller (1976) for a summary of the arguments advocating the use of unstandardized coefficients, and Hargens (1976) for the reasons for reporting standardized coefficients.

sumption matters with peers more than do males. Second, peer communication about consumption decreases as television viewing increases rather than increasing as hypothesized; and the result is statistically significant. Peer communication about consumption does increase, though, with age (X_1) and with the amount of family communication about consumption (X_6), and decreases among children who are not first-born (X_3), all as hypothesized.

The sources of materialism (X_8) were generally consistent with what was proposed in the model; materialistic values did increase with the amount of television viewing (X_5) and with the extent of peer communication (X_7). Further, females displayed lower materialistic orientations than did males, a finding opposite to that hypothesized. The estimated impact of age (X_1) was opposite to that proposed, but the coefficient was not significant.

Age (X_1) also did not affect a respondent's social motivations for consumption (X_9) as posited. Females (X_4) displayed significantly weaker social consumption motivations than did males, which is opposite to that hypothesized, while the amount of television viewing (X_5) and the amount of peer communication (X_7) positively affected a respondent's social motivations for consumption.

Economic motivations for consumption (X_{10}) were positively related to age (X_1) and the amount of family communication about consumption matters (X_6), as posited.

DISCUSSION

The results of this investigation are somewhat disconcerting. While on the one hand they tend to support much of the structured model, they also fail to support it with respect to several key relationships. The most serious breakdowns involved finding that socioeconomic status (X_2) was not related to family communication about consumption (X_6), and that sex (X_4) was not related to peer communication about consumption (X_7). These results are important because these variables served as instruments in the 2SLS estimating procedure, X_2 for X_6 and X_4 for X_7. This raises the possibility that the estimated relationships may be spurious. It would be ideal in a case like this to use other instruments and reestimate the relationships. Unfortunately, there were no data collected that could serve for X_6 and be supported on either theoretical or empirical grounds (X_3 could serve for X_7); further, it is impossible to go back to the subjects at this time to collect information on variables that might serve as good instruments in the reduced form equations. Thus, the reader must exercise caution with respect to the discussion of the results below.

Consider the degree of support provided by the data for the model of consumer socialization that was posited. First, age, sex, and birth order appear to be significant antecedent variables of consumer socialization. The influence of sex appears to be direct, while the influence of age and birth order seems to be primarily indirect, i.e., by influencing socialization processes. The findings further suggest that the cognitive development approach to studying consumer socialization during adolescence may not be as fruitful as the social learning model. Age was related significantly only to one of the three criterion variables, and it generally accounted for a smaller amount of variance relative to the three socialization agents.

Television, family, and peers appear to be important sources of consumer information. Television and peers appear to be important agents in adolescent consumer socialization, teaching these young people the "expressive" elements of consumption, a finding consistent with speculations of behavioral scientists (Bandura 1971; Riesman and Roseborough 1955; Parsons et al. 1953). Television also appears to indirectly affect the acquisition of consumer-related properties by stimulating interactions about consumption with parents and decreasing it with peers. Interactions with parents apparently contribute to the child's learning of the "goal-oriented" or rational elements of consumption. The data indicate a significant link between the amount of family communication about consumption and the extent to which adolescents hold economic motivations for consumption.

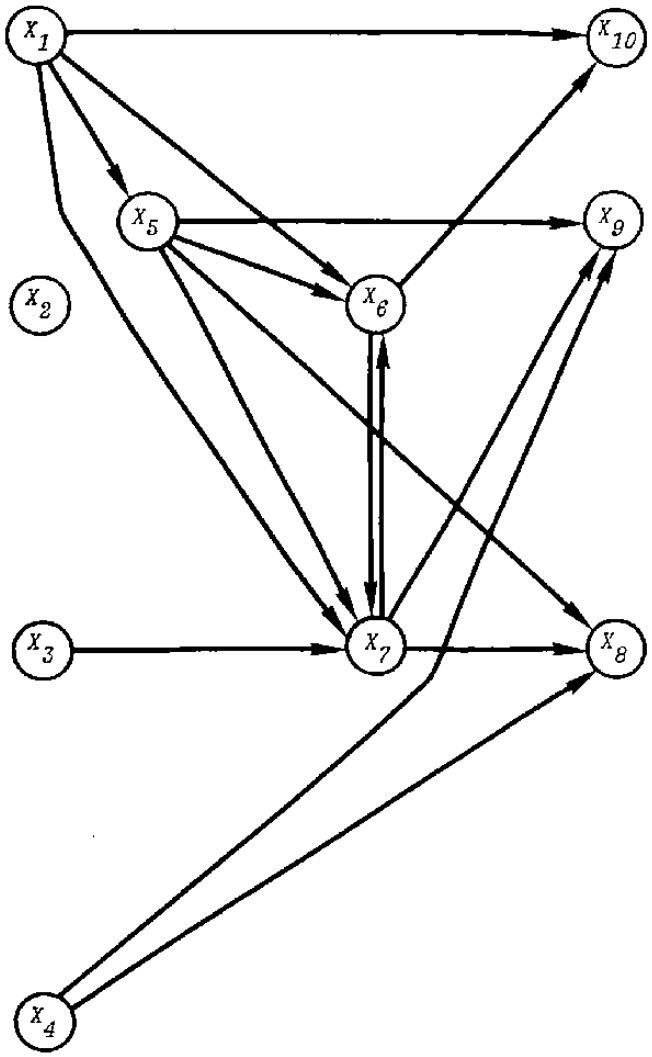
This finding appears to be consistent with speculations of early sociologists with respect to the kinds of consumer behavior young people learn from their parents, as well as with respect to the role television plays in this process (Riesman and Roseborough 1955; Parsons et al. 1953). The data also show that family communication about consumption may lead to communication with peers about such matters, a finding that can be interpreted in line with Festinger's theory of social comparison. Thus, the child's need to evaluate some consumption-related cognitions learned at home may cause him or her to seek out others who are similar and initiate discussions with them.

Male adolescents exhibited stronger expressive orientations toward consumption (materialistic attitudes and social motivations) than did their female counterparts, a finding opposite to what was expected. Perhaps the adolescent's sex affects aspects of his or her social orientations other than consumption, or perhaps such orientations may be of a broader nature. It is also possible that conspicuous consumption provides the male more than the female adolescent with means for establishing his status, power, and respect among his peers.

The findings also suggest that researchers working in the area of adolescent socialization must be on guard. Consider the revised formulation of the model in Figure B. If this model is to be estimated, it will be necessary to come up with instruments for X_6 and X_7 that satisfy the four conditions for good instruments previously men-

FIGURE B

REVISED MODEL OF CONSUMER SOCIALIZATION PROCESS BASED ON THE PATH ANALYTIC INVESTIGATION



X_1 = age, X_2 = socioeconomic status, X_3 = birth order, X_4 = sex, X_5 = amount of television viewing, X_6 = family communication about consumption, X_7 = peer communication about consumption, X_8 = materialism, X_9 = social motivations for consumption, X_{10} = economic motivations for consumption.

tioned. At this stage of our understanding, this could prove to be a difficult assignment.

In summary, the findings highlight the family's mediating function in the socialization process (Engel, Blackwell, and Kollat 1978). The various aspects of consumption the young view on television are likely to be discussed with parents, who are likely to have formalized consumer role prescriptions (goals) for their children (Ward et al. 1977), and they may attempt to teach them notions of a "good"/"rational" consumer. Thus, in the light of parents' limited use of active teaching methods (Ward et al. 1977), television appears to provide opportunities for direct consumer training by parents. The findings also suggest that it would be unreasonable to assume that outside-of-home influences like television and peers provide only opportunities for positive parent-child interaction and consumer learning. Rather, such socialization agents may directly affect the youth's learning of nonrational consumer orientations.

The study results are somewhat similar to the findings regarding television influences on aggressive behavior (Comstock 1978). In both cases, the prowess of television appears to depend on the presence (or lack) of intervention by nonvicarious agents, such as parents.

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