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What is This?
Affecting Adolescence: Scrutinizing the Link Between Advertising and Segmentation

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The ethical credentials of advertising in regard to young people have been questioned for some time. It is thus intriguing that the same scrutiny has never been directed at the concomitant practice of segmentation. Market segments are usually assumed to exist quite independently of the targeting process and are thus not considered within the same agenda as advertising. But what if advertisers influence the formation of segments? In this postulate, firms are not creating a product for a segment but instead are creating a segment for a product. Advertising and segmentation become interlinked and the ethical concerns expressed over advertising must also be applied to segmentation. The article highlights the link between advertising and segmentation and presents empirical evidence that adolescent attitude/value-based segments can be influenced by advertising. If this result can be generalized, the ethical debate on advertising needs to be widened to include the commercial practice of segmentation.

Keywords: segmentation; advertising; adolescents

Segmentation has been a cornerstone of marketing for half a century (Beane & Ennis, 1987; Cohen & Ramaswamy, 1998; Haley, 1968; W. Smith, 1995; Wind, 1978). Throughout this time, market segments have been consistently considered as objective groupings of individuals that marketers identify, understand, and target with advertising messages. The process of market segmentation has therefore occupied a position of...
moral neutrality. On the other hand, the moral credentials of advertising—an activity no less central to marketing practice—are much more ambivalent. From the accusations of subliminal manipulation of the consumer by Vance Packard (1957) in the 1950s to the banning of advertising to children in Greece and Sweden in the mid-1990s and in Italy in 2000, the ethics of advertising have been subject to 50 years of global debate. Issues surrounding advertising to young people have attracted most attention.

This article examines the link between advertising and segmentation and presents an empirical exploration of the role that advertising may play in the formation of attitude/value-based segments during adolescence.

The article is organized as follows. First, pertinent issues surrounding advertising ethics are reviewed. Second, the historical context of segmentation is explicated and the societal concerns surrounding segmentation discussed. Third, the commercial use of psychographic variables to explain variations in consumption behavior is presented. Fourth, a core assumption underlying the nature of market segments is challenged and three concomitant issues explored—namely, the stability of psychographic segments, the effect of advertising on psychographics, and the mutability of attitudes, values, opinions, and lifestyle during adolescence. Fifth, the research proposition is specified, the empirical study described, and the results reported. Finally, the results are discussed and the implications for the role of the business practice of segmentation in society extrapolated.

THE ETHICS OF ADVERTISING

Arguably, the debates over the effects of advertising on society are all implicitly underpinned by consideration of whether advertising compromises autonomous choice (Arrington, 1982; Crisp, 1987; Sneddon, 2001). Those arguing for the ethical acceptability of advertising claim either that, because of the commercially competitive context of advertising, the consumer has a choice over what to accept and what to reject (e.g., Bishop, 2000, p. 385) or that, because of the cognitive competence of humans, we are equipped with the necessary faculties to decide whether to be affected by adverts (Cunningham, 2003; Shiffman, 1990; Specter, 1990). Those arguing against note, for example, that advertising can make us buy things we do not want or that, as advertising is enmeshed in a capitalist system, it only presents choices based on consumerist-centered reality thus limiting the exposure to nonmaterialist lifestyles (Phillips, 1997; Waide, 1987). As advertising spending increases, on one hand, and as legislation around the world becomes ever stricter, on the other, it would
seem that the social debate over the business of advertising will remain firmly on the global agenda.

THE ETHICS OF SEGMENTATION

The concept of segmentation was introduced into the marketing vocabulary in 1956 by W. Smith (1995) as an alternative to the product differentiation strategy promulgated at the time. Product differentiation is generally considered to constitute a strategy that uses differences in product design as opposed to price, promotion, or distribution strategies to distance offerings from those of the competition to create a competitive advantage. W. Smith defined the underlying philosophy of product differentiation as “the bending of [customer] demand to the will of supply” where “variations in the demands of individual consumers are minimized or brought into line by means of effective use of appealing product claims designed to make a satisfactory volume of demand converge upon the product or product line being promoted” (pp. 64-65). In contrast, he proposed that “segmentation is based upon developments on the demand side of the market and represents a rational and more precise adjustment of the product and marketing effort to consumer and user requirements” (W. Smith, 1995, p. 65). Such a framing of these concepts implicitly underlines the moral neutrality of market segmentation while hinting at a manipulative role for product differentiation. Perhaps it is no accident that the business community (particularly in the United States) felt compelled to move away from the effective use of appealing product claims at this point in history given the pervasive influence of conspiracy theory in general and the emergence of work such as Packard’s (1957) Hidden Persuaders specifically aimed at the media industry.

During the past 50 years, the segmentation concept has accrued universal acceptance by marketing academics and practitioners (e.g., Beane & Ennis, 1987; Cohen & Ramaswamy, 1998; Haley, 1968; O’Regan, 1999; Wind, 1978). In contrast to product differentiation, it is established as a value-free practice. The underlying assumption is that the existence or composition of market segments is an objective reality exogenous to the marketing process. The business case for the process of segmentation is clear. Tailoring both product and communication efforts to a smaller receptive audience has many efficiency and cost benefits over mass communications.

However, this is not to say that business has not come under social scrutiny for the way in which it has used segmentation through the targeting of specific segments. For example, C. Smith (1996) related the public outcry
over the targeting of “Uptown” menthol cigarettes and “PowerMaster” malt liquor at Black Americans. Davidson (2003) noted the disquiet over the marketing of handguns to women. Cowley and Underwood (2001) discussed the ethics of the marketing of Alcopops, which are blatantly targeting alcoholic products at underage drinkers. There are three factors that frame cases of this sort: (a) the practice of targeting, (b) the existence of a group of the population seen to be vulnerable, and (c) the selling of harmful products. Davidson (2003, p. 120) summarized current thinking on the social implications of the interrelationship among these factors. There is nothing inherently wrong with targeting. In fact, it is a less wasteful practice than mass marketing. Likewise, targeting vulnerable groups is not pernicious per se. For example, public information advertising to teenagers about safe sex has a useful social role. However, when a vulnerable group is targeted with a harmful product, then Davidson suggested that social interests will always win over the commercial interests of advertisers (2003, p. 120). This is a view independently backed up by C. Smith and Cooper Martin’s (1997) and Beard’s (2003) studies on the societal perception of targeting strategies.

Yet none of this segmentation literature has specifically looked at the role that advertising may play in the formation of segments. Clearly, advertising cannot create or even influence demographically based market segments. A persuasive advert cannot easily make a person Black, White, rich, poor, male, or female. However, what it may have an influence over is the creation or molding of what have come to be called psychographic segments—that is, those based on personality, values, and lifestyles (Jobber, 2004, p. 218; Kotler, 2005, p. 190).

This enduringly popular approach has been around as long as the segmentation concept (e.g., Evans, 1959; Kassarjian, 1971; Kassarjian & Sheffet, 1975, 1981; Koponen, 1960; O’Regan, 1999; Sampson, 1992; Wells, 1975). The specific application of types of personality theory to segmentation research began after World War II when it was felt by marketing managers at the time that segmentation variables such as demographics provided only a nodding acquaintance with consumers and that customer understanding on a much deeper level was required (Wells, 1975). Until the late 1960s, the application of psychographic theory to segmentation took two directions. First were the studies by researchers such as Koponen (1960) and Evans (1959), which attempted to correlate consumer behavior with scores obtained from standardized personality inventories such as the Edwards Personal Preference Schedule (Edwards, 1957) and the Thurstone Temperament Schedule (Thurstone, 1927). The second strand of research followed the Freudian-influenced motivation research of Ernst Dichter (1964) where the concepts and methods of
clinical psychology were applied to aspects of marketing. During the 1960s, a synthesis of these two traditions began to emerge. Variously called “lifestyle” (Plummer, 1971, 1972), “psychographic” (Demby, 1971; Nelson, 1969, 1971; Pernica, 1974), “activity and attitude” (Hustad & Pessamier, 1971, 1974), or “value” (Kamakura & Mazzon, 1991; Kamakura & Novak, 1992) research, this integrative approach combined the objectivity of the quantitative personality inventory with the descriptive detail of the qualitative motivation research investigations.

There are no signs that this approach to segmentation is losing its appeal. Quite the contrary, in fact, as technological advancements have increased the quantity of consumer data and the sophistication of analysis tools, marketers are searching for increasingly intricate ways of dividing up the customer base to gain competitively advantageous customer insight. To this end, a plethora of personality, values, and lifestyle measures are being utilized (particularly by database marketers) as a means of differentiating customers so that they may be targeted with finely tuned messages. Witness the host of agency organizations that exist offering statistical tools to identify the psychographic typology of individual customers and to profile databases. Systems are offered in the United States by SRI, in the United Kingdom by the Values Company, and across Europe by GfK and RISC. Under these systems, individuals are classified in line with their responses to a questionnaire to one of about eight psychographic types. The Vals2 system, for example, divides the population into actualizers, achievers, experiencers, strugglers, thinkers, innovators, fulfilleds, and believers (SRI, 2004).

In line with general segmentation philosophy, the assumption underlying all of these psychographic segmentation systems is that the segments have an objective reality. However, it is our contention that such segments can be viewed as constructed rather than preexistent. As an example of these competing interpretations, consider the U.K. Guinness advertising campaign from the summer of 2000: “Good things come to those who wait.” The multimillion-pound execution of the award-winning surfer TV advertising campaign (www.guinness.com) creates an association between the laid-back, bon vivant psychographic traits of the surfer who will wait many hours for just one wave and the Guinness drinker who is prepared to wait 30 seconds for a pint of Guinness to be poured. Tacit approval is granted to the surfer’s values. This symbolic link between brand and consumer values and attitudes can be interpreted in two ways. On one hand, personality types can be said to preexist the act of consumption, and thus, the activity of the firm in advertising is simply to target or appeal to a group of people who happen to have a common personality type. This is the current accepted view. On the other hand, the act of
linking a psychographic profile with an already popular brand can be said to imply social approval for particular modes of individual thought and behavior. Thus, the surfer campaign, rather than simply creating an association between Guinness and people who are prepared to wait for good things, would be said to actively create an impetus for people to alter their perceptions and attitudes; the advert would be seen not to appeal to a surfer personality but to construct, disseminate, encourage, and popularize it. The difference between these two views of segmentation is depicted in Figures 1 and 2.

It is our view that as long as the scenario in Figure 1 is accepted and the alternative in Figure 2 is ignored, then three important, interrelated issues are not considered. First is the stability of these segments over time—that is, whether a person’s segment membership is a function of a hardwired, genetically determined makeup or subject to change over a person’s lifetime. Second is if psychographic makeup is subject to change, what is the extent to which the actions of advertisers (for whom these systems exist) can influence segment membership? Third, given that the most dynamic formative years of human development are between birth and adulthood, what is the role that advertising plays in the segment membership of the adolescent?

Consideration of these three issues leads to the following reflection: If psychographic segments are not stable, if marketing messages can alter...
psychographics, and if personality, values, and lifestyle tendencies are developed between birth and adulthood, then what are the ethical implications for the role of advertising in the practice of psychographic segmentation, particularly among adolescents?

This reflection constitutes the impetus for the research reported in this article. We proceed below with a discussion of the three issues upon which the reflection hinges.

**ISSUE 1: THE STABILITY OF PSYCHOGRAPHIC SEGMENTS**

The assumption that psychographics (whether described in terms of lifestyle, personality, attitude and activities, or values) is a stable and enduring phenomenon has a very long history. A key commentator on the use of psychographics in marketing, Kassarjian (1971, p. 409) noted in his first evaluation of the research literature that the use of the personality construct can be traced to the Ancient Chinese, Egyptians, and Greeks and more recently to a number of European philosophers. In Kassarjian and Sheffett’s (1981) second review, they quoted the Advertising Research Foundation (ARF) statement that
people tend to be consistent in coping with their environment. This consistency of response allows us to type politicians as charismatic or obnoxious, students as aggressive or submissive, and colleagues as charming or “blah.” Since individuals do react fairly consistently in a variety of environmental situations, these generalised patterns of response or modes of coping with the world can be called personality. (p. 160)

It appears that the assumption has never seriously been questioned. The flurry of recent headline research on personality genes (e.g., Nash, 1998) that suggests that personality is hard wired and therefore fixed for all time is likely to entrench the position that psychographic segments are entities that preexist targeted communications campaigns by firms. Supporting this is the undeniable fact that psychographic segmentation has remained a commercially viable marketing consultancy tool for at least 30 years. Were the perception of personality as anything other than reasonably stable, it is unlikely that this would be the case.

However, if the psychographic segmentation literature is examined more closely, evidence can be found that psychographics are not as enduring as they may seem. Considering again the influential work of Kassarjian and Sheffet (1981), it is worthy of note that they observed in the course of their second evaluation of research literature that “a review of these dozens of studies and papers can be summarized in a single word—equivocal” (p. 168). During their first review, they had already noted that, on average, psychographic y variables only accounted for between 5% and 10% of the variance in purchase behavior (Kassarjian, 1971). Interestingly, they did not conclude that the construct in question is mutable but, rather, that these rather lackluster results are derived from improper research procedures. In the interim, links between psychographics and purchase behavior continue to be made. For example, studies by Allsop (1986a, 1986b) found positive correlations of scores on measures of extraversion, emotionalism, tough-mindedness, and impulsiveness with alcoholic beverage consumption among 18- to 21-year-old males. Goldsmith, Freiden, and Eastman (1995) found that characteristics of venturesomeness and novelty seeking might account for differences in the tendency to try new products. But at the same time, the stability of psychographics continues to be noted:

In spite of high hopes and prima facie evidence that aspects of consumers’ purchase behavior might be closely related to their personality traits, empirical verification of this association is still lacking. A large number of weak relationships have been discovered but it remains to be seen whether this approach will ever enable the majority of markets to be segmented using a purely personality approach. . . . There is considerable need for further
research before marketing practice benefits from these concepts.
(Goldsmith et al., 1995, p. 178)

If we relax the assumption that psychographics are fixed and explore
the proposition that psychographics are fluid and malleable, then these
observations are less puzzling. The consistent weakness of the association
between psychographics and purchase can be interpreted simply as a
function of the pliable nature of an individual’s attitudes, values, lifestyle,
or personality itself.

Thus, although the psychographic segmentation industry relies on the
stability of the construct, we believe that there is certainly enough evi-
dence of psychographics as to warrant further research into the area.

**ISSUE 2: THE INFLUENCE OF ADVERTISING
ON THE CONSTRUCTION OF PSYCHOGRAPHICS**

Let us assume, then, that it is possible to manipulate a person’s
psychographic segment membership. Let us also assume that social forces
(peer groups, parents, school, church, etc.) are capable of effecting this
manipulation (Kernberg, 1972; Sen, 1977; Sullivan, 1953). But to what
extent can we consider advertising part of our social system? It may be
useful to consider at this juncture that there have been two foci for main-
stream advertising research: research into the effects of the explicit text of
the message and research into the effects of context of the advertising—in
other words, research into the influence of advertising on an individual’s
attitude toward and propensity to purchase a specific brand, on one hand,
and research into the more general effect that advertising as a cultural phe-
nomenon has on the underlying belief systems of individuals and societ-
ies, on the other. Because advertising was conceived as a tool to sell prod-
ucts and not as a cultural activity, research (in the mainstream marketing
literature, at any rate) into the effect of the message far outweighs research
into the phenomenon. Similar to other types of consumer research, adver-
tising research has drawn most heavily from cognitive psychology (Costa,
1995, p. 215; Wells, 1993), and advertising research in particular has been
dominated by information processing models (McClelland, 1987; Mick &
Buhl, 1992). This has further fuelled the channeling of the research stream
into concentration on the cognitive effects that advertising has on individ-
uals rather than the social effects that advertising has on groups.

However, the role of advertising in our social system has been rather
more widely discussed in other literatures, most notably culture (e.g.,
Goldman, 1992) and ethics (e.g., Phillips, 1997). In such research circles,
it is commonly accepted that after industrialization and urbanization, individuals in Western societies became detached from traditional sources of cultural influence and authority such as families, churches, and schools. Society had to look elsewhere for guidance, and advertisers stepped into the social guidance breach. For example, a commentator on American culture claims that “advertisements are a pervasive part of the American aural and visual environment. It is impossible to ignore their wider role in providing people a general education in goods, status, values, social roles, styles and art” (Schudson, 1984, p. 207).

More recently, the social role of advertising has begun to appear in mainstream marketing literature. For example, Willis (1990, p. 48) noted from his research on British youth audiences that the question, “What is your favorite ad?” has taken on a great degree of cultural significance. E. Moore and Lutz (2000) noted that “one striking result of our initial interpretive work was the extent to which children reported attending to and enjoying advertising as a form of entertainment” (p. 34). Authors such as Holbrook (1995, p. 15) propose advertising as “an end in itself,” and Ritson and Elliott (1999) concluded from their study of the use of advertising by British adolescents that

it may be time to elevate the concept of advertising above its status as a complex, but nonetheless intermediary, conduit in the process of product consumption. Instead, consumer researchers must accept that advertising itself is a cultural product that can, through experience, interpretation, evaluation, ritual and metaphor conspicuously confer and convey personal and group meanings. (p. 274)

Of specific interest to the proposition that advertising plays a role in the construction of psychographic segments is Schudson’s (1984) notion of a general education in values and social roles. If can be shown that “it [advertising] tells us what we must do in order to become what we wish to be” (Berman, 1981, p. 58), then the effect of advertising on the formation of the attitudes, values, and lifestyle attributes that determine psychographic classification must surely be afforded serious attention and the neutrality of the segmentation process itself called into question.

**ISSUE 3: THE INFLUENCE OF ADVERTISING FROM BIRTH TO ADULTHOOD**

Having made a case for the malleability of psychographic segments and for the role of advertising in creating changes in the self-definition of the social individual, we can now move on to the third of our issues—
namely, a consideration of the effects of advertising at different chronological periods between birth and adulthood. As with most advertising research, the literature on the influence of advertising on children is steeped in cognitive and developmental psychology (Costa, 1995, p. 215; Wells, 1993). The abundant research carried out in this area all concurs that interaction with advertising changes as children move through chronological stages (e.g., Barenboim, 1981; John, 1999; Selman, 1980). It seems that by 5, almost all children can tell an ad from a program (Blosser & Roberts, 1985; Butter et al., 1981; Levin, Petros, & Petrella, 1982; Palmer & McDowell, 1979; Stephens & Stutts, 1982; Stutts, Vance, & Hudleson, 1981). However, this distinction is made by simple perceptual clues—that is, ads are shorter than programs. Butter et al. (1981) concluded that “young children may know they are watching something different than a programme but do not know that the intent of what they are watching is to invite purchase of a product or service” (p. 82). However, by 7 or 8, children are aware that ads are trying to sell them something (Bever, Bahn, & Mayer, 1982; Blosser & Roberts, 1985; Robertson & Rossiter, 1974; Rubin, 1974; Ward, Wackman, & Wartella, 1977).

The major focus of much research has been to establish when children are able to understand rationally what an advertisement is trying to do so that those too young to understand may be protected. For example John (1999) stated, “Younger children (under 8) without these cognitive defenses are seen as at risk population for being easily misled by advertising” (p. 190). The assumption underlying this major research stream is that (given sufficiently developed cognitive faculties) we can choose whether to be influenced by advertising. This is a common belief. During a high-level debate on the U.K. Radio 4 Moral Maze Programme in 2001, Claire Fox from the Institute of Ideas articulated this as follows: “I don’t think adverts are morally good or bad. The moral debate assumes that the audience is either stupid or manipulated—I find that patronising and I think viewers have enough savvy to work it out for themselves” (The Moral Maze, 2001).

However, cognitive capacity does not necessarily imply immunity from persuasion. For example, Robertson and Rossiter (1974) noted, specifically in relation to children, that “children’s ability to recognise persuasive intent in commercials should not be taken as implying immunity to all commercials; clearly individual commercials may be highly persuasive for children” (p. 19). Indeed, recent work by Robert Heath (2001) on a low-involvement processing model of advertising has shown that we are able to process advertising messages without paying conscious attention to the advert. This is not a new idea as witnessed by the following early-20th-century quotation from Walter Dill Scott (1903):
One young lady asserted that she had never looked at any of the cards in the cars (tram cars) in which she had been riding for years. When questioned further, it appeared that she knew by heart every advertisement appearing on the line . . . and that the goods advertised had won her highest esteem. She was not aware of the fact that she had been studying the advertisements and flatly resented the suggestion that she had been influenced by them. (Heath, 2001, p. 6)

Furthermore, the stream of research on implicit memory currently appearing in the marketing literature suggests that the dominant role that cognition plays in advertising effectiveness will continue to be challenged (Lee, 2002; Shapiro, 1999; Shapiro & Krishnan, 2001).

The debate over whether cognition protects from persuasion aside, the effect of an abundant research literature devoted to establishing an age at which persuasive intent can be recognized has had two effects of direct relevance to this article. First of all, as noted by John (1999) in her review of a quarter of a century of research into the consumer socialization children, it has led to research being concentrated on children younger than 12 years of age (p. 203). Second, as with other aspects of advertising research, the social role that advertising plays at different phases of childhood and adolescence has largely been ignored in favor of effects on individuals.

The research reported here thus not only examines psychographic segmentation in a new light but also serves to fill a gap in the literature—namely, an examination of adolescents and advertising.

**RESEARCH PROPOSITION**

The purpose of the research was to provide an empirical exploration of the role that advertising may play in influencing the formation of psychographic segments during adolescence. Two research propositions suggested themselves—one strong and one weak. The strong proposition would be that advertising has the power to create, *ab initio*, groups of people with shared lifestyles, attitudes, values, or personality traits. The weak proposition, on the other hand, would be that advertising cannot necessarily be responsible for the creation of psychographic groupings but that an individual’s classification can change as a result of exposure to advertising.

As neither the strong nor the weak proposition has yet been investigated in the literature on advertising to children, the research reported in this article could have concentrated on either. It was decided to focus the research on the weak proposition for the following reasons. If the weak proposition could not be substantiated, then it is extremely unlikely that the stronger proposition would hold true. If, however, the strong
proposition could not be supported through research, one could not be sure whether the weak proposition could have been supported. If it could be demonstrated that advertising can alter an individual’s psychographic classification (weak proposition), this would be an important finding in its own right and would also provide good grounds for recommending future research to test the strong proposition. The research proposition was thus formally stated as follows: Advertising communications can create changes in adolescent psychographic segments.

RESEARCH DESIGN

As the research proposition suggests a causal relationship between advertising and psychographic classification, an experimental design was utilized with a posttest-only control group design (e.g., Malhotra & Birks, 2000). The objective was to determine if exposure to different advertising treatments could cause variation in a participant’s psychographic type. The participants were 274 pupils from a U.K. coeducational senior school (high school). There were roughly equal numbers from Year 7 (ages 11 and 12), Year 8 (ages 12 and 13), and Year 9 (ages 13 and 14).

DEPENDENT VARIABLE: ROMANTIC-CLASSICIST (RC) INDEX

The dependent variable was the score derived from completion of the RC Index developed and refined by Holbrook and colleagues (Holbrook, 1986; Holbrook & Corfman, 1984; Holbrook & Olney, 1995). This index is a semantic differential scale that measures the extent to which an individual can be classified as romantic or classicist. The split between the romantic and classicist is a familiar theme in the study philosophy in general and aesthetics in particular (Brinton, 1967; Jenkins, 1962; Nozick, 1981; Osborne, 1970).

Holbrook and colleagues have used the RC Index in three separate studies of the effect of the mode of thinking on consumer behavior (Holbrook, 1986; Holbrook & Corfman, 1984; Holbrook & Olney, 1995). The impetus for them to develop an index to measure romanticism and classicism came from distinction drawn between these two types by Pirsig (1974) in his 1970s popular classic Zen and the Art of Motorcycle Maintenance. As Phaedrus, the hero of the book noted, “The romantic mode is primarily inspirational, imaginative, creative, intuitive. Feelings rather than facts predominate. The classic mode . . . is straightforward,
unadorned, unemotional, economical and carefully proportioned. Its purpose is not to inspire emotionally, but to bring order out of chaos” (Pirsig, 1974, pp. 66-67). The character assumes that these traits are fixed, noting that “persons tend to think and feel exclusively in one mode or the other” (Pirsig, 1974, p. 67).

The RC Index consists of 55 statements that individuals are asked to rate on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). The items consist of statements such as, “I am a practical person” (classicist) or “It’s O.K. to daydream a lot” (romantic). An RC score is then computed for each participant, and in this research, the score was calculated as the average of the 55 items with a potential range of 1 to 7. The higher the score on the RC Index, the more romantic a person is. The index has been shown to be both reliable and valid (Holbrook, 1986; Holbrook & Olney, 1995).

INDEPENDENT VARIABLES

Treatment: Advertising Stimuli and Task

As Holbrook and Olney (1995) had already studied the relationship between the RC score and holiday preference, holiday advertising was selected as the independent variable. It was also felt that adolescents could relate well to holidays. Secondary research conducted on advertising and consumer behavior trends in the holiday industry (Keynote Ltd., 1999; Mintel International Group, 1998) revealed that brochure production accounts for the largest share of the industry’s promotional expenditure, whereas brochure consultation constitutes the primary element in consumer holiday decisions. All members of the family tend to look at brochures in some detail before making holiday choices. It was thus decided to use two different brochure treatments rather than TV advertising treatments. Additionally, unlike a fairly transitory 30-second TV advertising experience, a consumer’s involvement with a holiday brochure does not usually consist of a fleeting viewing of pages. Instead, it involves a lengthy consideration of the pictures and text. To reproduce this experience, it was decided that the treatments should consist of both a stimulus (brochure pages) and an involving task.

In creating the RC Index, Holbrook and Corfman (1984) had drawn together 36 word pairs that defined the two constructs (see Table 1). These word pairs were taken as a starting point for the design of two distinctive sets of advertising brochure pages: one set romantic and the other classicist. It was decided that a number of different pages would be needed for each construct to cover all 36 attributes of the construct domain. Thus, four
different classicist advertising brochure pages were designed to convey an impression of something logical, neat, familiar, analytic, and cultivated, and four romantic advertising brochure pages were designed to convey an impression of something passionate, spontaneous, adventurous, and exotic. The design process went through three phases. The first phase was the
actual creation of two distinct sets of stimuli. The second phase was a qualitative testing process to ascertain that (a) the two sets of stimuli really were distinct, reliable, and valid; (b) the content and presentation were suitable for the adolescent audience; and (c) four stimuli was a suitable number. The third phase was a quantitative measurement of the perceived difference between the two sets of stimuli. As a result of the test phases, the designs were refined and a decision made to remove two of the pages (one romantic and one classicist) from the experiment. The final pages were shown to be valid and reliable in terms of their ratings as distinct RC stimuli.

Control Variables

The literature suggested that gender, school year, and product experience were potentially important control variables. Thus, although not of primary theoretical interest in the present study, their major purpose here is to help reduce statistical noise due to bias from omitted variables.
Gender. Holbrook and Olney (1995) pointed out that gender exerts important consequences for a variety of consumption preferences (Bernard, 1981; Gilligan, 1982; Miller, 1976). Women are commonly accepted as being more intuitive, emotionally oriented, and people oriented (S. Moore, 1998), and some of the differences may be explained by the different parts of the brain between the sexes that deal with speech (Moir & Jessel, 1994). Indeed, business uses this distinction widely, with General Motors specifically targeting women with their Corsa range (Jobber, 2004, p. 222) and the emergence of women's online communities such as iVillage (Kotler, 2005, p. 189). Specifically, in Holbrook's (1986, 1995) latter two studies of the effects of romanticism and classicism, it was discovered that men and women differed significantly in their RC score and that gender interacted with the determinants of preference toward travel opportunities. It was thus essential that the experiment controlled for the effects of gender.

Product experience. According to Vakratsas and Ambler's (1999) taxonomy of advertising effectiveness, product experience constitutes a major intermediate effect in the processing of advertising stimuli. A number of studies (Hoch & Ha, 1986; Marks & Kamins, 1988; Wright & Lynch, 1995) have shown that the consumer's mind is not a blank sheet awaiting advertising but already contains unconscious memories of product purchasing and usage. Thus, the processing of advertising messages feeds back to experience. It was therefore theoretically possible that adolescent experience of the types of holiday shown on the brochure pages could affect the way in which they processed the stimulus information and, in turn, could affect the RC score. Product experience was evaluated on a 5-point, interval-level scale.

School year. Given the developmental psychology literature that shows beyond doubt that children's psychological makeup alters between birth and adulthood (Bever et al., 1982; Blosser & Roberts, 1985; Robertson & Rossiter, 1974; Rubin, 1974; Ward et al., 1977), it seemed prudent to test for effects between each of the three school years.

EXPERIMENT AND HYPOTHESES

Participants were randomly assigned to one of three treatment groups. Treatment Group 1 was given a task involving exposure to the romantic adverts. Treatment Group 2 was given a task involving exposure to the classicist adverts. Group 3 was a control group that was not exposed to
either advert set. All three groups completed the RC Index (after exposure to the experimental stimuli in the case of the Groups 1 and 2).

The proposition tested was that treatment (advertising stimuli and task) would influence a person’s score on the RC Index. This was formalized in terms of two hypotheses: The first is as follows:

Hypothesis 1: \( \mu_1 > \mu_2 \),

where \( \mu_1 \) is the mean RC score of the romantic treatment population and \( \mu_2 \) is the mean RC score of the classicist treatment population. A second, more demanding hypothesis is as follows:

Hypothesis 2: \( \mu_1 > \mu_3 > \mu_2 \),

where \( \mu_1 \) is the romantic treatment population RC mean, \( \mu_3 \) is the control population RC mean, and \( \mu_2 \) is the classicist treatment population RC mean.

RESULTS

We tested the overall influence of experimental treatment (advertising stimuli and associated task) while controlling for gender, product experience, and school year using a univariate analysis of variance procedure. Specifically, a one-way ANCOVA was run with treatment and gender entered as fixed factors and product experience and school year entered as a covariate. The RC score constituted the dependent variable.

To reduce the possibility of Type I errors, a second-order interaction effect between the fixed factors of treatment and gender was included. To ascertain a factor’s relative importance in explaining the variance in the independent variable(s), \( \omega^2 \) statistics (Fern & Monroe, 1996) were calculated for significant terms. The results of the ANCOVA appear in Table 2.

The overall model proved significant, \( F(7, 233) = 6.137, p = .000 \), with both main fixed effects having a significant impact on the RC score: treatment group, \( F(2, 233) = 6.896, p = .001 \), and gender, \( F(1, 233) = 8.426, p = .004 \). The covariates, product experience and school year, were both significant, \( F(1, 233) = 5.369, p = .021 \), and \( F(1, 233) = 8.055, p = .001 \), respectively. The two-way interaction term Treatment Group \( \times \) Gender was not significant.

From the \( \omega^2 \) statistics, we can conclude that treatment group (\( \omega^2 = .056 \)) had a greater effect on the RC score than the control variables of gender (\( \omega^2 = .035 \)), product experience (\( \omega^2 = .023 \)), and school year (\( \omega^2 = .013 \)).
Malhotra and Birks (2000) suggested that as a guide to interpreting $\omega^2$, a large experimental effect produces an $\omega^2$ of $\approx .15$, a medium effect produces an index of $\approx .05$, and a small effect produces an index of $\approx .01$. Thus, we can conclude that group, gender, experience, and school year all have a small to medium effect on the RC score with treatment group having the largest effect followed in descending order by gender, school year, and experience.

To inspect differences between group categories, the cell means are set out in Table 3. In addition, a posteriori contrast least significant difference (LSD) tests were employed to test differences between the perception-type categories (Winer, 1991). LSD is a systematic procedure for comparing all possible pairs of group means and essentially equates to a Student’s $t$ test on the dependent variable for each category pair that takes into account the number in each case (Kim & Kohout, 1975). We chose the LSD tests in preference to the perhaps more familiar tests such as Duncan’s multiple range test, as it is exact for unequal group sizes and is the most powerful of the commonly used a posteriori contrast tests (Winer, 1991). As a further precaution, we supplemented the LSD test with the Tukey honestly significant difference (HSD) test, as it provides greater control over family-wise error (cf. Tukey, 1991). In Table 3, the LSD and Tukey classifications appear to the right of the group cell means.

An examination of the cell means in Table 3 reveals the following with respect to the RC score. The mean RC score for the romantic treatment

Table 2

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>$\omega^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected model</td>
<td>8.240</td>
<td>7</td>
<td>1.177</td>
<td>6.137</td>
<td>.000</td>
<td>.156</td>
</tr>
<tr>
<td>Intercept</td>
<td>281.459</td>
<td>1</td>
<td>281.459</td>
<td>1467.537</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School year</td>
<td>1.545</td>
<td>1</td>
<td>1.545</td>
<td>8.055</td>
<td>.005</td>
<td>.033</td>
</tr>
<tr>
<td>Experience</td>
<td>1.030</td>
<td>1</td>
<td>1.030</td>
<td>5.369</td>
<td>.021</td>
<td>.023</td>
</tr>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>2.645</td>
<td>2</td>
<td>1.323</td>
<td>8.426</td>
<td>.004</td>
<td>.035</td>
</tr>
<tr>
<td>Gender</td>
<td>1.616</td>
<td>1</td>
<td>1.616</td>
<td>8.426</td>
<td>.004</td>
<td>.035</td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group $\times$ Gender</td>
<td>0.801</td>
<td>2</td>
<td>0.400</td>
<td>2.087</td>
<td>.126</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>44.687</td>
<td>233</td>
<td>0.192</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4592.038</td>
<td>241</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected total</td>
<td>52.927</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $R^2 = .156$; adjusted $R^2 = .130$. 

.033). Malhotra and Birks (2000) suggested that as a guide to interpreting $\omega^2$, a large experimental effect produces an $\omega^2$ of $\approx .15$, a medium effect produces an index of $\approx .05$, and a small effect produces an index of $\approx .01$. Thus, we can conclude that group, gender, experience, and school year all have a small to medium effect on the RC score with treatment group having the largest effect followed in descending order by gender, school year, and experience.
The LSD and HSD tests concurred that there were significant (i.e., $p < .05$) differences between the romantic and classicist groups and between the romantic and control groups. The difference between the classicist and the control group was not significant.

Thus, formally, we can accept the first hypothesis: The romantic treatment produced a significantly ($p < .05$) higher (i.e., more romantic) RC score (4.5258) than the classicist treatment (4.2087). The second, more demanding hypothesis produces a more ambiguous picture. On visual inspection, the hypothesis held true: The romantic treatment produced the highest RC score, the control group an intermediary score, and the classicist treatment the lowest RC score (romantic treatment score = 4.5258, control group score = 4.3119, and classicist treatment score = 4.2087). However, the LSD tests indicated that although the romantic treatment produced a score significantly higher (i.e., more romantic) than the control group, the classicist treatment did not produce an RC score significantly lower (i.e., more classicist) than the control group.

**DISCUSSION**

The experiment has produced two interesting insights into the effect of advertising on the scores derived from adolescents’ self-report psychographic measures. First, advertising stimuli can have a direct effect on the classification of adolescents. This in itself is a major finding that lends some support to the postulate that firms may be able to create segments of adolescents as opposed to simply appealing to preexistent segments. Second, it appears that romantic advertising stimuli can have a significant impact on the psychographic score in situations where corresponding
classicist advertising stimuli do not. This is an unexpected and additional insight, which indicates that the persuasive impact of advertising depends to some extent on the format of the advertising treatment. Thus, in addition to confirming the major hypothesis of the experiment, this research has also opened up an intriguing new area of research. Which advertising formats have the power to change psychographic scores, and which formats do not?

LIMITATIONS OF THE EXPERIMENT

Experiments of this nature are subject to limitations. The first limitation was that only one set of romantic and classicist stimuli was used. Although the validity of the stimuli was thoroughly tested both qualitatively and quantitatively, further experiments using alternative romantic and classicist stimuli would enhance the generalizability of the findings. The second limitation is that only one psychographic measure was tested, namely, the RC score. It is not possible to say with confidence as a result of this experiment that advertising can affect other psychographic measures. The third limitation was the use of only one set of participants. Had this experiment been carried out across a number of different schools in different parts of the United Kingdom or, indeed, in different parts of the world, generalizability would have been improved. The fourth limitation was that only adolescents were used. It is thus not possible to say from this study whether adolescents are more or less affected by advertising than children, on one hand, or adults, on the other.

However, despite the limitations, this research appears to represent the first attempt to design an experiment to test whether advertising plays a part in the construction of the adolescent psychographic type. The research is therefore exploratory in nature, and as such, its role within the literature is not conclusive but rather highly suggestive. Moreover, both in terms of findings and methodology, it provides a new direction for future research.

IMPLICATIONS FOR BUSINESS AND SOCIETY

The purpose of this article was to put the established concept and practice of market segmentation under ethical scrutiny. The primary line of inquiry consisted of examining the link between advertising (the ethics of which have always been questioned) and psychographic segmentation (a hitherto value-free practice). Three specific, interrelated issues were put forward for consideration. Are market segments mutable? Can
advertising messages alter self-report psychographic classification? Is psychographic classification malleable in adolescence?

Within the confines of the limitations identified above, the experiment reported in this article has produced an affirmative answer to all of these questions. Advertising treatments did alter RC scores reported by 11- to 14-year-olds. It follows then that exposure to advertising is likely to affect the segment to which a young person is assigned by marketers. This, in turn, implies that segments are malleable constructs rather than objective, fixed phenomena. Consequent to this are important ethical implications. If segment membership can be influenced by advertisers, then segmentation must surely come under the same scrutiny as advertising. Both marketers and consumers must appreciate that segmentation and targeting are not objective processes of identifying preexistent groups for receipt of advertising messages but that the messages themselves play a part in the creation of those segments. In many ways, the social implications are more profound than those attributed to advertising effects alone. For although it is clearly undesirable for individual consumers to be persuaded to purchase unwanted goods, it is clearly very much less desirable for the values of whole groupings of young people to be influenced by commercially motivated agents. This research has thus made a contribution to the growing literature (Berman, 1981; Goldman, 1992; Phillips, 1997; Ritson & Elliott, 1999; Schudson, 1984; Willis, 1990) examining the social role of the advertising process.

An unexpected finding from this research was that the nature of the advertising to which the participants were exposed affected the report of their own personality. Those subjected to the romantic treatment had significantly higher (more romantic) scores than both the control group and the classicist group. This treatment contained pictures rather than words: emotive images and bright colors. Those exposed to the rational, word-based, classicist treatment reported scores that (although significantly lower than the romantic group) were not significantly lower than the control group. This implies that advertisers using emotion-based advertising are more likely to be able to influence segment membership or even create segments for the purchase of their products. This finding has even further reaching implications for the social role of market segmentation. As noted above, much of the research on advertising and children has centered on establishing an age at which cognitive defenses are in place. If persuasion is, in fact, taking place on an emotional rather than a rational level, it is hard to see how cognition can somehow stop advertising working. Indeed, this research implies that “working” does not just imply the encouragement to purchase but, in fact, the formation of social value groups.
CONCLUSIONS AND FUTURE RESEARCH

The experiment reported in this article has provided some evidence to suggest that it may well be time to reexamine the ethical credentials of a practice that has been the cornerstone of marketing for half a century and that continues to sustain thriving commercial enterprise. A number of intriguing research streams are opened up. First, a time lag could be introduced to this experiment to ascertain how long the effects of advertising exposure last and whether during a particular period of time scores reported by the romantic group would return to those of the control group. Second, given the social role of advertising among adolescent groups (Ritson & Elliott, 1999; Willis, 1990), it would be interesting to explore if peer group discussions of adverts might have an even more dramatic effect on scores than the private consumption of the treatments. Third and perhaps most importantly for the role of business in society, the role of advertising among adolescents (as opposed to smaller children) should be studied in greater depth. It is clear from this study that being of an age to know that an advert is trying to sell something does not guarantee immunity from the effect of the message or its contextual implications. Adolescents aged 11 to 14 appear to be just as vulnerable to advertising as younger children. It may be time to reconsider the current research focus on establishing an age of immunity from advertising and open up the ethics debate beyond consideration of those younger than 12.

NOTE


REFERENCES


Agnes Nairn is a senior lecturer at the School of Management, University of Bath, United Kingdom. Her major research interests are marketing to young people including advertising ethics and the obesity issue. She has published in the Journal of Business Ethics, the International Journal of Advertising, and the International Journal of Market Research.

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