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Media use patterns among Finnish and American youth: Implications for smoking intervention

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Powerful Mass media effects have rarely been documented.¹ This failure to find effects partly reflects the fact that effects are usually sought by studying levels of exposure to various media, whereas the major effects of mass media are associated with the presence or absence of the media themselves.^{2,3} Even when considering media effects of a narrower or less universal scope than those set forth by McLuhan,² many of the more significant findings are based on studies of the introduction of a medium. For instance, a primary source of evidence that exposure to television may be a cause of violence is based on studies linking the introduction of television sets in different countries to subsequent increases in crime and, in particular, to increased homicide rates. In 1955, the year that television was introduced in Finland, television sets per capita ranged from 0.00 sets per capita in Finland to 0.22 television sets per capita in the United States, where television had been introduced in the late 1940s. Correspondingly, homicide rates in the United States began to increase in 1959, while Finnish homicide rates did not begin increasing until 1969.⁴ According to Centerwall's review,⁴ this pattern not only holds up for other countries but for regions within the United States as well: For the nine census regions of the United States, the timing of a region's acquisition of television sets predicted the timing of subsequent increases in its homicide rate.

Once television became an established medium available to virtually everyone in the United States, its effects became more difficult to document. Thus Comstock⁵ has noted that the remarkable aspect of television viewing is how much alike everyone is. The demographic differences in television viewing in the United States are overshadowed by the commonality of high viewing frequency: Almost every person watches almost every day. While the larger and more universal effects of a medium may be experienced with its introduction, however, the introduction of a new genre within a medium or of a variation or extension of a medium also seems to provide opportunities for distinguishing media effects. The debut of *Dallas* in the United States in 1978 marked the introduction of the nighttime soap opera as a television genre. The rapid diffusion of the program to other countries stimulated cross-cultural research concerning media involvement and cultural imperialism—the infiltration of alien values into a culture, possibly powerful media effects, as Katz⁶ has noted. Cable television and video recorders are examples of extensions of the television medium that provide viewers with opportunities for making more and new kinds of choices, thus providing

researchers with new opportunities for examining the uses and gratifications obtained from television viewing.

It seems likely that the removal of a medium or of a genre within a medium would also provide opportunities for distinguishing media effects. Media, media genre, and even particular programs are generally not removed, however, as long as there are sizable audiences for them: The case of tobacco advertising is an intriguing contradiction to this generalization. Tobacco advertising has been totally and “suddenly” banned in several cultures in which it was previously ubiquitous. Because tobacco advertisements were either the most prevalent or among the most prevalent ads in the countries in which they existed and because they have been trendsetters in genre style, specifically with image making, it seems possible that their removal would result in some detectable effect. If there are no discernible effects of tobacco advertising bans, then it seems probable that there are no discernible effects of tobacco advertising.

The cross-cultural research described herein is part of a collaborative project concerned with reducing the initiation of smoking among youth in Finland and in the United States. The research has two broad objectives: (1) to consider how cultural differences affect the role that mass media may play in preventing smoking initiation, and (2) to determine how the presence or absence of tobacco advertising may play a role in the initiation of smoking. For both of these objectives the first step was to consider how current mass media use by Finnish youth compares with that of American youth.^{3,7,8} In the present study the authors examined the use of television, radio, newspapers, and magazines, and the attention to and enjoyment of advertisements (in general) as well as exposure to cigarette advertisements by Helsinki and Los Angeles youth between the ages of 8 and 15 years inclusively. Three questions were asked: (1) What mass media should be used to target youth in the two cultures for tobacco prevention and cessation programs? (2) How does the smoking behavior of Los Angeles youth compare with that of Helsinki youth? (3) Has the ban on tobacco advertising had a significant impact on youth in Helsinki?

METHODS

Subjects

Samples of 651 Helsinki students in school grades 3 through 9 and 572 Los Angeles students in school grades 4 through 10 were administered questionnaires in their classrooms. (Finnish children start school in the first grade at an average age of 7 years, whereas American children begin the first grade at an average age of 6 years. Thus a 9-year-old child in Helsinki would typically be in the third grade, whereas a 9-year-old child in Los Angeles would typically be in the fourth grade.) Students in three classes at each grade level in each city were surveyed during the winter of 1987–1988. Schools representing lower-middle to middle-class socioeconomic environments were selected for participation. The Helsinki sample was 46% female and 54% male, and the Los Angeles sample was 56% female and 44% male. Helsinki students were distributed by age as follows: age 8, 20; 9, 90; 10, 106; 11, 105; 12, 93; 13, 84; 14, 89; and 15, 64. Los Angeles students were distributed as follows: age 8, 9; 9, 57; 10, 108; 11, 81; 12, 90; 13, 88; 14, 82; and 15, 57.

Procedures and questionnaires

Questionnaires were administered during regular class periods by health educators working for the research project in Helsinki and Los Angeles, respectively. The questionnaire consisted of 54 items and took approximately 25 minutes to administer. (The Los Angeles questionnaire had one additional question at the end of the questionnaire on race/ethnic group status; the Helsinki questionnaire had four additional questions of special interest to

the Finnish investigators.) The questionnaire contained questions on media use, advertising exposure, tobacco behaviors and intentions, and demographic factors. The questionnaires were created in English, translated into Finnish, and then, as a check, translated back into English by a second translator.

Measures

Questionnaire items were identical for both sites,¹ with the exception of questions involving magazine titles or product brands unique to one culture (eg, lists of magazines commonly found in households) and a question regarding foreign travel. Media use questionnaire items included whether there is a television in the subject's home and number of days in the last 7 days in which some time was spent watching television, listening to the radio, reading newspapers, and reading magazines, respectively. Subjects also were asked whether they usually "pay attention" to the commercials on television and whether they usually enjoy the commercials. Corresponding questions for attending to and enjoying advertisements in magazines were asked. Subjects were asked whether they have a favorite magazine advertisement, with two alternative responses given: "No, I don't remember a favorite" and "Yes, my favorite is the one for _____."

Two questions regarding exposure to cigarette advertising were examined in the present study: (1) whether the subject has ever seen an advertisement for cigarettes, and (2) time since the most recent exposure to a cigarette advertisement (with seven alternatives given—today, not today but less than a week ago, a week or more but less than a year ago, 1 to 3 years ago, 4 to 9 years ago, more than 9 years ago, and never). Smoking status was assessed by a subject's response to the question "How many cigarettes or packs of cigarettes have you smoked in the last 30 days?"

RESULTS

Finnish and American samples are comparable in proportion of subjects with a television in their household, with 97% of the Helsinki subjects and 99% of the Los Angeles subjects reporting that there is a television in their home. Table 1 gives the number of days per week that the subjects report that they usually spend some time watching television, listening to the radio, reading newspapers, and reading magazines. Statistically significant differences exist between the Helsinki and Los Angeles subjects in time spent using each of the four media (television chi-square = 26.4, $P < .001$; radio chi-square = 53.2, $P < .001$; newspaper chi-square = 517.0, $P < .001$, and magazine chi-square = 28.4, $P < .001$). Subjects from the two countries are most comparable in time spent viewing television and reading magazines, while larger differences exist in use of radio and newspapers. Half of the Helsinki subjects but only 5% of the Los Angeles subjects reported that they read the newspaper 7 days a week. Similarly 42% of the Los Angeles subjects but only 9% of the Helsinki subjects reported that they never read the newspaper. Radio, on the other hand, is used much more frequently by the American youth, as seen in Table 1.

Differences in media use patterns by age are shown in Table 2. The proportion of subjects reporting that they watch television 7 days a week is relatively constant for subjects from ages 8 through 15 years in both samples. Daily television viewing is at its lowest (44%) among Los Angeles subjects aged 14 years, when daily radio listening is at its highest (62%). No such complementary pattern of broadcast media use is seen in the Helsinki sample. Instead, television and radio have parallel patterns of use. Television viewing goes down slightly and radio listening decreases markedly as age increases for the Helsinki subjects. The proportion of subjects reporting that they read magazines 7 days a week is relatively constant by age for both Helsinki and Los Angeles subjects. Striking differences are seen between the two cultures in patterns of daily newspaper use by age, however. The

proportion of Helsinki subjects reporting that they read the newspaper 7 days a week increases steadily from 38% for 8-year-olds to 65% for 15-year-olds, as seen in Fig 1. On the other hand, the proportion of Los Angeles subjects reporting that they read the newspaper daily remains relatively constant by age group, varying between 3% and 11%.

Significant differences were found between the two countries in attention to and enjoyment of television commercials and magazine advertisements. Significantly more Los Angeles subjects than Helsinki subjects reported that they usually pay attention to television commercials (chi-square = 35.5, $P < .001$) and to magazine advertisements (chi-square = 119.4, $P < .001$) and that they usually enjoy television commercials (chi-square = 17.8, $P < .003$) and magazine ads (chi-square = 111.3, $P < .001$). One third of the Helsinki subjects, compared with only 10% of the Los Angeles subjects, were unable to recall a favorite advertisement for any product (chi-square = 1,084, $P < .001$).

Significant differences were found in exposure to cigarette advertising by the two groups of subjects: 91% of the Los Angeles subjects compared with 68% of the Helsinki subjects reported that they had “ever seen an advertisement for cigarettes” (chi-square = 96.5, $P < .001$). Similarly, 72% of the Los Angeles subjects but only 30% of the Helsinki subjects had seen a cigarette advertisement “less than a week ago” (chi-square = 237.8, $P < .001$). Recency of seeing a cigarette ad (including “never” as an option) was related significantly to smoking behavior in both Helsinki and Los Angeles (chi-square = 57.7, $P < .01$; and chi-square = 58.1, $P < .01$, respectively). Finally, Helsinki subjects smoked significantly more than Los Angeles subjects (chi-square = 27.0, $P < .001$).

DISCUSSION

Finnish and American youth have access to the same variety of media and media genre: Virtually all households have televisions, and overall advertising expenditures per capita are comparable in the two countries. The authors’ study indicates, however, that the media choices made by youth in the two cultures are quite different, at least in the major cities examined. Helsinki children are regular newspaper readers, even at an early age, but Los Angeles youth do not read the newspaper regularly, even in adolescence. The American students were much more likely than the Finnish students to listen to the radio; the Los Angeles youth, like other American youth, but unlike the Helsinki youth surveyed, appear to increase significantly their use of radio as they enter adolescence. Although commercial advertising is prevalent in Helsinki, the Helsinki students interviewed for the present study did not respond as much as the Los Angeles subjects to this media genre; they were less likely to report that they pay attention to or enjoy television commercials or magazine advertisements and they were less likely to remember a favorite advertisement.

Greenfield and Beagles-Roos,⁹ comparing the cognitive impact of television and radio on children, reported that radio is more likely to stimulate imagination, whereas television tends more to facilitate the recall of information. The salient preference of the Helsinki youth in the present study, at all ages, for television over radio together with their high use of newspapers suggest that they may be more information oriented than American youth in their use of media (ie, the expectation of the Finnish youth may be that one uses a medium to obtain information). The results of our analyses lead to the following suggestions for targeting youth for smoking or other health behavior interventions through the mass media:

1. Television is the best medium for reaching young children in both countries.
2. Radio may be the preferred medium for reaching American adolescents, whereas newspapers may be better for reaching Finnish adolescents.

3. Antismoking or other health promotion messages given in advertisements may be more effective in reaching American youth than Finnish youth.
4. Media messages targeted to Finnish youth may do better if containing relatively more factual information, as opposed to relying on life-style imagery.

All of the findings regarding media use need to be replicated in other regions of the two countries; in addition, specific findings need to be examined in more detail. For instance, is it comic strips or news articles that Helsinki children read regularly? Finally, an examination of responses to different types of commercial advertising could provide additional information valuable in developing health-promotion messages for delivery through the mass media.

There is no evidence that the ban on tobacco advertising has had any direct impact on smoking among adolescents in Helsinki. The Helsinki youth in our study smoke more than the Los Angeles youth. Other data¹⁰ show that on a national level smoking by Finnish youth was declining before the 1978 total ban of tobacco advertising and, while continuing to decline after the ban, did so at a slower rate; moreover, in 1988 smoking rates for Finnish adolescents began to rise again. Still, exposure to cigarette advertisements was found to be significantly associated with smoking behavior for both Helsinki and Los Angeles subjects in the authors' study. A consideration of the nature of exposure to cigarette advertising in the two countries may help in interpreting these findings.

In Finland, where tobacco advertising is officially outlawed, exposure to cigarette advertisements comes from occasional travel to a foreign country, seeing foreign magazines, and occasional viewing of sports or other events sponsored by cigarette manufacturers. The modal time since seeing a cigarette advertisement for the Helsinki subjects was "1 to 3 years ago." In the United States tobacco advertising is, of course, ubiquitous; the modal time since seeing a cigarette advertisement for the Los Angeles subjects was "less than a week ago." Thus the very different conditions of occasional exposure on the one hand and pervasive exposure on the other hand have both been found to be significantly associated with smoking. From the authors' perspective it seems likely that it is the volume of cigarette advertising—its visible presence in a society—and not the occasional observation of individual ads that has the potential for having an impact on youth. The fact that both exposure conditions have been found to be positively related to smoking in the present study suggests that causality goes from smoking behavior to cigarette advertising exposure rather than the other way around, that is, the correlation of advertising exposure with smoking behavior seems to derive from the selective attention to advertisements by youth who are already smoking.

The possibility that cigarette ad exposure may be a function of selective attention by youth already involved with smoking does not rule out the possibility of an effect in the opposite direction as well. None was detected by the present analyses, however. It is possible that there have been events in Helsinki that have in some way counteracted potential beneficial effects of the tobacco advertising ban. Barring the latter unlikely possibility, there are two alternatives. The first is that tobacco advertising works through one or more mediating variables and does exert a significant effect on smoking behavior of youth, but does so indirectly through the other variables that it directly affects. The second possibility is that tobacco advertising does not play a significant role in the initiation of smoking among youth.

There is a need for research that examines the relationship of tobacco advertising exposure to variables known to affect the initiation of smoking among youth. On the other hand, if we are to conclude that cigarette advertising has a meaningful effect on youth smoking, sooner

or later we will need to see improvements in youth smoking behavior that can be attributed to tobacco advertising bans. The available evidence thus far does not indicate that the removal of this particular trendsetter in media genre has had any powerful effect; to the contrary, it may turn out to be the case—to the disappointment of the tobacco industry and public health interests alike—that once banned, tobacco advertising is not missed.

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Fig 1.
Reading newspapers and listening to radio, by country.

Table 1

No. days per week that Helsinki and Los Angeles subjects use television, radio, newspapers, and magazines

No. days	% Subjects by medium and country									
	Television		Radio		Newspapers		Magazines		Los Angeles	Helsinki
	Helsinki	Los Angeles	Helsinki	Los Angeles	Helsinki	Los Angeles	Helsinki	Los Angeles		
0	2	1	10	8	9	42	22	30		
1	1	2	12	7	5	22	18	25		
2	3	6	11	6	7	16	19	15		
3	3	7	14	9	8	7	16	11		
4	6	9	9	10	6	5	8	6		
5	10	7	9	6	9	2	6	5		
6	10	8	6	7	6	1	3	2		
7	64	61	29	47	50	5	8	6		
Total*	99	101	100	100	100	100	100	100		

* The columns may not total to 100% because of rounding error.

Proportions of Helsinki and Los Angeles subjects using television, radio, newspapers, and magazines 7 days a week by age

Table 2

Age	% Using medium 7 days a week									
	Television		Radio		Newspapers		Magazines		Los Angeles	Helsinki
	Helsinki	Los Angeles	Helsinki	Los Angeles	Helsinki	Los Angeles	Helsinki	Los Angeles		
8	75	56	50	33	38	11	5	0		
9	68	72	30	28	32	4	9	9		
10	75	65	27	34	43	8	10	7		
11	63	67	31	36	50	4	9	5		
12	58	64	26	48	53	3	5	2		
13	60	62	32	60	57	5	10	6		
14	63	44	28	62	57	4	7	10		
15	55	62	24	56	65	5	8	0		