

Claremont Colleges Scholarship @ Claremont

CGU Faculty Publications and Research

CGU Faculty Scholarship

5-1-2012

Multiple Peer Group Self-identification and Adolescent Tobacco Use

C. Anderson Johnson
Claremont Graduate University

Juliana L. Fuqua
California State Polytechnic University - Pomona

Peggy E. Gallaher
University of Southern California

Jennifer B. Unger
University of Southern California

Dennis R. Trinidad
University of Southern California

See next page for additional authors

Recommended Citation

Fuqua, J.L., Gallaher, P.E., Unger, J.B., Trinidad, D.R., Sussman, S., Ortega, E., Johnson, C.A. Multiple peer group self-identification and adolescent tobacco use. *Subst Use Misuse*, 47(6):757-66, 2012.

This Article - postprint is brought to you for free and open access by the CGU Faculty Scholarship at Scholarship @ Claremont. It has been accepted for inclusion in CGU Faculty Publications and Research by an authorized administrator of Scholarship @ Claremont. For more information, please contact scholarship@cuc.claremont.edu.

Authors

C. Anderson Johnson, Juliana L. Fuqua, Peggy E. Gallaher, Jennifer B. Unger, Dennis R. Trinidad, Steve Sussman, and Enrique Ortega



Published in final edited form as:

Subst Use Misuse. 2012 May ; 47(6): 757–766. doi:10.3109/10826084.2011.608959.

Multiple Peer Group Self-Identification and Adolescent Tobacco Use

Juliana L. Fuqua¹, Peggy E. Gallaher², Jennifer B. Unger², Dennis R. Trinidad², Steve Sussman³, Enrique Ortega⁴, and C. Anderson Johnson²

¹Department of Psychology & Sociology, California State Polytechnic University – Pomona, Pomona, California, USA

²School of Community and Global Health, Claremont Graduate University, Claremont, California, USA

³Department of Preventive Medicine, University of Southern California, Los Angeles, California, USA

⁴Department of Psychology, University of Turin, Turin, Italy

Abstract

Associations between peer group self-identification and smoking were examined among 2,698 ethnically diverse middle school students in Los Angeles who self-identified with groups such as Rockers, Skaters, and Gamers. The sample was 47.1% male, 54.7% Latino, 25.4% Asian, 10.8% White, 9.1% Other ethnicity, and 59.3% children of immigrant parents. Multiple group self-identification was common: 84% identified with two or more groups and 65% identified with three or more groups. Logistic regression analyses indicated that as students endorsed more high-risk groups, the greater their risk of tobacco use. A classification tree analysis identified risk groups based on interactions among ethnicity, gender, and group self-identification. Psychographic targeting based on group self-identification could be useful to design more relevant smoking prevention messages for adolescents who identify with high-risk peer groups.

Keywords

tobacco use; adolescent; peer group; ethnicity; prevention

INTRODUCTION

Group self-identification, the process by which adolescents identify and give names to their own peer groups, is associated with a variety of risk behaviors, including tobacco, alcohol, and other drug use (Dolcini & Adler, 1994; Sussman, Dent, & McCullar, 2000). Mosbach

Copyright © 2012 Informa Healthcare USA, Inc.

Address correspondence to Juliana L. Fuqua, Department of Psychology & Sociology, California State Polytechnic University – Pomona, 3801 West Temple Avenue, Pomona, CA 91768; jfuqua@csupomona.edu.

Declaration of Interest

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this paper.

and Leventhal (1988) reported that adolescents who identified themselves as Dirtballs, Freaks, or Druggies were the most likely to have ever tried smoking, followed by those considered to be high achievers (Hotshots), athletes (Jocks), and average adolescents (Regulars). Urberg, De-girmencioglu, Tolson, and Halliday-Scher (2000) found that Burnouts were at the greatest risk of cigarette smoking, followed by Whiggers, then by Alternatives, and finally by Jocks. La Greca, Prinstein, and Fetter (2001) reported Burnouts to be more likely to engage in cigarette use, followed by Non-Conformists and Averages. A series of studies by Sussman and colleagues (Sussman, Unger, & Dent, 2004; Sussman et al., 1990, 1993, 1994, 1999) across diverse samples, such as comprehensive high school students, continuation high school students, and runaway street adolescents, consistently found that risk behaviors differed across self-identified peer groups.

Although many adolescents identify with more than one peer group, the impact of multiple group self-identification in relation to cigarette smoking has received almost no attention in previous research. In some studies, surveys were designed to force a participant to identify a single peer group, while in other studies, participants were allowed to choose multiple peer groups, but responses were subsequently coded into a single group category. For example, in Sussman and colleagues' studies, students were allowed to choose from 16 group names, which were collapsed into four categories: High Risk Youth, Jocks-Hotshots, Regulars, and Others (Sussman et al., 2000, 2004). The "Others" category was composed of diverse individuals who did not fit well in the other categories because they reported they had no friends, they reported a group name that was too general to fit in other categories, or they reported being affiliated with multiple groups. These classification schemes preclude an examination of risk of tobacco use among adolescents who identify in multiple ways. To the extent that adolescents identify with multiple groups, a closer examination of the effects of multiple group membership on tobacco use is warranted.

Some peer groups originate in ethnic groups, and adolescents may identify themselves because of ethnically based group names. For example, Hip-hoppers originated in the African American culture before spreading to other ethnic groups of adolescents and to other countries worldwide. Skinheads originated among Caucasian adolescents living in London and New York but are now found in many urban centers. However, few studies have examined the role of ethnicity in the association between group self-identification and smoking because most previous studies have used primarily Caucasian samples. Those studies that sampled more diverse populations (e.g., Sussman et al., 2000) typically included ethnicity and gender as covariates but did not examine ethnic differences in group self-identification, nor interactions between group self-identification and ethnicity in relation to risk behavior. It is therefore not known whether an adolescent's ethnicity might interact with a particular peer group self-identification to increase or decrease risk of smoking.

Purpose of the Present Study

Group self-identification, self-reported cigarette smoking, ethnicity, and gender were assessed among seventh-grade students from an ethnically diverse sample in Southern California. The purpose was to (1) identify adolescent peer groups in an ethnically diverse sample; (2) determine the degree to which group self-identification is associated with

tobacco use; (3) examine the additive effects of group self-identification, ethnicity, and gender as predictors of smoking; and (4) determine how identification with multiple peer groups is related to tobacco use.

METHODS

Subjects

Subjects were seventh-grade students from nine public and 15 parochial middle schools in the Greater Los Angeles Area who were participating in a longitudinal smoking prevention trial. The protocol was approved by the Institutional Review Board of the University of Southern California. The schools were selected to oversample for Hispanic/Latino and Asian students. All sixth-grade students in the 24 schools were invited to participate in the study during the fall of 2002. Consent forms were sent home to the parents of all sixth graders in each school. Of 4,427 invited students, 3,358 (76%) provided active written parental consent (Unger, Gallaher et al., 2004). Students with parental consent were then invited to provide personal assent and participate in the survey. Of those actively consented students, 2,822 (84%) gave personal assent and completed surveys in both sixth and seventh grade, and of those, 2,698 (96%) provided complete data on the variables examined in the present study and comprise the analytic sample. Table 1 shows the demographic characteristics of the sample. The estimated median household income for each school catchment area ranged from \$16,626 to \$78,343 ($M = \$44,590$; United States Census Bureau, 2000).

Survey Procedure

Students completed the paper-and-pencil survey in their classrooms during one class period (45–50 minutes). The 160-item survey was administered by trained data collectors, young adults who were diverse in ethnicity and gender, who were unacquainted with the students. Surveys were identified with a code number rather than names. Respondents were encouraged to seek assistance from survey administrators if they encountered difficulty in comprehending the instructions or survey items.

Measures

Group Self-Identification—Group self-identification was assessed with a single mark-all-that-apply item: “What group of kids do you hang out with the most?” (write in). The response options were Jocks (athletic kids, sports kids), Skaters/Bladers, Artistic Kids (artists, musicians, actors), Rockers, Paisas, Popular Kids, Smart Kids, Gamers, Religious Kids, Gangsters/Cholos, and Other. The response options were based on those used by Sussman et al. (1990), which we revised and extended based on a pilot work conducted in similar schools, including a short survey of teachers and a survey of 370 middle school students (not included in the present study). These data were examined to identify the most frequently identified groups and any groups that might be specific to our population.

The resulting set of peer groups included a group name that was relatively recent in origin (Gamers) and two group names that were specific to Latino culture: Cholos (students who identify with gangs or the gang lifestyle) and Paisas (newly arrived immigrants). The term “Paisa” has various meanings depending on the context and the Latin American country of

origin. It is a derivative of the word “Paisano” and is primarily used in a slang or friendly way to refer to someone who comes from the same country, or as a way of calling out to someone who is a friend, such as in “Hey, Paisa, how are you doing?” However, in some countries, it may be used in a negative way to refer to someone who comes from more rural areas, is uneducated, unskilled, or of a lower social class. Used in this way by the more acculturated to refer to those less acculturated, its meaning is insulting. Because the term was self-generated by the students themselves in our pilot work, we chose to include the term “Paisa” on our questionnaire. However, because the term has pejorative connotations in some contexts, we use the less controversial term “Paisano” in this report.

If a respondent identified with a group other than those listed on the questionnaire, he or she could select the “Other” response option and write in a group name. The write-in terms “Normal,” “Regular,” “Average,” “Ordinary,” and “Everyday” were classified as “Normal,” and any other write-in response was classified as “Other Groups.”

Our pilot work suggested that middle school students tend to identify with multiple groups. The item was therefore written to allow respondents to endorse as many groups as applied to them.

Tobacco Use—Outcomes examined in this study were lifetime smoking (“Have you ever tried cigarette smoking, even a few puffs?”—“Yes” or “No”), past-30-day smoking (“Think about the last 30 days. On how many of these days did you smoke cigarettes?”—“None” vs. “1 or more days”), and intention to smoke next year (“At any time in the next year (12 months), do you think you will smoke a cigarette?”—“Definitely not” vs. “Yes definitely,” “Maybe yes,” or “Maybe no”).

Covariates—Self-reported ethnicity was assessed with eight questions: (“Are you White?”/“Are you Chinese/Chinese American?”/“Are you Pacific Islander?”/“Are you Filipino?”/“Are you Korean/Korean American?”/“Are you Vietnamese/Vietnamese American?”/“Are you Latino/Hispanic?”/“Are you Black/African American?”). Respondents were classified as Hispanic/Latino, Asian/Pacific Islander, White, or Other. Because multiple endorsements were possible, the following rules were applied to classify subjects into mutually exclusive categories: Hispanic/Latino (HL) included all respondents who selected Hispanic/Latino, regardless of whether they also selected another group; Asian/Pacific Islander (API) included all respondents who selected Chinese, Vietnamese, Pacific Islander, Filipino, Korean, or any combination of these. The “Other” category included African American ($N = 52$), all other multiple ethnicity combinations, and those who answered “No” to all eight ethnicity items.

Data Analysis

Descriptive Statistics—Frequencies were calculated to describe the proportion of respondents who endorsed each peer group; these frequencies were calculated for the overall sample and stratified by gender and ethnicity. Logistic regression analyses were used to examine the demographic correlates of endorsement of each peer group.

Associations Between Group Self-Identification and Smoking—Logistic regression analyses were used to compute odds ratios (ORs) and 95% confidence intervals (CIs) for lifetime smoking, past-30-day smoking, and smoking intentions, with peer group self-identification as the predictor variable. Based on these bivariate analyses, peer groups were classified as “high risk” (those associated with an increased risk of smoking) and “low risk” (those associated with a decreased risk of smoking, or not associated with smoking). The number of high-risk peer groups endorsed by each respondent was then used as the predictor variable in logistic regression analyses predicting the smoking variables. Because the data contain a nested structure (students nested within schools), the logistic regression analyses were conducted with the GLIMMIX procedure in SAS, which adjusts for intraclass correlation.

Classification Tree Analysis—To explore complex interactions among group self-identifications related to tobacco use, we used chi-squared automatic interaction detection (CHAID) (SPSS Inc., 1998) analysis to classify our respondents into progressively smaller high- and low-risk groups, as defined by their gender, ethnicity, and group self-identification. The CHAID algorithm selects the predictor having the strongest association with lifetime smoking at each point in the tree structure. A branch on the tree is tracked through successive levels until no predictor remains that produces a significant difference in smoking rates among the persons occupying that branch. The same predictor may appear in more than one branch of the tree. In effect, the CHAID algorithm evaluates all possible combinations (interaction terms) of gender, ethnicity, and group self-identification and selects those that best differentiate smokers from nonsmokers. We set the criterion for a predictor to split a group into further branches to $p < .05$ (with a Bonferroni correction for multiple comparisons), and the risk-group size was constrained to be no smaller than 100.

RESULTS

Group Self-Identification

As shown in Table 2, the most common group self-identifications were with Skaters/Bladers (35.8%), Smart Kids (35.6%), Jocks (32.6%), and Popular Kids (31.8%). The least common were Religious Kids, Paisanos, and Normals (7.0%, 6.9%, and 6.9%, respectively).

Correlations Among Peer Groups—Table 3 shows the correlations among the peer groups (represented by phi coefficients because the peer group variables are dichotomous). Many of the correlations between groups were significant, although most were small in magnitude. The largest correlation was between Rockers and Skaters/Bladers: $\phi = .36, p < .05$.

Gender Differences—For most groups, boys and girls showed similar group self-identifications. The group name with the most dissimilar endorsement rate across the sexes was Gamers. ORs computed to complement the percentages shown in Table 2 revealed that boys were over five times more likely to report identification with Gamers than girls were (OR = 5.4, 95% CI 4.3–6.7). Girls were almost four times more likely than boys to report identification with Normals (OR = 3.9, 95% CI = 2.7–5.6), and over twice as likely to report

identification While other with Paisanos (OR = 2.1, 95% CI = 1.5–3.0) and Other Groups (OR = 2.6, 95% CI = 2.1–3.2). differences were statistically significant due to large numbers of respondents, the magnitudes of difference were small.

Ethnic Differences—HLs (40.5%) and WHs (42.5%) were more likely to report identification with Skaters/Bladers than APIs (24%). APIs (57.6%) were more likely to identify with Smart Kids than HLs (28.8%) or WHs (30.5%). APIs and WHs, 38% each, were somewhat more likely than HLs (28.9%) to identify with Popular Kids. APIs and WHs were also more likely than HLs to identify as Gamers (32.1%, 20.3%, and 14.5%, respectively) and Artistic Kids (23.9%, 20.3%, and 10.4%, respectively). HL youth were more likely than APIs and WHs to identify as Rockers (27.3%, 6.4%, and 13.5%, respectively) and Gangsters/Cholos (13.6%, 4.2%, and 8.3%, respectively). Endorsement of Jocks was similar across the three ethnic groups, ranging from 31% to 38%.

Associations Between Group Self-Identification and Smoking

As shown in Table 4, we computed unadjusted ORs and 95% CIs for lifetime smoking, smoking in the past 30 days, and smoking intentions in the next year for each group. The ORs in the table indicate the odds of smoking for students who identified with each group, relative to all students who did not identify with that group. The greatest risk of smoking was associated with Gangster/Cholo identification. Gangsters/Cholos were over six times more likely to have smoked in their lifetime, over seven times more likely to have smoked in the past 30 days, and over three times more likely to lack a firm commitment not to smoke in the next year, relative to those not identifying as Gangsters/Cholos. Those who reported Paisano identification were 2.5 times more likely to have smoked cigarettes in their lifetime and in the past 30 days compared with those who did not. Those who identified with Rockers and Skaters/Bladers were about twice as likely to have ever tried cigarettes, and almost twice as likely to lack a firm commitment not to smoke in the next year. Identification with Smart Kids, Religious Kids, Normals, or Artistic Kids was associated with a reduced risk of smoking and reduced intentions to smoke.

Table 5 displays ORs and 95% CIs for lifetime smoking, smoking in the past 30 days, and smoking intentions in the next year for each group, adjusted for age, gender, and ethnicity. As shown in Table 3, the ORs in the table indicate the odds of smoking for students who identified with each group, relative to all students who did not identify with that group. Compared with the unadjusted odds, the relationships between group self-identification and tobacco use were reduced, albeit slightly, when these demographic characteristics were included in the model.

Multiple Group Self-Identification

Only about 5% of those surveyed did not endorse any peer group. Eighty-four percent endorsed two or more groups, and 65% endorsed three or more. Nearly half (about 47%) endorsed four or more groups.

To assess the effects of multiple group self-identification on smoking, we classified the groups into two risk categories based on our bivariate analysis of the association between

group self-identification and tobacco use: “high risk” (Gangsters/Cholos, Paisanos, Rockers, or Skaters/Bladers) and “low risk” (Popular Kids, Jocks, Gamers, Smart Kids, Religious Kids, or Artistic Kids). Logistic regression analyses adjusting for age, gender, and ethnicity indicated that as students endorsed more high-risk groups (regardless of low-risk group endorsement), the greater the risk of lifetime smoking (OR for two high-risk groups compared to one high-risk group 1.4, 95% CI = 1.04–1.94; OR for three high-risk groups = 1.9, 95% CI = 1.16–2.94). No increased protective effect was found for those endorsing multiple low-risk groups.

Classification Tree Analysis—Consistent with our multiple logistic regression analysis, the strongest predictor of lifetime smoking was identification with Gangster/Cholo, for whom the lifetime smoking rate was 42.3% (Figure 1). No other predictor in the model identified subcategories of Gangster/Cholo at higher (or lower) risk of lifetime smoking. Among those who did not affiliate with Gangster/Cholo, the strongest risk factor was ethnicity (API, 4.7%, HL, 14.3%, White and Other ethnicity, 9.2%). Among Asians, there was an increased risk of smoking among Skaters/Bladers (8.6%). Among non-Skaters, those who did not identify as Smart Kids were at a higher risk (5.5%).

There was a gender difference in smoking among non-Gangster Hispanics. For non-Gangster Hispanic females who were also Rockers, the lifetime smoking rate was 16.3%. Among non-Gangster Hispanic males, nonaffiliation with Smart Kids was a risk factor (21.5%), and the risk in this group increased further if also affiliated with Rockers (29.5%). Of the low-risk groups, Smart Kids appeared to exert the most pronounced protective effects by mitigating the risk of tobacco use for HL males, and for APIs who were not Skaters.

DISCUSSION

The findings of the present study extend previous empirical work on peer group self-identification by presenting associations between multiple group self-identification and tobacco use. Previous research has not examined multiple peer group risk. This study allowed participants to identify with multiple groups: 84% endorsed two or more groups, 65% endorsed three or more groups, and 47% endorsed four or more groups. Such a high degree of multiple group self-identification was unexpected, although in retrospect, it is not surprising given that early adolescence is a time of intense identity exploration. To gain a more complete understanding of adolescents’ social norms, values, preferences, and role models, it is important to ask about their affiliation with multiple groups. Although identification with multiple low-risk groups did not confer further protection against smoking, students who endorsed multiple high-risk groups had an even higher risk of smoking than did the students who endorsed only one high-risk group. Hussong's (2002) examination of multiple peer contexts, ranging from best friends to cliques to group self-identification, found that adolescents who are more highly embedded in substance-using peer contexts have a greater risk of substance use. Identification with multiple high-risk peer groups may be another indicator of embeddedness in substance-using peer contexts.

We examined for the first time the role of ethnicity and multiple group self-identification in this process. Using group names derived from pilot studies of our ethnically diverse

population, adolescents who endorsed the group names Gangsters/Cholos, Paisanos, Rockers, or Skaters/Bladers were at the greatest risk of tobacco use. Gangsters/Cholos had a particularly high risk of lifetime smoking, past-30-day smoking, and intention to smoke in the next year.

A large number of adolescents identified with the Gangster/Cholo group (HL = 13.6%, API = 4.2%, WH = 8.3%). It is well known that gang-affiliated youth are at a high risk of alcohol, drug, and tobacco use at early ages (Vigil, 1988), but the results provide a context with which to compare the risk in contrast to other peer group self-identifications. As seventh graders, these adolescents are approximately the average age of initiation into street gangs. Although most in our sample may not be active gang members, their identification with the gang lifestyle and reputation appears to confer considerable risk of tobacco use. This phenomenon may be particularly meaningful in southern California, but it is worth noting that gang proliferation is accelerating throughout the United States (Klein, 1997), making identification with the gang lifestyle an increasing relevant phenomenon nationally. Even if adolescents have not actually joined formal gangs, their attraction to the gang lifestyle, music, clothing styles, and modes of speech may be an early marker for involvement in high-risk behaviors, which may begin with smoking and escalate to other substance use, crime, and violence.

We found that identification as Gangster/Cholo was not an exclusively Latino phenomenon and does not interact with ethnicity in its relationship to tobacco use. Among those who did not identify as Gangster/Cholo, group self-identification had differential associations with smoking across ethnic groups. Hispanics who identified as Rockers were at a higher risk of tobacco use, whereas Rockers was not a risk group for Asians. On the other hand, Asians who identified as Skaters were at a higher risk, but identification with Skaters did not appear to be a risk group for Hispanics. Further research is needed to understand the connotations of various peer groups across ethnic groups, including ethnic variations in perceptions of the social norms, role models, and risk behavior profiles of various groups.

Our research findings do not reveal the mechanism by which certain teens are at a risk of smoking. It is not clear, for example, whether some teens are at a risk of smoking and seek out similar teens (or peer selection model) or whether teens are influenced by groups they identify with (the peer influence model). Further longitudinal studies are needed to disentangle the nature of peer influence and adolescent smoking. A recent literature review outlined a variety of categories of peer influence and adolescent smoking and presented a model by which some of these processes might be disentangled (Hoffman, Sussman, Unger, & Valente, 2006). The study would need to assess a young adolescent's smoking as well as their friends' smoking at two time points and examine whether they started smoking before or after joining the group. It should be mentioned that some adolescents identify with certain groups but do not actually join them. More research is needed to assess self-identification with an at-risk peer group and actual hanging out with at-risk peer groups.

An implication of these results is that "psychographic" methods might supplement current research in prevention science. According to one analysis of tobacco industry research (Ling & Glantz, 2000), the tobacco industry segments young smokers according to

“psychographic” information to target their marketing campaigns. The industry investigates not just demographics but also the values and behaviors of young smokers. For example, Philip Morris categorized young male smokers as Macho Hedonists, 50s Throwbacks, Enlightened Go-Getters, and New-Age Men. Young female smokers were categorized as 90s Traditionalists, Uptown Girls, Mavericks, and Wallflowers. Ling and Glantz (2000) suggest that these industry marketing techniques define new targets and provide a framework for planning public health interventions. To combat the tobacco industry practices, categorizing smokers and conducting smoking prevention interventions with a consideration of peer groups may be useful.

Addressing young smokers by “psychographics” or by their values and by how they identify themselves might be useful. This possibility appears to be borne out by our smoking prevention program for multicultural youth, Project FLAVOR (Unger, Chou et al., 2004), which included a follow-up module called Project De-Mystify. Project DeMystify targeted adolescents based on their group self-identification. Participants were pretested on their group self-identifications, and members of each group were assigned to work together. Each group was asked to develop an anti-smoking video for adolescents similar to themselves that would appeal to their values and concerns. For example, self-identified Paisanos developed a short film in which a pretty Mexican American girl is seen sitting alone. As she begins to smoke, she gradually transforms into a skeleton. A voiceover states, “Tobacco kills Mexican beauty.” In another example, Hispanics who self-identified as Rockers developed a film of a rock band in a confrontation with a manipulative tobacco executive. The Rockers use their guitars to sweep away the character, representing the message not to “sell out” to tobacco companies. Just as pro-tobacco marketing campaigns may be more successful if they are targeted to specific audiences, tobacco prevention messages could also be more effective if they incorporate the norms, values, imagery, and goals of specific groups. Tailored anti-smoking messages appealing to high-risk groups could be designed and included in advertising messages, programs, or campaigns.

Moreover, using multiple peer groups and ethnicity to inform prevention efforts might be particularly effective at bolstering the impact of intervention. Adolescents who identify with multiple peer groups might be identified for special intervention. Perhaps, visual messages might include a Latino actor who appears to have values and behavior in line with a Gangster/Cholo and a Rocker. If a visual image of such an actor is not used, perhaps the values and behavior might be useful in a message.

Although further research will be necessary to demonstrate the effects of this strategy on smoking prevention, we believe that such a technique may bolster prevention efforts. Profiling adolescents based on their group self-identification, with characteristic attitudes, lifestyle, aspirations, and activities, may supplement effective anti-tobacco interventions. It may be useful for intervention leaders to consider who might be recruited for intervention, what any actors might look like (e.g., not a cheerleader but perhaps a person who looks like a Rocker and/or Gangster), and what values should be considered as part of the message (e.g., focus on values and behaviors of relevance to at-risk peer groups).

Tailored communication and interventions have been demonstrated to be effective in promoting healthy behavior, according to some empirical studies and literature reviews. For example, a variety of health behaviors, including physical activity and smoking cessation, have been positively impacted by tailored interventions (Kroeze, Werkman, & Brug, 2006; Lipkus, Lyna, & Rymer, 1999). Psychosocial variables such as self-efficacy, stage of readiness for change, and perceived norms have been used for matched interventions in the past. The impact of such matching might be bolstered if presented to adolescents who identify themselves with multiple high-risk peer groups and future evaluations might be conducted to determine effectiveness of such interventions.

Perhaps, programs based on these and other important components might be further enhanced if program designers maintain a sensitivity to peer groups and may help in smoking prevention. For example, designing visual aids with peer groups in mind may be helpful. If materials from smoking prevention programs (that include refusal skills and other factors related to smoking) include images of youth models, then perhaps, images of Latino Rockers, Gangsters, and/or Paisanos, and others at risk could serve as better messengers than youth who look like Smart Kids or Religious Kids. Furthermore, perhaps, prevention materials might include images of multiple at-risk youth or one youth who has the appearance of multiple at-risk peer groups (e.g., Rocker and Skater/Blader).

Future research should be conducted to determine the characteristics of each at-risk group that makes individual endorsers at risk. For example, perhaps, there is a hypermasculine culture among Paisanos that is capitalized on by tobacco industry advertisers who use Marlboro Man cowboy-style tobacco advertisements. Perhaps, cowboy-related messages might be effective and relevant to Paisanos and other groups, such as some youth from the US Southwest. Similarly, characteristics of youth who identify with Gangsters today could inform smoking prevention messages, and such messages then may have broader effectiveness.

If such work is done, then perhaps prevention and cessation programs can be designed in a way that is not just “surface tailoring” but involves “deep tailoring.” Surface tailoring involves matching intervention materials and messages to the appearance and language of the intended recipients, whereas deep tailoring incorporates the deeper values and worldviews (or the psychological, cultural, historical, environmental forces) that influence risky health behavior in a target population (Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000). The nature of deep tailoring, how it is achieved, and its impact could then be described and empirically assessed.

In conclusion, the present study adds to the expansive literature on peer processes and adolescent smoking. Multiple high-risk peer group self-identification was found to increase the smoking risk. Newly identified peer groups (e.g., Paisanos) and the more well-known peer groups (e.g., Gangsters) were identified as risk factors for smoking. Further research is needed to disentangle social processes (such as peer influence) and their relationship to smoking, and additional research is needed to evaluate programs that translate findings from peer group self-identification research to adolescent smoking prevention and cessation programs.

Acknowledgments

This research was supported by the Transdisciplinary Tobacco Use Research Center (TTURC), University of Southern California, funded by the National Institutes of Health (grant no. 1 P50 CA84735-01) and the California Tobacco-Related Disease Research Program (TRDRP; grant no. 7PT-7004). The authors thank the TTURC/IRP (integrated research project) staff for their assistance on this project.

Biography



Juliana L. Fuqua, Ph.D., is an Assistant Professor of Psychology at California State Polytechnic University, Pomona. She is a former National Institutes of Health post-doctoral fellow at the University of Southern California. She completed her Ph.D. at the School of Social Ecology, University of California. Her research interests include examining factors that are associated with risky health behaviors, particularly among adolescents and adults, and those that facilitate or hinder success of transdisciplinary teams (e.g., teams working to prevent adolescent smoking).



Peggy E. Gallaher, Ph.D., is an Associate Professor at Claremont Graduate University. Her research interests include adapting psychosocial measures written for adults for use by children, defining and assessing acculturation and ethnic identity, and establishing the cultural equivalence of psychological tests. She received her doctorate from the University of Texas at Austin in 1988 and a master's degree in Biostatistics from Columbia University in 1994.



Jennifer B. Unger, Ph.D., is a Professor at the School of Community and Global Health, Claremont Graduate University. Her research focuses on psychosocial and cultural predictors of substance use and other health-related behaviors among adolescents, including acculturation, cultural values, peer influences, family influences, and stressful life events. Dr. Unger is currently conducting several large-scale studies of adolescents' health behaviors across cultural contexts.



Dennis R. Trinidad, Ph.D., is an Associate Professor and Associate Dean for Administration at the School of Community and Global Health, Claremont Graduate University. His major areas of research interest are in the social, environmental, and individual factors relevant to racial/ethnic disparities in health and health behaviors, with an emphasis on tobacco use. His research has also focused on adolescent emotional intelligence and substance use. Dr. Trinidad received his Ph.D. in Preventive Medicine and his MPH in Applied Biometry and Epidemiology from the University of Southern California. He completed his postdoctoral training in cancer prevention and control at the University of California, San Diego.



Steve Sussman, Ph.D., is a Professor of Preventive Medicine and Psychology at the University of Southern California. Dr. Sussman conducts research in the prediction, prevention, and cessation of tobacco and other drug abuse and in the utility of empirical program development methods. He has published over 220 articles, and many chapters and books in the area of drug use and abuse. He was selected as the Research Laureate of the American Academy of Health Behavior for 2005. Dr. Sussman received his BS in Psychology from the University of Illinois Urbana-Champaign in 1976 and his MS and Ph.D. in Clinical–Social Psychology from the University of Illinois at Chicago in 1981 and 1984, respectively. He served on a clinical psychology residency at the University of Mississippi Medical Center/Jackson VA Medical Center Consortium from 1983 to 1984.



Enrique Ortega, Ph.D., is a Research Fellow at the Department of Psychology, University of Turin. His current research activities include the cultural adaptation and implementation of international adolescent risk behavior prevention programs in the Italian context. In addition, he is currently conducting investigations to identify the intrapersonal and environmental predictors of the onset and progression of alcohol and tobacco use among Italian adolescents.



C. Anderson Johnson, Ph.D., is the Dean of the School of Community and Global Health at Claremont Graduate University. His research focuses on dispositional and contextual characteristics as they work in combination (culture by environment and gene by environment interactions) to affect tobacco and alcohol use trajectories and on their prevention at different points in the trajectories. In particular, his research focuses on: prevention of tobacco, alcohol, and drug use; prevention of HIV-AIDS; prevention of obesity; social and environmental influences on health-related behavior and health outcomes; domestic and international (transnational) health-related behaviors; and community and mass media approaches to prevention of chronic diseases and promotion of healthy lifestyles.

GLOSSARY

Cholos	The name of a peer group to which some Latino adolescents identify. In some areas (such as the Greater Los Angeles Area), the term generally refers to Gangsters or people who identify with the Gangster lifestyle.
Gamers	The name of a peer group to which some adolescents identify—those who enjoy playing video games.
Multiple peer group self-identification	A method in which adolescents are asked to self-identify with multiple peer groups to which they belong.

Normal	A category of group names that includes adolescents who identify with names such as Normal, Regular, Average, Ordinary, and Everyday.
Paisanos	The less controversial term for Paisas.
Paisas	The name of a peer group to which some Latino adolescents identify, loosely translated as “of the country.” The term “Paisa” has various meanings. While often used in a slang or friendly way to refer to someone who comes from the same country, it may be used in some countries or settings as an insulting way to refer to someone who comes from more rural areas, is less acculturated, uneducated, unskilled, or of a lower social class. It is a derivative of the word “Paisano.”
Peer group self-identification	A method in which adolescents self-identify with a particular peer group to which they belong.
Psychographic targeting	In contrast to <i>demographic</i> method, this is a method by which the tobacco industry segments young smokers into groups based on <i>psychological</i> characteristics (e.g., personal values) to target their marketing campaigns.

REFERENCES

- Dolcini MM, Adler NE. Perceived competencies, peer group affiliation, and risk behavior among early adolescents. *Health Psychology*. 1994; 13:496–506. [PubMed: 7889904]
- Hoffman BR, Sussman S, Unger JB, Valente TW. Peer influences on adolescent cigarette smoking: A theoretical review of the literature. *Substance Use & Misuse*. 2006; 41:103–155. [PubMed: 16393739]
- Hussong A. Differentiating peer contexts and risk for adolescent substance use. *Journal of Youth and Adolescence*. 2002; 31:207–220.
- Klein, M. *The American street gang: Its nature, prevalence, and control*. Oxford University Press; New York, NY: 1997.
- Kroeze W, Werkman A, Brug J. A systematic review of randomized trials on the effectiveness of computer-tailored education on physical activity and dietary behaviors. *Annals of Behavioral Medicine*. 2006; 31(3):205–223. [PubMed: 16700634]
- La Greca AM, Prinstein MJ, Fetter MD. Adolescent peer crowd affiliation: Linkages with health-risk behaviors and close friendships. *Journal of Pediatric Psychology*. 2001; 26:131–143. [PubMed: 11259515]
- Ling PM, Glantz SA. Using tobacco-industry marketing research to design more effective tobacco-control campaigns. *Journal of the American Medical Association*. 2000; 287:2983–2989. [PubMed: 12052128]
- Lipkus IM, Lyna PR, Rimer BK. Using tailored interventions to enhance smoking cessation among African-Americans at a community health center. *Nicotine & Tobacco Research*. 1999; 1(1):77–85. [PubMed: 11072391]
- Mosbach P, Leventhal H. Peer group identification and smoking: Implications for intervention. *Journal of Abnormal Psychology*. 1988; 97:238–245. [PubMed: 3385077]
- Resnicow K, Soler R, Braithwaite RL, Ahluwalia JS, Butler J. Cultural sensitivity in substance use prevention. *Journal of Community Psychology*. 2000; 28(3):271–290.
- SPSS Inc.. *Answer tree (Version 2.0)* [Computer software]. SPSS Inc.; Chicago, IL: 1998.

- Sussman S, Dent CW, McAdams LA, Stacy AW, Burton D, Flay B. Group self-identification and adolescent cigarette smoking: A 1-year prospective study. *Journal of Abnormal Psychology*. 1994; 103:576–580. [PubMed: 7930058]
- Sussman S, Dent CW, McCullar W. Group self-identification and adolescent cigarette smoking: A 1-year prospective study. *Journal of Abnormal Psychology*. 2000; 103:576–580. [PubMed: 7930058]
- Sussman S, Dent CW, Simon TR, Stacy AW, Burton D, Flay B. Identification of which high-risk youth smoke cigarettes regularly. *Health Values*. 1993; 17:42–53.
- Sussman S, Dent CW, Stacy AW, Burciaga C, Raynor A, Turner G, et al. Peer-group association and adolescent tobacco use. *Journal of Abnormal Psychology*. 1990; 99:349–352. [PubMed: 2266208]
- Sussman S, Simon TR, Stacy AW, Dent CW, Ritt A. The association of group self-identification and adolescent drug use in three samples varying in risk. *Journal of Applied Social Psychology*. 1999; 29:1555–1581.
- Sussman S, Unger JB, Dent CW. Peer group self-identification among alternative high school youth: A predictor of their psychosocial functioning five years later. *International Journal of Clinical and Health Psychology*. 2004; 4:9–25.
- Unger JB, Chou CP, Palmer PH, Ritt-Olson A, Gallaher P, Cen S, et al. Project flavor: 1-year outcomes of a multicultural, school-based smoking prevention curriculum for adolescents. *American Journal of Public Health*. 2004; 94:263–265. [PubMed: 14759940]
- Unger J, Gallaher P, Palmer P, Baezconde-Garbanati L, Trinidad D, Cen S, et al. No news is bad news: Characteristics of adolescents who provide neither parental consent nor refusal for participation in school-based survey research. *Evaluation Review*. 2004; 28:52–63. [PubMed: 14750291]
- United States Census Bureau. *Census (SF3, P53)*. 2000
- Urberg KA, Degirmencioglu SM, Tolson JM, Halliday-Scher K. Adolescent social crowds: Measurement and relationship to friendships. *Journal of Adolescent Research*. 2000; 15:427–445.
- Vigil, JD. *Barrio gangs: Street life and identity in southern California*. University of Texas Press; Austin: 1988.

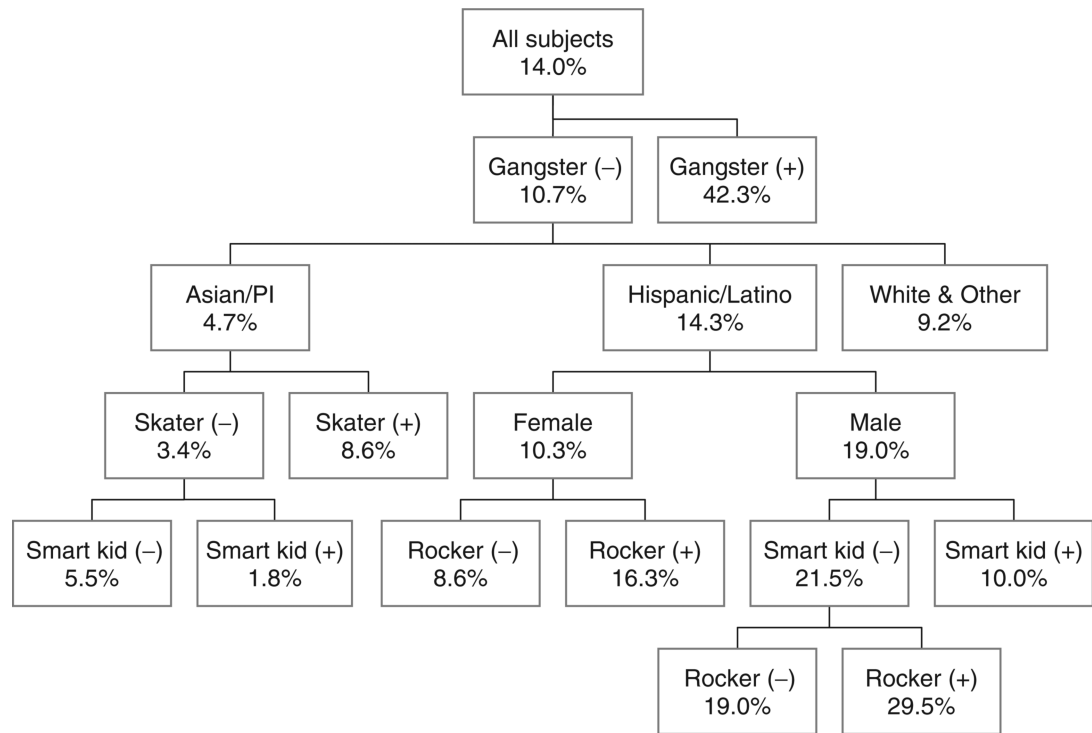


FIGURE 1. Classification tree analysis of lifetime smoking rates by ethnicity, gender, and group self-identification. The number in each box indicates the percentage of respondents in that group who reported lifetime smoking.

TABLE 1

Selected demographic characteristics of the sample

	Percentage
Age (years)	
10	0.8
11	68.1
12	29.1
13–15	1.4
Gender	
Female	52.9
Male	41.1
Ethnicity	
Hispanic/Latino	54.1
Asian	25.4
White	10.8
Other	9.1
Generation in US	
At least one parent born in US	40.1
Both parents born outside US	59.3

TABLE 2

Percentage of respondents identifying with each group

Group name	Whole sample	By gender		By ethnicity			
		Girl	Boy	Hispanic/Latino	Asian/PI	White	Other
Skaters/Bladers	35.8	30.2	42.7	40.5	24.0	42.5	28.15
Smart Kids	35.6	39.4	29.6	28.8	57.6	30.5	34.3
Jocks	32.6	29.2	34.8	30.9	36.0	38.4	31.0
Popular Kids	31.8	37.5	24.8	28.9	37.8	38.0	29.7
Rockers	19.9	21.0	19.3	27.3	6.4	13.5	15.5
Gamers	18.9	8.3	30.8	14.5	32.1	20.3	15.2
Other Groups	18.6	25.3	12.3	19.4	16.3	18.4	20.1
Artistic Kids	14.5	16.1	11.2	10.4	23.9	20.3	13.2
Gangsters/Cholos	10.4	13.1	10.0	13.6	4.2	8.3	9.9
Religious Kids	7.0	8.3	6.4	5.5	10.5	7.9	7.9
Normals	6.9	10.2	3.0	8.0	5.1	3.4	7.6
Paisanos	6.9	9.4	4.7	10.5	0.6	3.8	5.3

Note. Percentages add to more than 100% because respondents could mark multiple groups.

TABLE 3

Correlations between peer groups (phi coefficients)

	Skaters/Bladers	Smart Kids	Jocks	Popular Kids	Rockers	Gamers	Artistic Kids	Gangsters/Cholos	Religious Kids	Paisanos
Skaters/Bladers	1									
Smart Kids	-.01	1								
Jocks	.19*	.14*	1							
Popular Kids	.20*	.23*	.22*	1						
Rockers	.36*	.01	.06*	.13*	1					
Gamers	.15*	.18*	.16*	.10*	.07*	1				
Artistic Kids	.09*	.28*	.20*	.19*	.08*	.15*	1			
Gangsters/Cholos	.21*	-.04*	.06*	.17*	.21*	.02*	.05*	1		
Religious Kids	.05*	.20*	.13*	.11*	.06*	.09*	.21*	.03	1	
Paisanos	.08*	-.01	-.01	.04*	.15*	-.02*	.03	.19*	.06*	1

* $p < .05$.

TABLE 4

Unadjusted odds of smoking outcomes by group self-identification

Group name	Lifetime smoking		Smoked in past 30 days		Intention to smoke next year	
	OR	95% CI	OR	95% CI	OR	95% CI
Gangsters/Cholos	6.1	4.62–7.93	7.3	4.71–11.26	3.4	2.53–4.68
Paisanos	2.5	1.81–3.58	2.6	1.42–4.61	1.5	0.99–2.33
Rockers	2.5	1.96–3.15	1.6	1.03–2.61	1.7	1.29–2.25
Skaters/Bladers	1.7	1.37–2.13	1.0	0.62–1.49	1.7	1.29–2.12
Popular Kids	1.1	0.91–1.44	1.1	0.72–1.74	1.0	0.77–1.31
Jocks	1.0	0.78–1.25	0.7	0.45–1.17	0.9	0.71–1.21
Other Groups	1.0	0.73–1.28	0.6	0.31–1.13	1.0	0.69–1.32
Gamers	0.9	0.71–1.25	0.5	0.27–1.01	1.1	0.83–1.53
Artistic Kids	0.6	0.43–0.87	0.6	0.32–1.27	0.7	0.46–1.01
Normals	0.6	0.34–0.97	1.0	0.42–2.26	0.8	0.46–1.33
Religious Kids	0.5	0.30–0.88	0.3	0.07–1.18	0.7	0.42–1.23
Smart Kids	0.5	0.37–0.61	0.5	0.28–0.78	0.5	0.39–0.69

Note. The reference group for each peer group is all students who did not identify with that peer group.

TABLE 5

Adjusted odds of smoking outcomes by group self-identification

Group name	Lifetime smoking		Smoked in past 30 days		Intention to smoke next year	
	OR	95% CI	OR	95% CI	OR	95% CI
Gangsters/Cholos	5.6	4.24–7.42	1.0	4.46–10.90	3.4	2.46–4.63
Paisanos	2.2	1.56–3.18	2.4	1.28–4.35	1.5	0.93–2.25
Rockers	2.1	1.63–2.66	1.5	0.93–2.43	1.5	1.13–2.01
Skaters/Bladers	1.5	1.11–1.84	0.9	0.51–1.40	1.4	1.11–1.85
Popular Kids	1.3	1.03–1.65	1.2	0.14–1.80	1.2	0.88–1.52
Jocks	1.0	0.18–1.25	0.1	0.45–1.11	0.9	0.61–1.16
Other Groups	1.0	0.13–1.31	0.6	0.30–1.09	1.0	0.12–1.41
Gamers	1.0	0.14–1.35	0.5	0.21–1.08	1.1	0.80–1.54
Artistic Kids	0.8	0.53–1.11	0.1	0.34–1.39	0.8	0.52–1.18
Normals	0.6	0.36–1.04	1.0	0.41–2.21	0.9	0.53–1.56
Religious Kids	0.6	0.35–1.03	0.3	0.08–1.26	0.8	0.44–1.35
Smart Kids	0.6	0.45–0.16	0.5	0.30–0.86	0.6	0.46–0.83

Note. Adjusted for age, gender, and ethnicity. The reference group for each peer group is all students who did not identify with that peer group.