Characterizing Drug Non-Users as Distinctive in Prevention Messages: Implications of Optimal Distinctiveness Theory

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Abstract

Optimal Distinctiveness Theory posits that highly valued groups are those that can simultaneously satisfy needs to belong and to be different. The success of drug-prevention messages with a social-identity theme should therefore depend on the extent to which the group is portrayed as capable of meeting these needs. Specifically, messages that portray non-users as a large and undifferentiated majority may not be as successful as messages that emphasize uniqueness of non-users. This prediction was examined using marijuana prevention messages that depicted non-users as a distinctive or a majority group. Distinctiveness characterization lowered behavioral willingness to use marijuana among non-users (Experiment 1) and served as a source of identity threat (contingent on gender) among users (Experiment 2).

Why are some behaviors attractive when they are associated with a unique group but quickly lose appeal if they become mainstream? Such a phenomenon might be observed when styles that were once worn by fashionistas become widely available – once the style hits the Wal-Mart, the style is no longer a marker of membership in a distinctive social group. Drug prevention messages face the challenge of advocating choices that are inherently non-distinctive because they are not associated with a particular social group, but rather are already at the Wal-Mart, as it were, because a majority of the general population does not engage in harmful use. How then should prevention-oriented health communication efforts proceed?

A theory that can provide insight and guidance in such situations is Optimal Distinctiveness Theory (ODT; Brewer, 1991; Brewer, Manzi, & Shaw, 1993), which posits that people have opposing drives to belong and to be different, and that membership in groups that are sufficiently distinctive can satisfy those needs simultaneously. Although this theory has been tested in non-health domains (e.g., Abrams, 1994, 2009; Brewer et al., 1993; Hornsey & Hogg, 1999; Leonardelli & Brewer, 2001), applications in the context of health behavior have been limited to date. To the extent that health behaviors can serve as markers of identity with a group, health communication efforts that rely on social identity themes should consider the extent to which the advocated behaviors (or non-behaviors) are positioned as consistent with a group that would meet these needs. The present study will examine strategies that emphasize group distinctiveness in the context of substance-abuse prevention. Guided by ODT, the study will examine the extent to which prevention messages that characterize non-users as an optimally distinct group can satisfy needs for distinctiveness among non-users, as well as serve as a source of distinctiveness threat among users.

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The study contributes to the literature in a number of ways. First, health communication researchers have been encouraged to identify psychological mechanisms underlying message effects (see Slater, 2006); the study is responsive to that call by studying the impact of ads within the framework of a social psychological theory of identity. Furthermore, the study provides a new perspective from which to consider currently popular approaches of preventing alcohol and other substance use that emphasize the majority status of those who do not engage in risky use (social norms marketing; Perkins & Berkowitz, 1986).

Background

Optimal Distinctiveness Theory—ODT is a theory of motivations underlying memberships in social groups. The basic tenet is that people have a need to belong and feel similar to others, yet at the same time to differentiate from others and to feel unique (Brewer, 1991). Equilibrium between these opposing needs can be achieved by affiliating with clearly bounded groups: a person can satisfy the need to belong through group membership, while the distinctiveness of the group from other groups fills the need to be different. These opposing motivations are thought to have evolved because they gave rise to the types of groups that provided the best security for individuals and enabled successful competition for resources (Brewer, 2007). ODT has conceptual roots in the broader perspective of Social Identity Theory (Tajfel & Turner, 1986), which proposes that human beings derive much of their identity from associations with groups; however, ODT specifies a set of assumptions about human motivations that explain why certain groups will be deemed more valuable than others.

ODT proposes that identification will be strongest for social groups at that level of inclusiveness that resolves the conflict between opposing needs. As an in-group becomes less inclusive, a person is at risk for being stigmatized; consequently, the person will experience an increasing need to assimilate. As a group becomes more inclusive (i.e., it becomes larger and more heterogeneous), a person's need for differentiation increases, and the person will seek out a group that is more bounded and distinctive. This study focuses on the latter case. Specifically, the study explores the potential for drug prevention ads to characterize non-users as a bounded and distinctive social group in order to encourage identification and behaviors consistent with that group.

This study is the first attempt to explore ODT in a prevention message context. Other applications of ODT in health communication (and, indeed, in the broader field of communication) are scarce. An electronic search using the keywords "optimal distinctiveness theory" in the research database Communication and Mass Media Complete yielded only one study (Fellows & Rubin, 2006) published in a communication journal. The study analyzed tobacco industry documents and demonstrated attempts to appeal to Asian Americans by positioning smoking as a means to meet competing identity needs (p. 285). Although this is a valuable insight, the present study takes an experimental approach to help isolate the effects of linking a behavior to a distinctive social group.

Applications to youth and to substance abuse prevention—In the context of youth audiences, an example of group identification as a means to satisfy needs for belongingness and differentiation can be seen in adolescents' identification with peer groups (Brewer, 1991, p. 477). A youth may spend an inordinate amount of time hanging out with peers and may adopt the group's style of dress or manner of speech. In this sense, the group fulfills belongingness needs. At the same time, being part of a peer group is one way for a youth to individuate from the family group. Moreover, the group's identity also distinguishes the group from other types of youth groups, which in a high-school

environment may include jocks, preps, nerds, and druggies (Garner, Bootcheck, Lorr, & Rauch, 2006).

Because use and non-use of substances is in large part determined by peer groups (Oetting & Beauvais, 1986), prevention efforts should give careful consideration to the social identities invoked in ads. A wide range of characterizations have appeared in the field, some that appear directly opposed to the principles of ODT. In particular, the "social norms marketing" approach underscores the notion that non-risky behavior is endorsed by the masses. Campaigns based on this approach typically employ local statistics showing that the majority of people in a given population do not engage in risky behaviors (Kilmer et al., 2006; Perkins & Berkowitz, 1986). For example, a social norms marketing campaign to prevent binge drinking at the University of Massachusetts included a poster showing a large group of students at a sporting event along with the following copy: "2 out of 3 UMass students have 4 or fewer drinks when they party" (U.S. Department of Education's Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention, 2007).

Although social-norms marketing strategies to combat drinking have been widely adopted by universities in the U.S., a carefully conducted national evaluation has shown that drinking did not decrease in universities that adopted a social norms marketing program (Wechsler et al., 2003). In fact, there were increases in lower level drinking in universities that adopted the program. The backfiring of this approach for non-drinkers or very light drinkers is a nontrivial consequence, and researchers have been urged to conduct further study on how social norms marketing campaigns may be interpreted (Weschler et al., p. 492). In light of ODT, a possible interpretation is that some non-drinkers may feel aversion to being included in the undifferentiated majority and may wish instead to emulate the smaller, select group of students in their partying activities.

In contrast to social norms marketing approaches, other campaigns appear to portray non-users as the smaller, select group. For example, ads from a campaign tested in a randomized community trial ("Be Under Your Own Influence"; Slater et al., 2006) featured images of groups of friends having a good time and sharing a commitment to stay away from drugs and alcohol. Rather than linking non-use to an undifferentiated majority, the ad associates non-use with membership in a close-knit, supportive group of friends who together are able to endure challenges that would overwhelm most others. In terms of ODT, such a group would be highly valued as one that meets needs of both belongingness and distinctiveness; consequently, behaviors presented as characteristic of the group would serve as markers of valued-group membership and may be better adopted than behaviors linked to a less desirable social identity. It should be noted that the campaign from which this ad was taken reduced uptake of marijuana and alcohol among middle-school students in treatment communities (Slater et al., 2006).

The divergent approaches to non-user portrayals exemplified in the two campaigns provide an opportunity to explore applications of ODT in a health context. Although it may appear from the effectiveness of the "Be Under Your Own Influence" campaign and the mixed results from social norms marketing campaigns that linking non-use to an optimally distinct group is the more promising approach, many factors may contribute to differences in performance in the field. To help isolate the effects of distinctive characterization from potential confounds, what is needed is a lab experiment that manipulates characterization while keeping other features of the advertising message constant. Further, in the framework of an experiment, the psychological impact of messages can be studied on outcomes that are difficult to assess in the field but are nonetheless important to examine as potential mechanisms of campaign effects. The present study takes this approach and proposes the following hypothesis based on ODT principles:

H1: Among marijuana non-users, the characterization of non-users as a distinctive (vs. non-distinctive) group in prevention ads will lead to a) greater identification with a non-user social identity, and b) lower willingness to use marijuana in risky situations.

In addition to predicting a main effect for distinctiveness characterization, ODT suggests that the effect of characterization will be more pronounced among those whose sense of distinctiveness has been threatened. In prior research, distinctiveness has been operationalized in terms of relative size of the group, with smaller groups generally considered more distinctive than larger groups. When participants are subjected to identity threat (typically through experimental manipulations that make salient participants' membership in a large, undifferentiated group; see Brewer et al., 1993), participants tend to show enhanced preference for a distinctive in-group.

These findings have implications in the real-world and in the present study. If a young person worries that they are not "cool" or distinctive enough to be noticed by important others, he or she will have heightened awareness of the benefits conferred by membership in a distinctive group. Thus, for non-users whose sense of distinctiveness has been threatened, it is reasonable to expect that distinctive portrayal of non-users will encourage even more identification with the non-user group, relative to when there is no threat. Thus, a moderating relationship between distinctiveness characterization and threat is proposed:

H2: Among non-users who experience identity threat, there will be higher identification with a non-user social identity and lower willingness to use marijuana among those who view non-users as distinctive vs. non-distinctive.

Whereas a prevention message that presents non-users as distinctive is proposed to repair a threatened sense of distinctiveness among non-users, such a message would serve quite a different purpose among users. Distinctiveness characterizations could itself serve as a potential source of threat because it implies that users are in the majority, which may undermine the perception of users as a distinctive group. Therefore, it was predicted that:

H3: Among users, prevention ads that characterize non-users as distinctive will serve as a source of distinctiveness threat.

Because this study hinges on the contrast between distinctive and non-distinctive characterizations, it was necessary to give careful consideration to the types of descriptors used to operationalize the contrast. Whereas the descriptors used in the "Be Under Your Own Influence" distinctive characterization were qualitative, the ones used in non-distinctive characterizations found in social norms marketing campaigns are quantitative in that they reflect local prevalence statistics. However, using qualitative descriptors in the distinctive condition and quantitative descriptors in the nondistinctive condition would confound distinctiveness characterization with descriptor type. Therefore, the study examined both quantitative and qualitative executions of non-distinctive characterization. For the distinctive characterization, however, a qualitative description was the only execution used in order to avoid having to deceive participants, because non-users are in fact the numerical majority (McCabe, Knight, Teter, & Weschler, 2005). Thus, the following research question was posed:

RQ: Does effectiveness of prevention ads differ as a function of whether characterizations of non-users as a majority group are based on quantitative vs. qualitative descriptors?

In summary, ODT provides a theoretical framework in which to consider the characterizations of non-users in substance abuse prevention campaigns. Key predictions of ODT include preference for groups with clear boundaries that meet needs of both

belongingness and differentiation, which suggests that non-users should be characterized as such if prevention ads are to appeal to non-users. In addition, ODT predicts that greater in-group preference results when one's distinctiveness is threatened, which suggests that the effects of distinctiveness characterization will be more pronounced under conditions of threat.

Overview of Experiments

To examine the effects of distinctiveness on non-users and users, two computer-administered experiments were conducted. Experiment 1 used a 3×2 factorial design to examine the effects of non-user characterization (distinctive group, non-distinctive group with qualitative descriptors, non-distinctive group with quantiative descriptors) and threat (present or not) on *non-users* of marijuana (H1a, H1b, H2, RQ). Experiment 2 examined whether the distinctive characterization could serve as a source of distinctiveness-threat among users (H3). Anti-marijuana print advertisements served as the stimuli for both experiments.

Both studies were conducted within the same data collection period. All participants answered the same set of initial questions, which contained a question about frequency of marijuana use in the past 30 days. Participants who responded that they had not used marijuana at all in the last 30 days received the stimuli and measures of Experiment 1, while participants who reported that they had used at least once received Experiment 2. Previous work has validated 30-day use as a proxy for self-identification as a marijuana user (Okoli, Richardson, Ratner, & Johnson, 2008). This screening question was used as a less obtrusive means (compared to a straightforward question about self-identification) to separate those who would be likely to identify as non-users and users for assignment to the appropriate study.

Experiment 1

Method

Participants—The sample consisted of 168 undergraduates at a large Midwestern university. The mean age was 20.7 years (SD = 2.3). Females were 74 % of the sample. Ethnic breakdown was as follows: 85% White, 7% Asian, 5% African-American, and 3% other ethnicities.

Stimuli—Distinctiveness characterization was operationalized by systematically manipulating the copy only of a print prevention ad adapted from one that had been used in a drug-prevention media intervention (Slater et al., 2006). The copy manipulations resulted in three ads representing each level of distinctiveness. In the distinctive execution, the copy read: "Students who don't use marijuana are a unique group on campus. We're part of that group. We don't approve of marijuana. And we wouldn't use it if it were offered at a party. We stand out from the crowd – and we're staying that way - by not using marijuana." The non-distinctive qualitative execution swapped out the first and last sentences of the copy with the following: "Students who don't use marijuana are a large majority group on campus" and "We're part of the crowd – and we're staying that way – by not using marijuana." The corresponding sentences in the non-distinctive quantitative execution were "8 out of 10 students on campus don't use marijuana" and "We're part of the 80% – and we're staying that way – by not using marijuana."[1]

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[1]Images of ads are available from author.

The visuals, layout, and tagline were held constant across all three executions. Each ad was embedded in a series of three other print ads for neutral consumer products (e.g., mattress, dishwasher), and the order of presentation was randomized. After viewing each of the four ads, participants were asked to provide a one-sentence description to help ensure they had seen the each ad.

Distinctiveness threat was manipulated by presenting participants with instructions (prior to viewing the stimuli) that either did or did not make salient their membership in a large general category of all young people. In the threat condition, instructions stated, "We are running this study to assess the perceptions of students in general. For this study, you represent a member of a group that includes all young people, high school through college. Please keep this in mind as you answer." In the no threat condition, membership in a large general category was not emphasized. Participants were merely told that "We are running this study to assess the perceptions of students. We are interested in your responses as an individual." This distinctiveness-threat operationalization is similar to those used in previous reserach (e.g., Brewer et al., 1993).

Dependent measures—The key outcomes of Experiment 1 were social identification as a non-user and behavioral willingness to use marijuana, which were both operationalized as reaction-time tasks requiring speeded dichotomous judgments (i.e., "yes" or "no" decisions) from participants. Although reaction-time tasks have not been commonly employed to date in health message research, a recent study demonstrated the sensitivity of reaction-time measures of self-concept activation and behavioral willingness to the effects of ad condition, as well as the lack of sensitivity of more traditional deliberative measures of behavior-relevant constructs (Comello & Slater, accepted). Other research (Fazio, Williams, & Powell, 2000) has demonstrated the validity of response latency by showing that the latency measure had solid correlations with two other potential measures (naming and facilitation) of category-item associative strength.

Social identification as a non-user was operationalized as quickness to respond "no" to identifying with the social group "potheads." The task is an adaptation of the "me/not-me" personal identity measure (Markus, 1977), a reaction-time task that asks people to categorize traits as belonging to self of not. In the adapted measure, participants first received instructions that they would see the word "Us" at the top of the screen and then the names of different social groups appearing one at a time beneath it. For each social group, participants were asked to decide if they felt like part of the group or not. If so, they were instructed to respond "yes" by pressing one of two keys, and if not, they were to respond "no." Although a "no" response to a user identity is different from a "yes" response to a non-user identity, the reaction-time task required prompts that were both very brief and unambiguous, and there was no word or phrase that adequately captured the social group of marijuana non-users.

Behavioral willingness, which has been described as an openness to engage in risky behaviors (Gibbons, Gerrard, Blanton, & Russell, 1998; Gibbons, Gerrard, & Lane, 2003), was operationalized by asking participants to respond to the following scenario: "Suppose you are at a party with friends, and one of them passes you a joint. What would you do?" After reading the scenario (which was not a timed task), participants viewed another screen presenting the action choice "I would smoke until I was high" with the response options of "yes" or "no." Quicker responses to say "no" indicate lower willingness (more unwillingness). This measure is an adaptation of the traditional deliberative measure for behavioral willingness (Gibbons et al., 2003), which involves presenting scenarios and asking participants to estimate the probabilities of engaging in acts at varying levels of risk. The adaptation of the deliberative measure into a non-deliberative reaction-time measure is

congruent with the conceptualization of willingness as a reactivity to behavioral cues that may be present in risk-conducive situations. Because the non-deliberative measure has demonstrated sensitivity to the prevention-message effects in preliminary studies (Comello & Slater, accepted), it was examined as the terminal outcome closest to behavior in the present study.

Covariates—Given the reaction-time measures of the present study, it was critical to account for individual differences in ability to respond quickly to prompts (Fazio, 1990). The measure of baseline reaction speed was participants' mean reaction time in a practice categorization task that preceded all other tasks in the study. The task familiarized participants with the format of the speeded judgment tasks and provided a baseline measure of quickness that was used as a covariate in analyses. Baseline reaction time did not vary as a function of condition (p = .66), so it was acceptable to use as a covariate. Other variables that were accounted for in analyses were age, gender, and ethnicity (White or non-White).

Procedure—The study used MediaLab (Jarvis, 2006a) and DirectRT (Jarvis, 2006b) software programs for presenting stimuli and recording responses. The research took place at a lab with private rooms, each containing a computer station. After signing consent forms, participants were taken to a computer room and randomly assigned to condition. The instructions that appeared prior to viewing the ads contained the threat manipulation. Participants viewed the ads and then began the practice reaction-time task. For this task and for all other reaction-time tasks, participants were asked to go as quickly as possible so as to minimize deliberative thought processes. Participants completed tasks assessing social identification and behavioral willingness, as well as demographic questions. Participants were then debriefed and dismissed with thanks.

Data cleaning and analysis plan—Prior to analysis, reaction-time data were cleaned and transformed per the recommendations of Fazio (1990). Raw reaction times were inspected for extreme outliers (data points more than 3 standard deviations from the mean), which were dropped from analysis (n=1). Then, given the strong positive skew of reaction-time data, a negative reciprocal transformation was used ($-1000/\times$); normality statistics examined after transformation were non-significant, indicating a normal distribution. Analyses were conducted using these transformed scores, which correspond to raw scores in that lower scores (i.e., more negative scores) indicate shorter reaction times.

Finally, the direction of responses for both outcome variables was examined. For the social identification outcome, 9 responses (5%) were in the direction opposite from the intent of the prevention ads (i.e., "yes" response to identifying with the social group "potheads") and for the willingness outcome, there were 14 responses (8%; responding "yes" to smoking a joint at a party with friends). The distribution of "yes" responses did not differ by ad condition, as indicated by non-significant χ^2 tests. It was not feasible to add direction of response as a blocking variable in the 3×2 study, given the relatively low numbers of opposite responses. Therefore, these responses were dropped from analysis (see Fazio, 1990, on the usefulness of limiting analyses to dominant responses in situations in which one is expected).

For both Experiment 1 and 2, the analysis plan was to conduct multivariate analysis of covariance (MANCOVA), followed up by inspection of results at the univariate level. Equality of covariance matrices and variances were checked prior to inspecting multivariate and univariate results, respectively, to ensure that assumptions of homogeneity were not violated. The effect size measure used was partial η^2, which quantifies the proportion of variance in the outcome that can be explained by the dependent variable after controlling for covariates (Hayes, 2005). 2

Results

Table 1 displays raw mean reaction times in milliseconds for the two dependent variables by ad condition and threat level.

H1 predicted that the characterization of non-users as a distinctive (vs. non-distinctive) group in prevention ads would lead to a) greater identification with a non-user social identity, and b) lower willingness to use marijuana in risky situations. H2 predicted an interaction between distinctiveness characterization and threat.

There was support for H1 at the multivariate level, with a main effect for distinctiveness characterization, Wilks' Λ = .93, $F(4,276)$ = 2.48, p = .04, partial η^2 = .04. There was no support for H2 at the multivariate level, indicated by a non-significant interaction between distinctiveness and threat, Wilks' Λ = .97, $F(4,276)$ = 1.19, p = .32.

At the univariate level, a significant effect of distinctiveness characterization was observed for the behavioral willingness outcome, $F(2, 139)$ = 4.52, p = .01, partial η^2 = .06. Pairwise contrasts showed a significant difference between the distinctive ad and the non-distinctive qualitative ad. The mean difference of −.10 (SE = .04) on the transformed data indicates lower willingness (i.e., quicker to say "no" to smoking marijuana) associated with the distinctive ad compared to the non-distinctive qualitative ad (p = .03). In addition, there was a significant contrast between the distinctive ad and the non-distinctive quantitative ad (mean difference = −.12, SE = .04, p = .005). Thus, for this variable, response times were shorter among those exposed to the distinctive ad compared to the two other ads, with the biggest difference between the distinctive ad and the non-distinctive quantitative ad. In terms of social identification as a non-user, there were no detectable group differences, $F(2, 139)$ = 1.07, p = .35. However, the means were in the expected direction, with shorter response times after viewing the distinctive ad relative to the two other conditions.

With respect to the RQ, the contrast between qualitative ("large majority group") and quantitative ("8 out of 10") descriptions of non-users was examined. The difference between the two conditions was non-significant for both the social identification (p = .83) and behavioral willingness (p = .52) outcomes.

Summary

Experiment 1 provided evidence of the effectiveness of characterizing non-users of marijuana as a distinctive social group, at least in terms of behavioral willingness. Those exposed to distinctive vs. non-distinctive characterization responded with more unwillingness to use marijuana when at a party with friends, when presented with the scenario. In addition, the results suggested there is no difference between describing non-users as a majority through numerical or qualitative descriptors; however, the greatest mean difference was between the distinctive characterization and the non-distinctive quantitative characterization.

Experiment 2

Whereas Experiment 1 aimed to examine the effect of distinctiveness characterization in prevention ads on non-users, it is also important for health campaigns to consider the effect

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[2]Levine and Hull (2002) have argued that it is generally more informative to use measures of effect size (such as η^2)that are based on the proportion of total variance in the outcome that can be explained by the independent variable. However, given the nature of reaction time data and the standard practice of including baseline reaction speed as a covariate, it seems more helpful to know the proportion of variance explained after taking baseline reaction speed into account. Therefore, partial η^2 was chosen as the effect size measure.

of ads on users to ensure that there are no unintended effects. For example, it would not be desirable if prevention ads were to support users in identifying with other users. Rather, it would be better for prevention ads to threaten a user's social identity to make that identity less able to compete with other identities. Thus, Experiment 2 examined the extent to which a distinctive portrayal of non-users would serve as a source of threat to users, as manifested by greater in-group preference.

Method

Participants—On the initial screening question, 41 undergraduates reported one or more days of marijuana use in the past 30 days and were assigned to Experiment 2. The mean age was 20.05 (SD = 1.43). There were 24 females and 17 males. Thirty eight were White, 2 were Black, and 1 was Asian. There were 20 participants in the control condition and 21 in the threat condition.

Creation of artificial minority ingroup via dot estimation task—A key feature of this experiment is that all participants were assigned to an artificial minority in-group prior to viewing the stimuli. The purpose was to enable an assessment of in-group preference by providing participants with an in-group on which they could project preferences, free from the influence of pre-existing attitudes. Because of the expected small sample, it was important to eliminate as much noise in measurement as possible.

The artificial group was created by administering the dot-estimation task, which has a long history of use in social psychological research. Participants were told that because the study aimed to examine ad processing, they would first have to do a visual processing task that would involve estimating the numbers of dots that would appear in each of the next several screens. Each screen appeared for a short time, followed by a prompt for participants to type in their best guess of how many dots were onscreen. After providing estimates for all screens, participants received (false) feedback that they had been classified as a "dot under-estimator." The feedback also stated that just 20% of the students who have been tested are under-estimators and 80% are over-estimators, and that there were big differences in the processing abilities and traits of these groups. Participants were instructed to remember their classification because they would be asked about it later.

Stimuli—All of the ads were drawn from the same pool as those used in Experiment 1. In the threat condition, participants viewed the distinctive prevention ad embedded within three other consumer product ads. The other prevention-ad executions were not tested because of the expected small sample size and inadequate power to detect effects if more than two levels of distinctiveness threat were examined. In the no-threat condition, participants viewed four consumer product ads.

Dependent measures—The key outcomes in this experiment were measures of in-group preference. As opposed to the reaction-time measures used in Experiment 1, the outcomes in Experiment 2 were deliberative measures, because such measures are better suited to capture motivation to ascribe preference to a purely artificial in-group. Participants were asked to evaluate their in-group compared to the out-group on a variety of task-related and socially desirable positive traits. Consistent with Brewer and colleagues (1993), the outcomes of interest were the socially desirable traits. The target traits were sociability and creativity, which were chosen to correspond with motivations to use marijuana for sociability- and creativity-enhancing purposes (see Simons, Correia, & Carey, 2000). If these are motivations to use, then it is reasonable to think that these traits are valued, and assessments of the extent to which the trait would describe the in-group may be projected to the artificial group under conditions of threat. There were five response options (e.g., for sociability, the

options were "other group a lot more sociable," "other group a little more sociable," "both groups about the same," "my group a little more sociable," and "my group a lot more sociable"). These were coded 1 to 5 for analysis.

Covariates—Age and 30-day marijuana use were included as covariates. Categories of marijuana use (taken from the screening item at the start of the survey) were 1–2 days, 3–4 days, 5–6 days, 7–8 days, 9–10 days, 11–20 days, and 21–30 days. Gender was included as a factor to explore possible interaction with threat. Ethnicity was not accounted for in analysis because only 3 participants were non-White.

Procedure—Initial procedures were identical to those described in Experiment 1. Following the screening question, participants completed the dot-task and received feedback. Participants then viewed either the threat or no-threat series of ads, with instructions to provide a one-sentence description after each ad as in Experiment 1. The order of presentation of the ads was randomized. Measures of in-group preference were then presented. As a check, participants were also asked what type of dot-estimator they were and what percentage of students tested were also in that category. (Three incorrect responses were dropped prior to analysis.) Participants were then debriefed and dismissed with thanks.

Results

Overall means and standard deviations for the ingroup preference measures were as follows: sociability (M = 2.82, SE = .16), creativity (M =2.75, SE = .15).

The key hypothesis for this experiment was that among users, prevention ads that characterize non-users as distinctive will serve as a source of distinctiveness threat resulting in greater preference for the in-group. The MANCOVA results showed that threat had no main effect at the multivariate level [Wilks' Λ = .99, $F(2,34)$ = .13, p = .88], although means were in the expected direction. There was, however, a significant interaction between threat and gender, Wilks' Λ = .83, $F(2,34)$ = 3.4, p = .05, partial η^2 = .17.

At the univariate level, the interaction was significant for the creativity outcome, $F(1,35)$ = 6.09, p = .02, partial η^2 = .15. Under conditions of threat, the in-group was evaluated as more creative than the out-group by females (M = 3.33, SE = .23) more so than by males (M = 2.30, SE = .41). The opposite pattern was observed in the no-threat condition, with the in-group evaluated as more creative by males (M = 2.98, SE = .26) than females (M = 2.39, SE = .29).

The interaction of threat and gender was probed by conducting separate analyses by gender, which revealed that the effect of threat was significant for females [$F(1,20)$ = 5.42, p = .03, partial η^2 = .21] but not for males. In terms of sociability, the interaction at the univariate level was not significant, $F(1,35)$ = 2.66, p = .11. Therefore, no further probing was done, although the pattern of responses was similar to that observed for creativity.

Summary

The findings provide limited support for the effect of distinctiveness threat on in-group preference. Contingent on gender, threat can increase in-group preference, with females tending to evaluate the in-group more positively than did males. Although the interaction effect was not hypothesized formally, the effect of gender is interesting to consider given the greater sensitivity of females vs. males to situational signals of identity threat (Murphy, Steele, & Gross, 2007). That the effects were statistically significant for creativity and but not sociability seems consistent with previous research (Simons et al., 2000) that shows greater endorsement of motivations to use marijuana for "enhancement" purposes (e.g.,

using marijuana to help one become more creative and original) rather than sociability purposes (e.g., using marijuana to be sociable and to avoid being kidded for not doing so). The difference may indicate a greater value placed on creativity vs. sociability as a desirable trait among users.

Discussion

The purpose of this study was to explore the effectiveness of efforts to position non-users as a distinctive or majority group in prevention messages. It was predicted based on ODT that a distinctive vs. a non-distinctive characterization of nonusers would be more successful in reducing willingness to use drugs, because a distinctive characterization would link non-use with a valued group (i.e., one that was able to simultaneously meet needs to belong and to be different). Overall, the pattern of findings supported the prediction. The relatively subtle manipulation of describing non-users as a distinctive vs. non-distinctive group decreased behavioral willingness to use marijuana among non-users when presented with a scenario involving friends at a party (Experiment 1) and also appeared to threaten a sense of distinctiveness, at least among female users (Experiment 2). Taken together, the results suggest that a distinctive characterization strategy is worth considering when designing prevention messages.

The findings also provide one explanation for the limited success of social-norms marketing efforts on college campuses that emphasize majority group status of non-users or non-drinkers (Wechsler et al., 2003). It is likely that the majority group is viewed as too large and undifferentiated to serve as a valued source of social identity; hence, there would be little appeal in behaving in accordance with the majority and perhaps greater incentive to behave like the minority. Such an outcome is consistent with the backfiring of the campaign among non-drinkers and low-level drinkers (Wechsler et al., 2003). Further, the findings complement work that has shown weaker predictive ability of general norms (as used in social-marketing efforts) relative to friend-specific norms (Campo, Brossard, Frazer, Marchell, Lewis, & Talbot, 2003). Based on the results of the present study, it is suggested that the effect of friend-specific norms may be enhanced further if the peer group is viewed as clearly distinct from the general student population.

The findings also rule out other possibilities that might be suggested for lack of effects of the social norms marketing approach. For example, it might be argued that the use of numerical information in typical social norms marketing ads may not be processed easily by most people, and so messages that include numerical information would not be as effective as text-based ads. However, this study employed both qualitative (i.e., "large majority") and quantitative ("8 out of 10") descriptors of majority status to contrast with the qualitative minority descriptor ("unique group") in Experiment 1, and no differences between the two majority-status executions were found.

Although distinctiveness characterization had the predicted effect on behavioral willingness in Experiment 1, there were other predicted effects that did not emerge. For example, there were no detectable effects on social identification as a non-user. While this finding may seem at odds with ODT, it is suggested that because all participants in Experiment 1 were non-users to begin with, there were no significant differences in identification as a non-user in general terms. However, the behavioral willingness item placed marijuana use in a specific context in which users were the majority. Thus, the item may itself have served as a threat to a non-user identity, with the consequence of heightening unwillingness to use marijuana. Also in Experiment 1, the manipulated source of distinctiveness threat did not moderate the effects of condition as predicted. While the manipulation for distinctiveness threat has been used successfully in previous research (e.g., Brewer et al., 1993), it may not

have been powerful enough to heighten distinctiveness needs in the context of the present study.

With respect to the manipulation of the copy in the prevention ad, measures assessing participant estimates of the proportion of users vs. non-users should be included in future research to help explain observed effects and confirm the extent to which the manipulation influences such perceptions among message recipients. Because the study did not include such measures, the exact mechanism via which the manipulation had an effect on behavioral willingness is still unclear and requires further study.3 Additionally, the study is limited in that it is based on manipulating the copy of a single print advertisement. Because it is possible that results may have depended on the particularities of the chosen ad and manipulations, future work should focus on replication using different prevention messages and contexts. Still, the two experiments conducted here demonstrate what can occur as a result of emphasizing distinctiveness of non-users and are thus an important first step in understanding the potential contributions of ODT to prevention message design.

The effect sizes reported in the study are quite modest. After accounting for baseline reaction time and other covariates, characterization of non-users explained approximately 6% of the variance in the behavior willingness outcome in Experiment 1. Although this proportion is small, it should be considered in light of the relatively subtle manipulation of embedding the target ad within three unrelated ads for consumer products. Because this amounted to a very short exposure to the target stimulus, the results should be interpreted as a conservative test of the effects of a distinctive characterization.

The reaction-time measures in Experiment 1 were single-item measures that represent new approaches to assessing non-deliberative processing of prevention messages. In the case of behavioral willingness, the measure is consistent with the conceptualization of willingness as an essentially spur-of-the-moment decision. Combined with the performance of the measures on previous studies (Comello & Slater, accepted), the measures are viewed as a promising alternative measure of behavioral willingness, and studies have been planned that will formally assess the reliability and validity of the measures.

Despite the limitations, the study addresses the challenge in persuasive health communication of advocating risk-avoidance and other inherently non-distinctive behaviors. The theoretical framework of ODT – which posits inherent needs to belong and to be different that must be balanced throughout life – provides justification for associating advocated behaviors with a valued social group (i.e., one that is able to satisfy these needs). Although issues relevant to adolescence and early adulthood may lend themselves particularly well to ODT applications, there are certainly other life stages that are marked by shifts in social allegiances and the necessity of making decisions that impact health, such as transitions to parenthood or to older age. In these contexts, strategies suggested by ODT (see Hornsey & Jetten, 2004) may also prove useful as a means of encouraging health behaviors.

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Table 1

Experiment 1 - Raw Mean Reaction Times by Ad Condition and Threat Level

	Ad condition		
	__Distinctive (n = 49)__	__Non-dist. qual. (n = 48)__	__Non-dist. quant. (n = 52)__
	Social identification as a non-user		
Threat (n = 77)	929.746 (73.554)	811.346 (73.842)	788.449 (70.896)
No threat (n = 72)	771.758 (75.524)	868.352 (77.713)	949.331 (73.798)
	Unwillingness to use marijuana		
Threat (n = 77)	1309.698 (101.683)	1539.563 (102.080)	1776.901 (98.007)
No threat (n = 72)	1349.585 (104.406)	1628.712 (107.432)	1621.669 (102.020)

Note. Reaction times are in milliseconds, with standard errors in parentheses. Raw data are reported in table to facilitate interpretation; however, analyses were based on transformed data. Means were adjusted for quickness to respond, age, gender, and ethnicity.