Application of Vested Interest Theory to prevention of non-medical prescription stimulant and marijuana use: Unforeseen benefits of attitude-behavior inconsistency

Jason T. Siegel[1], **Candice D. Donaldson**[1], and **William D. Crano**[1]

[1]Health Psychology and Prevention Science Institute, School of Social Science, Claremont Graduate University, 150 E. 10th Street, Claremont, CA 91711

Abstract

Background: Vested interest (VI) has been found to enhance attitude-behavior consistency in several contexts. With an eye toward a potentially novel method of prevention (i.e., reducing perceived VI to minimize attitude-behavior consistency among those positively inclined toward psychotropic substance use), the current investigation explores whether VI moderates attitudeintention consistency regarding nonmedical use of prescription stimulants (NUPS) and marijuana.

Methods: Emphasizing prevention, the study focused exclusively on non-users. Study 1a assessed college-students' ($N = 310$) attitudes, VI, and intentions regarding NUPS among those with no prior NUPS experience. Respondents were sampled using Amazon's Mechanical Turk. Study 1b investigated marijuana-abstinent college students ($N = 93$), recruited from college classrooms.

Results: The pattern of results was similar in both studies. In addition to an association between attitudes and VI, analysis revealed main effects for attitudes and VI on substance use intentions. Moreover, VI moderated the attitude-intention relationship ($p < .01$). Attitudes were most weakly associated with usage intentions when perceptions of VI were low (vs. moderate or strong).

Conclusion: Results of these studies replicate and expand prior findings relating VI to drug use, and suggest a potential path for future prevention efforts. The current study was cross-sectional, but if the causal pathways are as theorized, an intervention that reduces subjective VI has the

potential to reduce positive attitudes while simultaneously reducing the influence of favorable attitudes on intentions.

Keywords

prescription stimulants; marijuana; vested interest; vested interest theory; attitudes; intentions

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1. Introduction

Attitude, an "evaluative integration of cognitions and affects experienced in relation to an object" (Crano and Prislin, 2006), was viewed by Allport (1954) as the "primary building stone in the edifice of social psychology." Attitudes have played a central role in explaining and predicting a range of human actions (Bohner and Dickel, 2011; Crano and Prislin, 2006), but they are not infallible predictors of behavior (Crano, 1995; McGuire, 1985; Siegel et al., 2014). The current research acknowledges, and seeks to take advantage of this lack of perfect association between attitudes and behaviors.

Vested interest, the focus of this investigation, refers to the perceived importance and hedonic relevance of the outcome of an attitude-implicated action (Crano, 1995; 1997; Lehman and Crano, 2002; Sivacek and Crano, 1982). Vested interest theory (VIT) was developed to provide insight into the influence of VI on attitude-behavior consistency. Sivacek and Crano's (1982) research showed VIT's utility in predicting when the attitude-behavior relationship would be maximized. Their first study investigated the correspondence between students' attitudes and actions in response to a statewide proposition to increase the legal drinking age, which most students opposed. Students' willingness to work against the measure was related to the extent to which the law would affect them personally. Among those denied legal access to alcohol for two or more years (operationally defined as highly vested), the attitude-oppositional action relation was strong and significantly exceeded that found among moderately or low-vested students, even though the groups' mean attitudes toward the referendum were indistinguishable. A second study, which probed students' willingness to work against a proposal to change their university's graduation requirements, replicated the results of the first.

The range of application of the VI construct is noteworthy. Vested interest has shown useful applications in research on health policy (Johnson et al., 2014), organ donation (Siegel et al., 2008), and risk communications (Adame and Miller, 2015; De Dominicis et al., 2014). The goal of scholars and practitioners typically is to find a means of increasing attitude-behavior consistency (e.g., increase organ donor registration among those with positive attitudes; Siegel et al., 2008). However, because the current study is concerned with preventing drug use, the goal of the current study is to determine the potential utility of an intervention designed to reduce attitude-behavior consistency, and thereby increase drug abstinence among those whose usage attitudes are favorable.

Data supportive of the potential of such an approach were found by Donaldson et al. (2016), who studied whether VI moderated the attitude-intention relationship regarding nonmedical use of prescription stimulants (NUPS). Intentions represent motivational factors that determine behavior (Ajzen, 1991), and have been shown to be associated causally with

behavior (Webb and Sheeran, 2006). Perceived VI was assessed explicitly by determining if respondents believed it was in their self-interest to use prescription stimulants to experience a range of desired outcomes. In addition to VI and attitudes being associated with each other and with intentions, VI was found to moderate the attitude-intention relationship. Attitudes were significantly associated with intentions to use among participants with moderate or high vested interest, but not among those with low vested interest. Although it cannot be assumed that changes in VI will lead to the desired outcomes, the study supports the possibility that reducing VI of NUPS could lead to abstinence among those with favorable attitudes toward these substances.

1.1. The current studies

Donaldson and associates' (2016) research indicated that VI might have utility in prevention contexts. However, they did not focus exclusively on never users; moreover, they focused on a single substance with one subject recruitment method. The current research is a replication and expansion of their research. It involves two cross-sectional studies in different contexts, and focuses on two different psychotropic substances. The central research question is whether perceived vested interest regarding drug use moderates attitude-intention consistency regarding NUPS and marijuana use. We hypothesize positive associations between perceived VI regarding drug use and drug use intentions, between attitudes toward drug use and drug use intentions, and between VI and attitudes. Moreover, as predicted by VI theory, we hypothesize that perceived vested interest regarding drug use will moderate attitude-intention consistency. Support for the hypotheses would suggest that there is merit in investigations that assess whether reducing perceived vested interest in drug use could serve as a foundation for prevention-based interventions.

Replicating the work of Donaldson et al. (2016), Study 1a investigated the moderating effect of VI on the NUPS attitude-behavior relationship with a sample of college students recruited through Amazon's Mechanical Turk (MTurk). The nonmedical use of prescription stimulants, or stimulant misuse, is defined as taking a prescription stimulant (e.g., Adderall, Ritalin) that is not personally prescribed or in a manner that is not intended (e.g., to experience euphoria; NIDA, 2018). Unlike Donaldson and colleagues' study, and with an eye on prevention, the current research focused exclusively on participants who had never engaged in NUPS. Study 1b expands this research by focusing on a different substance, marijuana, and using a different context for recruitment–a convenience sample of college students recruited from college classrooms. As our goal is to examine a potential approach for prevention, we chose to focus on participants who reported no prior marijuana use, rather than examining whether the person met the DSM criteria for a substance use disorder, a problematic pattern of substance use that can lead to risky use, impaired personal control, social harm, and tolerance and withdrawal (APA, 2013).

2. Materials and methods

2.1 Procedure

Inclusion criteria were United States citizenship, current enrollment as a student at a US college or university, and the ability to read and write English. Participants had to be at least

18 years of age to be eligible for both studies. After providing consent, participants in both Study 1a and 1b completed an online survey on a form that assured anonymity. After finishing the survey, respondents were thanked and debriefed. The protocol was approved by the University's IRB.

For Study 1a, college students were recruited using Amazon's Mechanical Turk (MTurk), a crowd sourcing website that allows the public to complete a variety of tasks, such as research studies, for monetary compensation. Reliability and validity of studies using MTurk have been supported (e.g., Rand, 2012), and respondents using this online tool are more diverse demographically than those studied with traditional sampling methods (Buhrmester et al., 2011). The recruitment message posted to the MTurk site and informed consent stated that participants had to be enrolled as a student at a college or university. To further emphasize the college student inclusion criteria, the informed consent instructions stated, "I voluntarily agree to participate in this research and I agree that I am currently a college student at a US college or university." Respondents were also required to list the name of the college or university attended. Participants were compensated $0.80 for completing the MTurk survey.

For Study 1b, responses were collected from a convenience sample of undergraduate college students attending school in Southern California. The researchers recruited ten professors from seven different universities to distribute the survey to their undergraduate students. Announcements were made in class and a link was posted on the course websites. Students were given two weeks to complete the survey. A code was presented upon survey completion. After sending this code to their professor, students received extra credit for participation.

2.2 Respondents

2.2.1 Study 1a.—Only participants who reported they had never engaged in NUPS were included in the final sample. Of the total sample ($N = 535$), 149 stimulant users were excluded. The nonuser sample consisted of 386 college students. Seventy-six nonuser participants were also excluded. Ten were removed for indicating on the posttest survey that their responses should be discarded. Five attention checks were incorporated in the survey, requiring respondents to mark an indicated answer on a given item (e.g., "Mark *strongly disagree* on this question"). Sixty-six respondents were excluded for missing two or more attention checks. The exclusion rate for the nonuser sample was 19.69%, typical of MTurk studies, where the rate ranges from 3% to 40% (Berinsky et al., 2014; Chandler et al., 2014). The final sample consisted of 310 college students, whose demographic characteristics are presented in Table 1.

2.2.2 Study 1b.—College students ($N = 360$) completed a survey assessing the critical variables. Marijuana users were removed from the sample ($n = 245$). The marijuana-abstinent sample consisted of 115 respondents. Twenty-two participants were removed from this sample. Five were excluded for indicating that their responses should be discarded and 17 were excluded for missing two or more attention checks. The exclusion rate was 19.13%

for the nonusers. The final sample consisted of 93 college students who had never used marijuana (See demographics in Table 1).

2.3 Measures

Attitudes toward NUPS (Study 1a) and *marijuana* (Study 1b) were examined with six, 7-point semantic differential items (Osgood, 1952). Similar measures used in earlier research had strong predictive validity for substance use intentions (e.g., Crano et al., 2007). The endpoints of the scales were anchored with: *bad–good, dangerous–safe, ineffective–effective, useless–useful, problematic–okay, and scary–comforting*. A mean composite defined the final measure of attitudes: scores could range from 1 (*unfavorable*) to 7 (*favorable*).

Subjective VI was measured using an 8-item scale, with items evaluated on 7-point Likert-type items (*strongly disagree/strongly agree*). This measure was adapted from a previous scale of subjective VI (Donaldson et al., 2016) shown to be reliable and valid with college student populations. In Study 1a, participants were asked to "take a moment to think of all the good and bad things" they believed could happen when using prescription stimulants nonmedically. Holding these possibilities in mind, they were asked whether they considered it in their "best interest to use prescription stimulants nonmedically to…" a) "help me pay attention really well"; b) "make me able to think more critically"; c) "make my work seem interesting"; d) "make my memory better"; e) "make me feel more intelligent," etc. Similarly, in Study 1b participants were asked to "take a moment to think of all the good and bad things" they believed could happen when using marijuana. Holding these possibilities in mind, they were asked whether they considered it to be in their "self-interest to use marijuana to…" a) "decrease my anxiety"; b) "help me relax in social situations" c) "decrease my stress"; d) "increase my creativity"; e) "increase my happiness," etc. A mean composite was computed to operationalize VI. Higher scores represent higher levels of VI.

Intentions to engage in NUPS (Study 1a) or *marijuana* (Study 1b) were examined using four items measured on 7-point Likert-type response formats (*strongly disagree/strongly agree*). The measure was adapted from a prior NUPS intentions scale (Donaldson et al., 2016); a similar measure of marijuana intentions was shown to have high predictive validity regarding future use (Crano et al., 2008). Respondents were asked the extent to which they agreed with the following statements: (1) "If I had the opportunity now, I would use prescription stimulants nonmedically/marijuana"; (2) "I will use prescription stimulants nonmedically/marijuana, at least once or twice…" (a) "in the next 6 months"; (b) "in the next 12 months"; (c) "sometime in the future." A mean composite was computed for the summary measure of intentions. Lower scores indicate lower intentions to engage in NUPS/marijuana use.

2.3.1 Lifetime use.—Past NUPS (Study 1a) was assessed using a single item. We included this item to allow us to remove respondents who had ever engaged in NUPS. Participants were asked "Have you EVER, even once, taken any prescription stimulant that was not prescribed for you, in a way other than prescribed, or only for the experience or feeling it caused?" Likewise, prior marijuana use (Study 1b) was assessed by asking, "Have

you ever, even once, used marijuana?" Responses were coded as 0 (*no*) and 1 (*yes*). Similar (*yes*/no) items have been used in national surveys of substance use (NIDA, 2012).

2.3.2 Demographic variables.—We also measured age, gender, and race/ethnicity.

2.4 Analytic plan

The Process Macro (version 3) for SPSS Version 25 (Hayes, 2012) was used for all analyses (Study 1a and 1b). Model 1 examined the interaction of attitudes and VI on intentions to engage in NUPS/marijuana use. Mean composites of attitudes, VI, and intentions were computed. Age, gender, and race/ethnicity were entered as model covariates. Gender and race/ethnicity were dummy coded: male and Caucasian were the comparison groups.

Predictor variables were standardized (Z-scored) prior to model entry to minimize multicollinearity. All variance inflation factor (VIF) values were below 1.76 in Study 1a (stimulants) and 1.90 in Study 1b (marijuana); thus, multicollinearity was not an issue. Computed predictor variable composites were within the reasonable boundary of normality (Tabachnick, 2012)[1]. Substance use intentions served as the outcome variable. In Study 1a, intentions to misuse stimulants were normally distributed ($M = 1.83$, $SD = 1.33$, skew = 1.85, kurtosis = 2.95). In Study 1b, intentions to misuse marijuana were not within the reasonable bounds of normality ($M = 1.48$, $SD = 1.07$, skew = 3.33, kurtosis = 12.39). A log transformation was performed to address issues of non-normality. After performing the transformation, intentions to use marijuana ranged from .00 to .85 ($M = .11$, $SD = .20$) and overall levels of skew and kurtosis were reduced (skew = 2.03, kurtosis = 3.69).[2]

The specification and interpretation of significant interaction terms for quantitative predictors followed the recommended procedures of Aiken et al. (1991). Simple slopes were estimated and graphed, controlling for all other variables in the model. Attitudes were graphed on the VI moderator at one standard deviation below (−1SD), at (0), and one standard deviation above the mean (+1SD). To decompose significant interactions, a test of simple slopes was performed to determine if the attitude-intention relation differed from a no relationship slope ($\beta = 0$) at each level of VI (Dawson, 2014).

Participants with an attitude score more than one standard deviation (SD) below the mean were classified as having unfavorable attitudes, participants at the mean were denoted as possessing neutral attitudes, and those scoring more than one SD above the mean were categorized as having favorable attitudes. Vested interest differences were conceptualized in a similar way. An average VI score more than one SD below the mean was conceptualized as low VI, a score at the mean was categorized as moderate VI, and scores one SD above the mean were labeled as high VI (see Donaldson et al., 2016). The percentages of participants at each level of attitudes and VI are presented in Table 2.

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[1]In Study 1a attitudes about NUPS had a skew of .43 and a kurtosis of −.38. The skewness for vested interest was .34 and kurtosis was −1.10. In Study 1b attitudes about marijuana use had a skew of .48 and a kurtosis of −.34. The skewness for marijuana vested interest was .37 and kurtosis was −1.02.
[2]Analyses were performed on marijuana intentions (Study 1b) before and after applying the log transformation. The pattern of results was the same whether examining the non-transformed or transformed variable as an outcome.

3. Results

3.1 Study 1a

Descriptive information and correlations between all variables are reported in Table 2. As indicated in Table 2, correlational analyses revealed that higher scores on the subjective VI measure were associated with more favorable NUPS attitudes. The overall regression model ($N = 310$) was statistically significant, $R^2 = .53$, $F(10, 299) = 33.32$, $p < .001$. Controlling for age, gender, and ethnicity, attitudes ($B = .64$, $SE = .08$, $p < .001$)[3], VI ($B = .41$, $SE = .07$, $p < .001$), and the interaction of attitudes and VI ($B = .34$, $SE = .06$, $p < .001$) were significantly associated with intentions (Table 3, Figure 1).

A test of simple slopes (Table 4) was used to evaluate whether the relationship between attitudes and intentions differed from a no relationship slope at each level of VI. Analyses showed that the slope of attitudes was significantly different from 0 at each level of VI; attitudes were most strongly associated with NUPS intentions for participants with high ($B = .98$, $SE = .09$, $p < .001$) and moderate ($B = .64$, $SE = .08$, $p < .001$) VI perceptions, and most weakly associated among those of low VI ($B = .30$, $SE = .11$, $p < .01$).

3.2 Study 1b

Similar to Study 1a, correlational analyses indicated that higher scores on the subjective VI measure were associated with more favorable marijuana attitudes. The model ($N = 93$) was statistically significant, $R^2 = .45$, $F(9, 83) = 7.59$, $p < .001$. Attitudes ($B = .06$, $SE = .02$, $p < .01$), VI ($B = .11$, $SE = .02$, $p < .001$), and the interaction of attitudes and VI ($B = .06$, $SE = .02$, $p < .01$) were significantly associated with intentions (Table 3). The significant interaction was plotted and decomposed (Figure 2). A test of simple slopes (Table 4) indicated that attitudes were related to intentions among respondents of strong ($B = .12$, $SE = .03$, $p < .001$) or moderate ($B = .06$, $SE = .02$, $p < .01$) VI, but they were not associated with intentions for participants of low subjective VI ($B = .01$, $SE = .03$, $p = .81$).

4. General discussion

In prior research, Donaldson and associates (2016) provided data indicating a potential approach for reducing drug use by minimizing the personal relevance and assumed importance (i.e., subjective vested interest) of substance use. The goal of the current study was to replicate and expand upon this earlier work. The current effort involved two cross-sectional studies focused on two different substances, NUPS and marijuana, with college-student participants recruited from two different contexts, MTurk and college classrooms. Unlike Donaldson and colleagues' study, our sample consisted of non-users only. The central research question was whether perceived VI in drug use was associated with participants' attitudes and intentions among never users in such a way that there is a possibility that reducing perceived VI could serve as the foundation for a useful prevention-based intervention.

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[3]Predictor variables were z-scored to produce standardized (B) estimates

A pattern of results similar to those of Donaldson and colleagues (2016) was found in both of the current studies. In addition to a positive association between subjective VI and attitudes, attitudes and VI were both significantly related to drug use intentions. Moreover, VI moderated attitude-intention consistency. Attitudes were most strongly related with intentions when VI was high, and weakest when VI was low. Although the current data are correlational, these data point to a potentially useful path for future prevention efforts.

The results are consistent with the possibility that interventions that reduce perceived vested interest might prevent initiation of psychotropic substances by directly reducing both drug use attitudes and intentions. Because the attitude-intention relation weakens as vested interest decreases, reducing vested interest in substance use may reduce intentions among those most likely to initiate use. Although the specific intervention messages would differ depending on the emphasis on specific substances, such a prevention approach could focus on developing messages that convince potential users that the cost/benefit ratio of substance use is not nearly as favorable as might be believed. The current findings suggest that if persuasive messages successfully reduce perceptions of vested interest, attitudes could become more negative; however, even if attitudes toward the substances do not become negative, intentions to use still may be reduced through the reduction of attitude-behavior consistency.

Though results of the current studies highlight the potential of such an approach, success rests on the assumption that perceptions of VI can be changed, and that doing so will influence usage intentions. Past studies have shown that vested perceptions are malleable in persuasion settings (Adame and Miller, 2015; De Dominicis et al., 2014), but future studies are warranted to ensure perceived vested interest regarding psychoactive substance use can be influenced. If messages can be created that influence perceptions of VI among non-users, the next step would involve assessing the extent to which changing perceptions of VI lead to a reduction in usage intentions.

Although the current effort focused on NUPS and marijuana, the promising results of the current research warrant exploration in other domains. For example, if the causal relationships are such that reducing perceptions of vested interest can result in attitudes being less predictive of behavior, then a vested interest approach could be useful for prevention campaigns focused on topics such as e-cigarettes (Waters et al., 2017) and doping in sports (Alsaeed and Alabkal, 2015). These topics were not chosen at random; they are both domains where self-benefits of substance misuse often are exaggerated, and self-harms underestimated.

Beyond reducing harmful behavior, the proposed approach could be useful in increasing healthy behaviors (e.g., physical exercise and healthy nutrition). Many people have positive attitudes toward healthy eating, but do not engage in the requisite behaviors (Aikman et al., 2006). By making the self-benefits more top of mind, beyond possibly making attitudes more favorable, increasing vested interest might motivate people to act more in line with their attitudes. The key to success would be focusing on the importance and hedonic relevance of the outcomes associated with the attitude-implicated actions. Although the current study was concerned with college students across age groups, future studies should

examine whether the VI approach may be equally beneficial across demographics. Moreover, although the current analyses focused exclusively on non-users, it would be worthwhile to explore whether a campaign guided by VIT could influence the behaviors of users. Although changing attitudes of users might prove more challenging due to differences in attitude strength and habit formation, it is an approach worthy of exploration.

4.1 Strengths and limitations

A strong feature of the current studies is that the same pattern of results was found regardless of the substance investigated or the context from which the college participants were recruited. Focusing on two different substances and two different recruitment approaches reduces the likelihood that the patterns of results are specific to any single substance or are not generalizable beyond one sampling approach. However, the findings should be interpreted in light of several limitations. A common issue in MTurk studies concerns respondents' attention. To deal with this issue, we built a number of attention checks into the measures. An additional limitation is associated with how VI was measured. In our measure of VI, we averaged scores across outcomes. It is possible that not all outcomes carried the same weight for all respondents.

Another potential limitation of this investigation is that differences in behavior were not assessed, and that intentions were used as proxy of action. Intentions are not perfect behavioral predictors; however, myriad studies have identified a reliable intention-behavior association (Ajzen, 2001; Armitage and Conner, 2001; Conner and Armitage, 1998; Huba et al., 1981). A meta-analysis by Webb and Sheeran (2006) revealed a causal relationship between intentions and action, and showed that a change in intention directly changed behavior. Even so, future longitudinal investigations should assess whether the current findings replicate when examining actual behavior, rather than relying on intentions as a proxy.

5. Conclusion

Two studies assessed the potential utility of VIT-based interventions when seeking to prevent NUPS and marijuana use in college students. Overall, the current research effort replicated past research demonstrating the utility of VIT and further extending it to a substance use prevention context. Findings consistently showed that VI was a powerful moderator of the attitude-intention link for nonusers across studies and substance use contexts, suggesting VIT may be used advantageously to help structure future prevention campaigns. Although cross-sectional, the results are in line with the possibility that if prevention campaigns can convince non-users that NUPS or marijuana use is not in their self-interest, the likelihood of future use may be reduced even if usage attitudes remain favorable.

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Highlights

- Two studies examined if vested interest (VI) moderated attitude-intention consistency

- Study 1 (MTurk) focused on stimulants; Study 2 (classroom), marijuana

- Low VI was associated with lower intentions when attitudes were moderate or favorable

- The same pattern of results emerged regardless of sample or drug examined

- Given the potential upside, studies that assess the causal relationships are needed
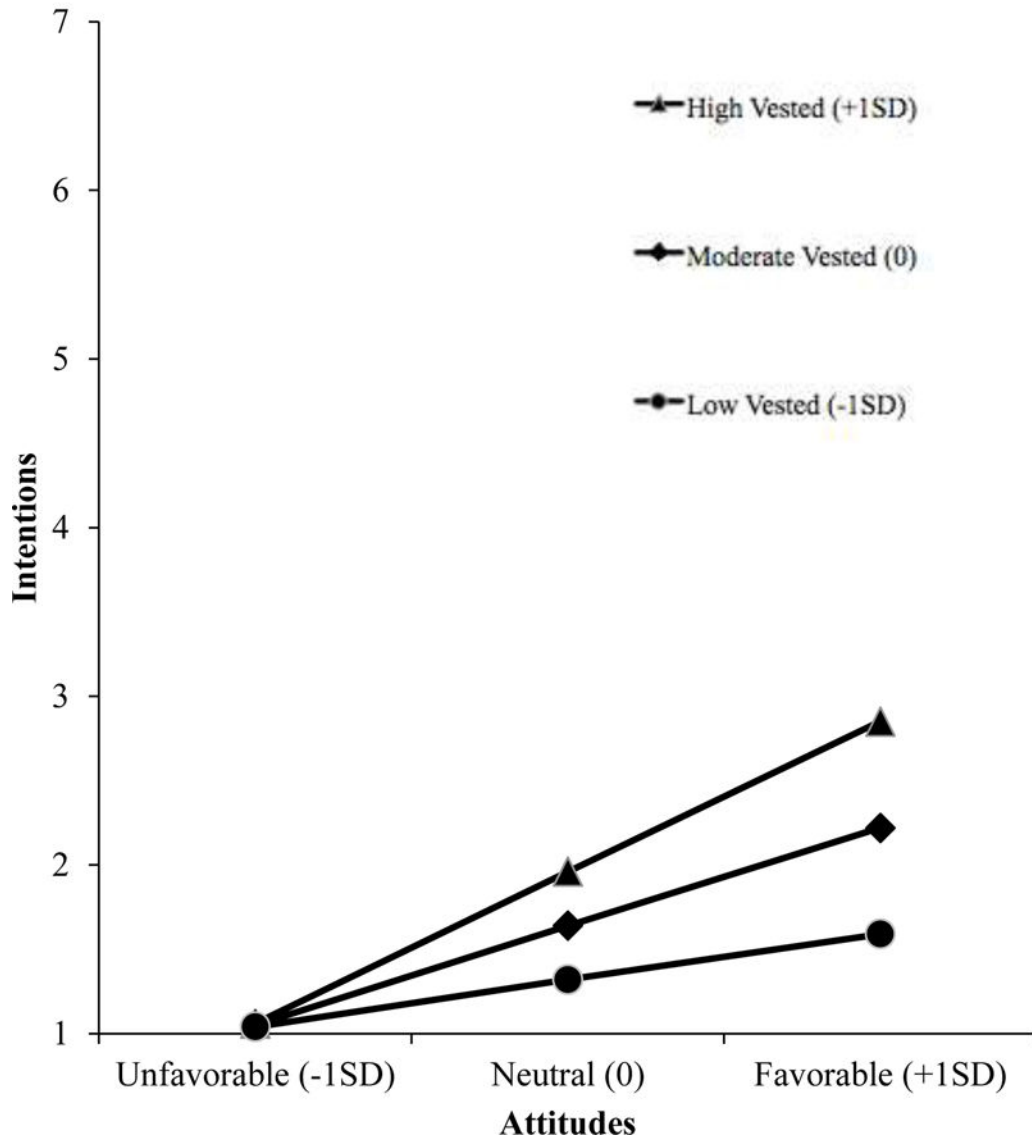
Figure 1.
Vested interest moderating the effect of attitudes on stimulant misuse intentions in Study 1a
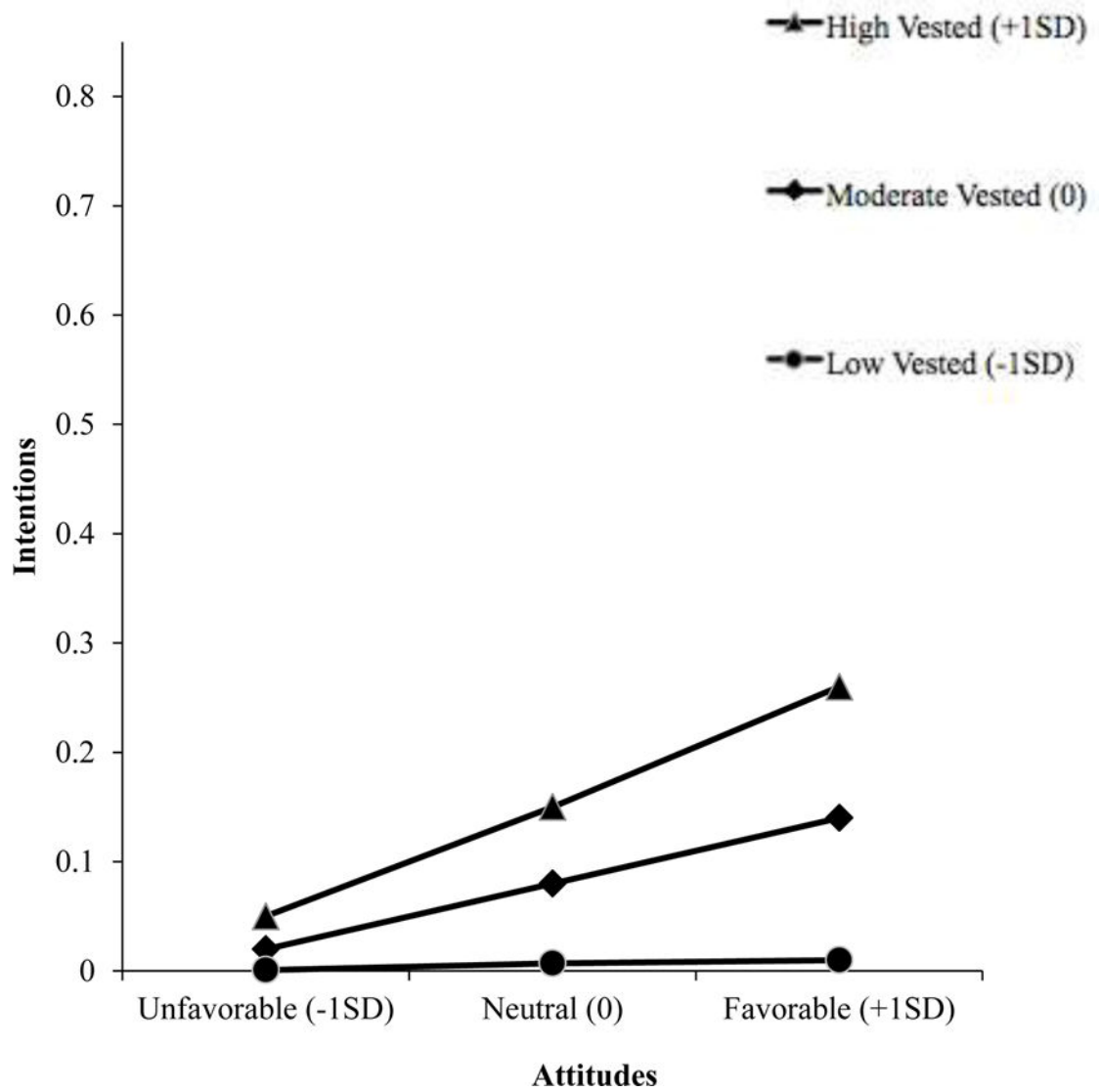(*N* = 310).

Figure 2.
Vested interest moderating the effect of attitudes on marijuana intentions in Study 1b ($N =$ 93). A log transformation was performed on intentions to use marijuana to reduce levels of skew and kurtosis. Log intentions to use marijuana ranged from .00 to .85.

Table 1.

Descriptive Statistics

		Study 1a: Nonmedical Prescription Stimulants ($N = 310$)	Study 1b: Marijuana ($N = 93$)
Gender	Male	46.10%	22.60%
	Female	53.90%	77.40%
Age	Range	18 – 55	18 – 50
	M	24.88	21.84
	SD	5.96	4.33
Race/Ethnicity	White	67.40%	19.40%
	Black	13.50%	4.30%
	Hispanic	7.10%	46.20%
	Asian	6.80%	21.50%
	Other	1.00%	8.60%
	Mixed	4.20%	---
University Type	Public	77.70%	83.90%
	Private	22.30%	16.10%
Academic Standing	Freshman	6.45%	5.40%
	Sophomore	28.39%	18.30%
	Junior	22.26%	38.70%
	Senior	42.9%	37.60%
Attitudes	Unfavorable (−1SD)	23.30%	37.60%
	Neutral (Mean, 0)	69.0%	57.0%
	Favorable (+1SD)	7.70%	5.4%
Vested Interest	Low (−1SD)	28.7%	28.0%
	Average (Mean, 0)	55.20%	54.8%
	High (+1SD)	16.1%	17.2%

Table 2.

Factor Reliabilities, Means, Standard Deviations, and Interactor Correlations

Study 1a: Nonmedical Prescription Stimulants					Correlations	
Factor	**# of items**	**α**	**Mean**	**SD**	**F1**	**F2**
F1. Attitudes	6	.93	2.85	1.37		
F2. Vested Interest	8	.98	3.15	1.87	.63 ***	
F3. Intentions	4	.92	1.83	1.33	.66 ***	.54 ***

Study 1b: Marijuana					Correlations	
Factor	# of items	α	Mean	SD	F1	F2
F1. Attitudes	6	.90	3.04	1.43		
F2. Vested Interest	8	.95	3.09	1.84	.60 ***	
F3. Log Intentions*a*	4	.90	.11	.20	.54 ***	.55 ***

Note.

*
 p < .05.

**
 p < .01.

***
 p < .001.

a.
 A log transformation was performed on intentions to use marijuana to reduce levels of skew and kurtosis (Study 1b).

Table 3.

Linear Regression Model of Vested Interest Moderating the Effect of Attitudes on Intentions

Predictors	Study 1a: Nonmedical Prescription Stimulants (N = 310)			Study 1b: Marijuana (N = 93)		
	B	*SE*	*t*(299)	*B*	*SE*	*t*(83)
Age	.06	.05	1.14	−.01	.02	−.55
Sex	−.04	.06	−.75	.01	.02	.57
Race/ethnicity						
Black	.09	.05	1.76	.01	.02	.33
Asian	.05	.05	.91	.00	.02	.04
Hispanic	−.04	.05	−.78	.02	.02	.90
Other	.05	.06	.82	.00	.02	−.02
Mixed	−.05	.06	−.95	---	---	---
Attitudes	.64 ***	.08	8.07	.06 **	.02	2.75
Vested interest	.41 ***	.07	5.70	.11 ***	.02	4.59
Attitudes x vested interest interaction	.34 ***	.06	5.69	.06 **	.02	3.02

Note. The reference group for gender is male; the reference group for race/ethnicity is white. Predictor variables were z-scored to produce standardized (*B*) estimates. A log transformation was performed on intentions to use marijuana to reduce levels of skew and kurtosis (Study 1b).

*
$p < .05$

**
$p < .01$

***
$p < .001$

Table 4.

Simple Slopes for the Interaction of Vested Interest and Attitudes on the Outcome of Intentions

		Study 1a: Nonmedical Prescription Stimulants (*N* = 310)			Study 1b: Marijuana (*N* = 93)		
		B	*SE*	*t*(299)	*B*	*SE*	*t*(83)
Vested interest perceptions	Low (−1SD)	.30**	.11	2.74	.01	.03	.24
	Moderate (0)	.64***	.08	8.07	.06**	.02	2.75
	High (+1SD)	.98***	.09	11.32	.12***	.03	4.25

Note. Values represent conditional effects of the predictor variable (attitudes) at different values of the moderator (vested interest). Predictor variables were z-scored to produce standardized (*B*) estimates. A log transformation was performed on intentions to use marijuana to reduce levels of skew and kurtosis (Study 1b).

*
p < .05

**
p < .01

***
p < .001